

Appendix K

Cultural Resource Literature Reviews for Each Evaluation Unit

This appendix to the final progress report (report) for the Hanford Site-Wide Risk Review Project contains the cultural resources literature reviews (literature reviews) for all the evaluation units (EUs) evaluated for this report. Professional archaeologists at Pacific Northwest National Laboratory developed the methodology for the literature reviews at the request and approval of the Consortium for Risk Evaluation with Stakeholder Participation (see also Chapter 8 of the methodology report for the Risk Review Project).

The results of the literature review were used to evaluate each of the EUs that are part of the Risk Review Project and described in this report. Evaluations made for the EUs followed the approach described in Chapter 8 of the methodology report. All evaluation results may found in Chapter 3 of this report.

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Evaluation Unit: 618-11 Burial Ground
 ID: RC-LS-1
 Group: Legacy Source
 Operable Unit Cross-Walk: 300-FF-2
 Related EU: CP-GW-1
 Sites & Facilities: 618-11 Burial Ground
 Key Data Sources Docs: WCH-542, Rev 0
 WCH-183, Rev 1
 WCH-459, Rev 1

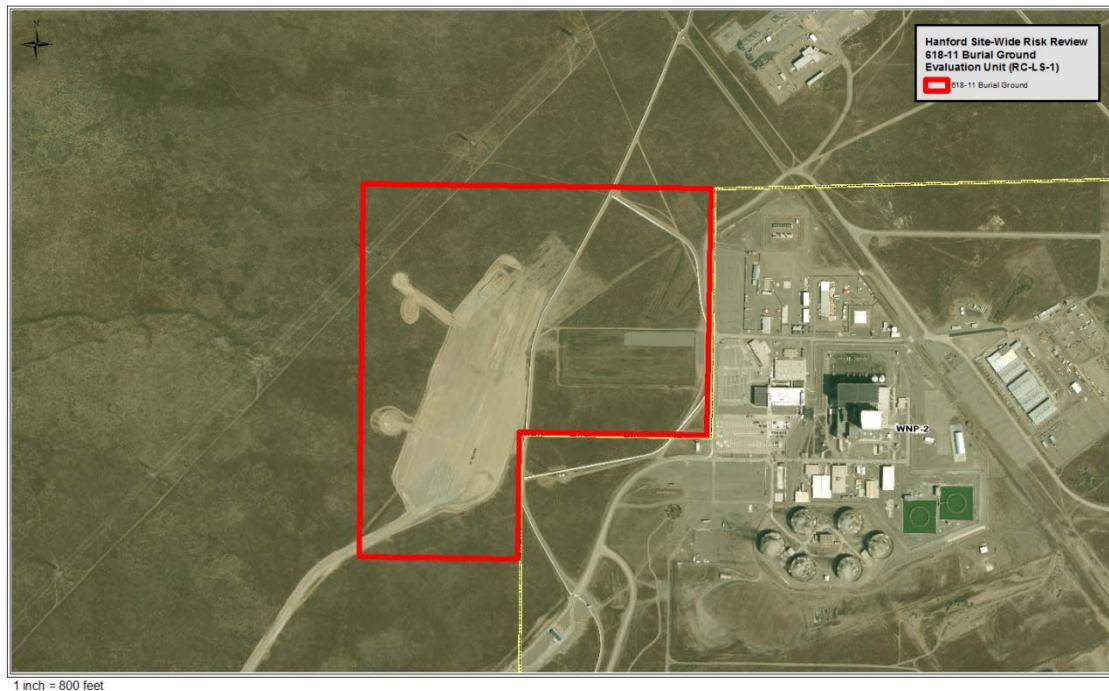
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Figure K.1. Site Map with Evaluation Unit Boundaries

RC-LS-1: 618-11 Burial Ground

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

Most of the 618-11 EU has been inventoried for cultural resources under 628A (Smith et. al. 1977), HCRC#2002-600-021(Prendergast 2002), HCRC#2004-600-023 (Prendergast 2004), HCRC#2011-600-029 (Sharpe and Demaris 2011), HCRC#2013-600-020 (Sharpe and DeMaris 2013) and HCRC#2013-600-012A (Sheldon et.al. 2013) with negative findings. Closure and remediation of the 618-11 has been addressed in an NHPA Section 106 review completed under HCRC#2004-600-023 (Prendergast-Kennedy 2004), HCRC#2011-600-029 (Sharpe and Demaris 2011), and HCRC#2013-600-020 (Sharpe and DeMaris 2013). There is a possibility that intact archaeological material is present in the small areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly where undisturbed soil deposits exist within 618-11 EU.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU¹

- There are no known recorded archaeological sites, buildings or TCPs located within the 618-11 EU.

Archaeological sites, buildings, and TCPs located within 500 meters of the EU

- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500 meters of the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the RC-LS-1, 618-11 Burial Ground EU.

Historic Map and Aerial Photograph Indicators

A review of 1916 historic United States Geological Survey (USGS) topographic maps (USGS 1916) depicts no structures, roads, or any other indication of historic settlement to be present within the EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the EU were owned by the U.S. Government and the Thos. Cartstens Investment Co. in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs further confirm a lack of land use or development in this area with the exception of two roads; one trending road to the northeast and one to the northwest, both likely associated with the early stages of Manhattan Project construction suggesting there is some potential for Manhattan Project/Cold War era archaeological resources to be present in the EU. This information suggests a low potential for the presence of archaeological resources associated with the Pre-Hanford Early Settlers/Farming landscape to be present within the EU.

Geomorphology Indicators

The geomorphology within the RC-LS-1, 618-11 Burial Ground EU consists mostly of Pleistocene outburst flood deposits with a band of Holocene sand dune deposits running through the middle of the EU. Given the presence of the Pleistocene outburst flood deposits this suggests there is a low potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present where these soils overlap with undisturbed portions of the subsurface component of this EU. Given the presence of Holocene

¹ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

sand dune deposits, the potential for archaeological resources to be present is higher especially where these soils overlap with undisturbed soils.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that portions of the EU are heavily disturbed by the presence of the 618-11 solid waste site, well pads, staging areas and roads. A large part of the EU appears to have minimal disturbance. In the areas that are extensively disturbed to both surface and subsurface soils, it is unlikely intact archaeological resources are present where these disturbed soils exist within the 618-11 EU. Because there are areas that appear to be minimally disturbed, it is possible for archaeological resources to be present both on the surface and within the subsurface. It also still possible for pockets of undisturbed soils to exist within the heavily disturbed areas. Resources, if present, would likely be limited to these areas of intact or undisturbed soils.

Summary of Cultural Resources Review

Most of the RC-LS-1, 618-11 Burial Ground EU has been inventoried for archaeological sites with negative findings. There is a possibility that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly if undisturbed soil deposits exist within 618-11 EU. Closure and remediation of the 618-11 waste site has been addressed in several NHPA Section 106 reviews (Prendergast-Kennedy 2004; Sharpe and Demaris 2011; Sharpe and DeMaris 2013).

The Hanford Site Plant Railroad a contributing property within the Manhattan Project/Cold War era Landscape with documentation required is located within 500 meters of the RC-LS_1, 618-11 Burial Ground EU. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for this property.

Historic maps indicate that there is no evidence of land use associated with the Pre-Hanford Early Settlers/Farming Landscape within the EU. Given the presence of roads on 1943 aerial photographs, there is a slightly higher (but still low) potential for the presence of archaeological resources associated with the Manhattan Project/Cold War Landscape within the EU. Varying geomorphology and ground disturbance indicators suggests a range of potential for the presence of intact archaeological resources associated with all three landscapes to be present depending on the location of these soils within the EU.

Because of the potential for intact archaeological deposits with the EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating a remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor Museum Association) may be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

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Department of Energy. 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Richland, Washington.

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Prendergast E. 2004. *Cultural Resource Review of the 618-10 and 618-11 Solid Waste Burial Grounds at Hanford Site, Richland, Washington. HCRC#2004-600-023*. Pacific Northwest National Laboratory, Richland, Washington.**

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Smith, W. C., M. L. Uebelacker, T.E. Eckert, and L. J. Nickel. 1977. *An Archaeological-Historical Survey of the Proposed Transmission Power Line Corridor from Ashe Substation, Washington to Pebble Springs, Substation, Oregon.*

(*HCRL#628a*), Washington Archaeological Research Center, Washington State University, Pullman, Washington.

USGS Topographic maps. 1916. Coyote Rapid Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

² References with “***” are available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: K Area Waste Sites
 ID: RC-LS-2
 Group: Legacy Source
 Operable Unit Cross-Walk: 100-KR-1
 100-KR-2
 Related EU: RC-DD-2
 Sites & Facilities: Legacy waste sites within the fence at 100-K, where remediation is post-2015
 Key Data Sources Docs: DOE/RL-96-17



Figure K.2. Site Map with Evaluation Unit Boundaries

RC-LS-1: K Area Waste Sites

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The RC-LS-1, K Area Waste Sites EU is located near the Columbia River on the Hanford Site, in an area generally known to have high potential to contain Native American Pre-contact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming eras resources. Portions of the EU have been inventoried for cultural resources by several surveys in the past under HCRC#2005-600-030 (Prendergast-Kennedy 2005), HCRC#2006-100-016 (Kennedy 2006), HCRC#2010-100-107 (Gutzeit and Willis 2011), HCRC#2010-100-116 (Gutzeit and Kennedy 2010a), HCRC#2010-100-116a (Gutzeit and Kennedy 2010b), and HCRC#2012-100-020 (Mendez and Clark with Wright 2012). Remediation of waste sites within the K Area Waste Sites EU have

been addressed by two NHPA Section 106 reviews under HCRC#2011-100-013 and HCRC#2011-100-015 (Mendez 2011a, Mendez 2011b). There is a high potential for intact archaeological material to be present in the small areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly where undisturbed soil deposits exist within the EU.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs)³ located within the EU

- A National Register-eligible irrigation canal associated with the Pre-Hanford Early Settlers/Farming Landscape is located within the EU. This large linear historic resource has been extensively documented and contains miles of main canal and dozens of miles of laterals. However, within the EU, visible evidence of the canal is minimal; within the EU the canal has been destroyed by Hanford construction and remediation activities associated with the 100-K Area.
- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.
- In addition to the Hanford Site Railroad, there are 23 Manhattan Project and Cold War Era buildings located within the EU (21 are contributing within the Manhattan Project and Cold War Era Historic District; 9 recommended for individual documentation and 12 with no individual documentation required). Mitigation for contributing buildings/structures have been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) and building demolition is ongoing.

³ Traditional Cultural Property (TCP) is defined as, “a property that is eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in the community’s history, and (b) are important in maintaining the continuing cultural identity of the community” (Parker and King 1998).

Table K.1. National Register-eligible Manhattan Project and Cold War Era Buildings Located within the RC-LS-1, K Area Waste Sites EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|--------------------------------------|--|---|-------------------------------------|
| 115-KE | Gas Recirculation Building | A.6 | Contributing Property w/ no additional documentation requirements | HPIF |
| 115-KW | Gas Recirculation Building | A.6 | Contributing Property w/ no additional documentation requirements | HPIF |
| 116-KE | Reactor Exhaust Stack | A.6 | Contributing Property w/ no additional documentation requirements | HPIF |
| 117-KE | Exhaust Air Filter Building | A.6 | Contributing Property w/ no additional documentation requirements | HPIF |
| 117-KW | Exhaust Air Filter Building | A.5 | Buildings/Structures recommended for Mitigation | HPIF |
| 165-KE | Power Control Building | A.6 | Contributing Property w/ no additional documentation requirements | HPIF |
| 165-KW | Power Control Building | A.6 | Contributing Property w/ no additional documentation requirements | HPIF |
| 167-K | Cross-tie Tunnel Building | A.6 | Contributing Property w/ no additional documentation requirements | HPIF |
| 1706-KE | Rad Con Count Lab Facility | A.5 | Buildings/Structures recommended for Mitigation | HPIF |
| 1706-KER | Water studies Recirculation Building | A.5 | Buildings/Structures recommended for Mitigation | HPIF |
| 1713- | Shop Building | A.6 | Contributing Property w/ | HPIF |

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|--------------------------------------|--|---|-------------------------------------|
| KER | | | no additional documentation requirements | |
| 1717-K | Maintenance Transportation | A.5 | Buildings/Structures recommended for Mitigation | HPIF |
| 1720-K | Administration Office Building | A.5 | Buildings/Structures recommended for Mitigation | HPIF |
| 1724-K | Maintenance Shop | A.6 | Contributing Property w/ no additional documentation requirements | N/A |
| 181-KE | River Pump House | A.6 | Contributing Property w/ no additional documentation requirements | HPIF |
| 181-KW | River Pump House | A.5 | Buildings/Structures recommended for Mitigation | HPIF |
| 182-K | Emergency Water Reservoir Pump House | A.6 | Contributing Property w/ no additional documentation requirements | HPIF |
| 183-KE | Complex | A.6 | Contributing Property w/ no additional documentation requirements | HPIF |
| 183-KW | Complex | A.5 | Buildings/Structures recommended for Mitigation | HPIF |
| 1908-K | Outfall Structure | A.6 | Contributing Property w/ no additional documentation requirements | HPIF |
| 1908-KE | Outfall Structure | A.5 | Buildings/Structures recommended for Mitigation | HPIF |
| 190-KE | Main Pump House | A.6 | Contributing Property w/ no additional documentation | HPIF |

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|-----------------|---|---|------------------------------|
| 190-KW | Main Pump House | A.5 | requirements Buildings/Structures recommended for Mitigation | HPIF |

Archaeological sites, buildings, and TCPs located within 500 meters of the EU

- There are 14 archaeological sites documented within 500-meters of the EU. Seven of these archaeological sites (3 NRHP eligible and 4 unevaluated) and 2 isolates (2 not eligible) are associated with the Native American Precontact and Ethnographic landscape. Three of these archaeological sites have been determined eligible for the National Register of Historic Places. The two isolates have been determined not eligible, while the remaining 4 archaeological sites have not been evaluated for listing. In addition, 3 archaeological sites (1 not eligible and 2 unevaluated) and 2 isolates (2 not eligible) associated with the Manhattan Project and Cold War Era Landscape have been recorded within 500 meters of the EU. One of the archaeological sites and both isolates have been determined not eligible for listing in the NRHP, while the remaining 2 sites have not been evaluated for listing.
- There are 14 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the RC-LS_1, K Area Waste Sites EU (all 14 are contributing properties to the Manhattan Project and Cold War Era Historic District, 6 with individual documentation required, and 8 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for these properties.

Table K.2. National Register-eligible Manhattan Project and Cold War Era Buildings Located within 500 meters of the the RC-LS-1, K Area Waste Sites EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|-----------------------|---|--|------------------------------|
| 105-KW | K West Reactor | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 116-KW | Reactor Exhaust Stack | A.5 | Contributing Property Recommended for | HPIF |

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|-------------------------------|--|---|-------------------------------------|
| | | | Individual Documentation | |
| 119-KW | Exhaust Air Sampling Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 190-KW | Main Pump House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 1717-K | Maintenance Shop | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 1720-K | Patrol Headquarters | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 105-KE | K East Reactor | A.6 | Contributing Property w/ no additional documentation requirements | |
| 115-KW | Gas Recirculation Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 165-KW | Power Control Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 165-KE | Power Control Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 167-K | Crosstie Tunnel Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 190-KE | Process Water Pump House | A.6 | Contributing Property w/ no additional documentation requirements | |
| 1724-K | Maintenance Shop | A.6 | Contributing Property w/ no additional documentation requirements | |

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|-------------------|---|--|------------------------------|
| 1908-K | Outfall Structure | A.6 | requirements Contributing Property w/ no additional documentation requirements | |

Closest Recorded TCP

There are three recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the RC-LS-1, K Area Waste Sites EU.

Historic Map and Aerial Photograph Indicators

A review of 1916 United States Geological Survey (USGS) topographic maps (USGS 1916) shows the Chicago Milwaukie and St Paul Hanford Branch Railroad, the Hanford Irrigation Canal, a road, and two trails (or unimproved roads) are present within the EU. The 1943 aerial imagery clearly shows the Hanford Irrigation Canal running parallel to the north edge of the EU. North of the canal are agricultural fields. Several trails, roads, or linear utilities are also evident within the EU on the 1943 imagery. However, the southern 2/3 of the EU is nearly devoid of cultural features in the imagery. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the EU were owned by several development companies: the Priest Rapids Irrigation District, the New Hampshire Real Estate Co, the Agathon Land Co (Jake Miller) and the Trustees of the Milwaukee, Saint Paul, & Pacific Railway Co. A small northern portion of the EU was owned by Delia Allard (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). In addition small parcels were owned by W.L. Steward and Mary Nelson in 1943. Collectively, this information suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming landscape to be present within the southern 2/3 of the EU, while historic resources may be present in the northern 1/3 of the EU, paralleling the river, where agricultural activities took place. A higher potential for such resources is present just outside of the EU to the north.

Geomorphology Indicators

Surface geology within the EU consists of sedimentary Pleistocene flood deposits and gravels, with an overburden of Holocene loess and a narrow area of Quaternary alluvium in the northwest corner of the EU. This geomorphological environment suggests low to medium potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape within the subsurface component of this EU. Areas outside of the EU immediately adjacent to the north along the Columbia River shoreline have a particularly high potential for containing subsurface archaeological deposits.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that 100% of the EU has undergone extensive ground disturbances. The depth of these disturbances is not known, so there is a potential for intact archaeological resources to exist if any pockets of undisturbed soils exist. Resources, if present, would likely be limited to areas of intact or undisturbed soils. However, it is highly unlikely that archaeological resources would be present on or near the ground surface within the EU.

Summary of Cultural Resources Review

Portions of the EU have been inventoried for cultural resources by several surveys in the past. Remediation of waste sites within the K Area Waste Sites Evaluation Unit has been addressed by two previous NHPA Section 106 reviews (Mendez 2011a, Mendez 2011b).

Cultural resources documented within the K Area Waste Sites EU include 2 historic era linear resources (1 representing the Pre-Hanford Early Settlers/Farming Landscape and 1 representing the Manhattan Project and Cold War era), 23 contributing resources to the NRHP Eligible Manhattan Project and Cold War era historic district (9 with individual documentation required, 12 with no individual documentation required), and no precontact archaeological resources. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for properties contributing to the Manhattan Project and Cold War era historic district.

| Building # | Building Name |
|------------|--------------------------------------|
| 115-KE | Gas Recirculation Building |
| 115-KW | Gas Recirculation Building |
| 116-KE | Reactor Exhaust Stack |
| 117-KE | Exhaust Air Filter Building |
| 117-KW | Exhaust Air Filter Building |
| 165-KE | Power Control Building |
| 165-KW | Power Control Building |
| 167-K | Cross-tie Tunnel Building |
| 1706-KE | Rad Con Count Lab Facility |
| 1706-KER | Water studies Recirculation Building |
| 1713-KER | Shop Building |
| 1717-K | Maintenance Transportation |
| 1720-K | Administration Office Building |
| 1724-K | Maintenance Shop |
| 181-KE | River Pump House |
| 181-KW | River Pump House |
| 182-K | Emergency Water Reservoir Pump House |
| 183-KE | Complex |
| 183-KW | Complex |
| 1908-K | Outfall Structure |
| 1908-KE | Outfall Structure |

| Building # | Building Name |
|-------------------|----------------------|
| 190-KE | Main Pump House |
| 190-KW | Main Pump House |

Additionally, 14 archaeological sites have been documented within 500 meters of the EU. Seven archaeological sites (3 eligible and 4 unevaluated) and 2 isolates (both not eligible) are associated with the Native American Precontact and Ethnographic Landscape. Three archaeological sites (1 not eligible, and 2 unevaluated) and 2 isolates (2 not eligible) are associated with the Manhattan Project/Cold War Landscape.

Review of historic maps and aerial imagery indicate a low to moderate potential for the presence of archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape. The geomorphologic composition suggests some subsurface potential for cultural resources, specifically within the north 1/3 of the EU. However, the large earthworks disturbances shown in modern aerial imagery within the entire EU indicate that discovery of surface or near-surface cultural resources is not likely within the EU.

Because of the potential for intact archaeological deposits within portions of the EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups who may have an interest in the areas (e.g. East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

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Department of Energy. 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Richland, Washington.

Gutzeit, J and EP Kennedy. 2010a. *Cultural Resources Review for Demolition and Disposition of the 100-K Area River Structures (181-KW, 1810KE, and 1908-K), Hanford Site, Benton County, Washington—HCRC#2010-100-116*. Pacific Northwest National Laboratory. Richland, Washington.

Gutzeit, J and EP Kennedy. 2010b. *Cultural Resources Review for Demolition and Disposition of Structures within the 100-K Area Fence Line, Hanford Site, Benton County, Washington—HCRC#2010-100-116a*. Pacific Northwest National Laboratory, Richland, Washington.

⁴ *References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

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Mendez, K. 2011b. *Field Remediation of Waste Sites in the 100-K Reactor Area (HCRC#2011-100-015)*. CH2M Hill. Richland, Washington.

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Parker, P. and T. King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

Prendergast-Kennedy, E. 2006. *Cultural Resources Review and Inventory for Project L-325 (HCRC#2005-600-030)*. Pacific Northwest National Laboratory. Richland, Washington.

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

Evaluation Unit: 618-10 Burial Ground
 ID: RC-LS-4
 Group: Legacy Source
 Operable Unit Cross-Walk: 300-FF-2
 Related EU: NA
 Sites & Facilities: 618-10 Burial Ground



Figure K.3. RC-LS-4 (618-10) Site Location Map

RC-LS-4: 618-10

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The RC-LS-4, 618-10 EU is located in the 600 Area of the Hanford Site, northwest of the 300 Area and southeast of FFTF. Approximately half of the EU has been inventoried for cultural resources under various survey efforts including, HCRC# 87-600-004 (Hoover & Chatters 1988), HCRC# 92-600-026 (Gard et al. 1992), HCRC# 93-600-013 (Wright 1993), HCRC# 2003-600-012 (Kennedy 2003), HCRC# 2004-600-023 (Kennedy 2004), HCRC# 2011-600-048 (Hay et al. 2011), HCRC# 2012-600-016 (Harrison et al. 2013) and HCRC# 2013-600-031 (Gilmour et al. 2013).

Remediation of the 618-10 waste site has been addressed in two NHPA Section Reviews: *Cultural Resources Review of the 618-10 and 618-11 Solid Waste Burial Grounds, HCRC# 2004-600-023* (Kennedy 2004) and *Cultural Resources Review for Additional Area to Support the Remediation of the 618-10 Burial Ground in the 600 Area of the Hanford Site, Benton County, Washington (HCRC# 2012-600-016)* (Harrison et al. 2013).

Portions of the EU have been heavily disturbed from operations associated with the remediation of the 618-10 waste site. Large portions of the EU remain undisturbed, suggesting a high potential for intact surface and subsurface archaeological resources.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁵

- One archaeological site and one archaeological isolate associated with the Native American Precontact and Ethnographic Landscape have been recorded within the EU boundary. Both of these resources remain unevaluated for listing in the National Register of Historic Places, however, it should be noted that isolates are typically considered as not being eligible.
- There is one unrecorded Traditional Cultural Property (TCP) known to exist within the EU boundary. This TCP is currently unevaluated for listing in the National Register of Historic Places.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- Two archaeological resources (1 isolate and 1 site) associated with the Pre-Hanford Early Settlers/Farming Landscape have been recorded within 500 meters of the RC-LS-4, 618-10 EU. One of these resources (archaeological site) has been determined not eligible for listing in the National Register of Historic Places. While the other remains unevaluated, it should be noted that isolates are typically considered as not being eligible.

Closest Recorded TCP

There are 3 recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the RC-LS-4, 618-10 EU.

Historic Map and Aerial Photograph Indicators

Review of a historic United States Geological Survey (USGS) topographic map (USGS 1917) show minimal development in the area of the RC-LS-4, 618-10 EU. One historic road is shown in the vicinity of the EU. Ownership information provided on the 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the EU were owned by the United States of America, and the Thos. Carstens Inv. Co. (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943

⁵ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (a) rooted in the history of a community, and (b) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

aerial photographs confirm that this area was undeveloped. This information suggests that there is a low potential for archaeological resources associated with the Pre-Hanford Early-Settlers/Farming landscape to be present within the EU boundary.

Geomorphology Indicators

The geomorphology within the RC-LS-4, 618-10 EU is comprised of Pleistocene outburst flood deposits overlaid by stabilized Holocene dune sands throughout most of the EU, suggesting a moderate potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface component of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery indicates that portions of the EU have been heavily disturbed from the remediation of the 618-10 waste site. Large portions of undisturbed soil do appear to exist in the areas surrounding remediation operations within the EU boundary, suggesting a moderate degree of potential for intact archaeological resources to exist within this isolated undisturbed area. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Summary of Cultural Resources Review

Approximately half of the RC-LS-4, 618-10 EU has been inventoried for archaeological resources. Additionally, remediation of the 618-10 Waste Site has been addressed in two NHPA Section Reviews: *Cultural Resources Review of the 618-10 and 618-11 Solid Waste Burial Grounds, HCRC# 2004-600-023* (Kennedy 2004) and *Cultural Resources Review for Additional Area to Support the Remediation of the 618-10 Burial Ground in the 600 Area of the Hanford Site, Benton County, Washington (HCRC# 2012-600-016)* (Harrison et al. 2013). One archaeological site and one archaeological isolate associated with the Native American Precontact and Ethnographic Landscape have been recorded within the EU boundary. Both of these resources remain unevaluated for listing in the National Register of Historic Places, however, it should be noted that isolates are typically considered as not being eligible. Additionally, one unrecorded TCP is known to exist within the RC-LS-4, 618-10 EU. This TCP has not been formally evaluated for listing in the National Register of Historic Places.

Two archaeological resources (1 isolate and 1 site) associated with the Pre-Hanford Early Settlers/Farming Landscape have been recorded within 500 meters of the RC-LS-4, 618-10 EU. One of these resources (archaeological site) has been determined not eligible for listing in the National Register of Historic Places. While the other remains unevaluated, it should be noted that isolates are typically considered as not being eligible.

Review of a historic maps and aerial imagery show minimal development in the area of the RC-LS-4, 618-10 EU suggesting that there is a low potential for archaeological resources associated with the Pre-Hanford Early-Settlers/Farming landscape to be present within the EU boundary. The geomorphology within the RC-LS-4, 618-10 EU suggests a moderate potential for archaeological resources associated with the Native American Precontact and Ethnographic

Landscape to be present within the surface and subsurface component of this EU. Examination of 2012 aerial imagery indicates that portions of the EU have been heavily disturbed from the remediation of the 618-10 waste site. Large portions of undisturbed soil do appear to exist in the areas surrounding remediation operations within the EU boundary, suggesting a moderate degree of potential for intact archaeological resources to exist within this isolated undisturbed area. Resources if present would likely be limited to areas of intact or undisturbed soils.

Because of the potential for intact archaeological deposits within portions of the RC-LS-4, 618-10 EU, it may be appropriate to conduct surface and subsurface archaeological investigations in this area prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups who may have an interest in the areas (e.g. East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References⁶

Gard et al. 1992. *Cultural Resources Site Review for Phase 1 of the Integrated Voice/Data Telecommunications System (IVDTS) Project*. Pacific Northwest National Laboratory, Richland, Washington.**

Gilmour, DM, PS Solimano & MA Daniels. 2013. *Cultural Resources Survey Report for the U.S. Department of Energy's Proposed Esquatzel Route for the Cascade Natural Gas Pipeline Project in Benton and Franklin Counties, Washington (HCRC# 2012-600-031a)*. Willamette Cultural Resources Associates, Ltd., Portland, OR.**

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Hay, H, K Mendez & R DeMaris. 2011. *Cultural Resource Review for the Removal of 14 Miscellaneous Restoration Debris Items (SG5-025, SG5-026, SG5-046, SG5-047, SG5-048, SG5-065, SG5-071, SG5-072, SG5-106, SG5-107, SG5-109, SG5-114, SG5-115, and SG5-130) in Segment 5 of the 600 Area of the Hanford Site, Benton County, Washington (HCRC# 2011-600-048)*. CH2M Hill, Richland, Washington**

Hoover, KA & JC Chatters. 1988. *Cultural Resources Survey of the Geotechnical Test Facility, Barrier Development Program, HCRC# 87-600-004*. Pacific Northwest National Laboratory, Richland, Washington.**

⁶ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Kennedy, EP. 2003. *Cultural Resources Review Safety Zone Expansion at the Patrol Training Academy Firing Range, HCRC# 2003-600-012*. Pacific Northwest National Laboratory, Richland, Washington.**

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USGS (United States Geological Survey). 1917. Pasco Quadrangle, 1:125,000 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

Wright, MK. 1993. *Cultural Resources Review of the Hanford IVDTs Job No. IVS and 300N Area, HCRC# 93-600-013*. Pacific Northwest National Laboratory, Richland, Washington.**

Evaluation Unit: BC Cribs and Trenches
 ID: CP-LS-1
 Group: Legacy Source
 Operable Unit Cross-Walk: 200-BC-1
 Related EU: CP-LS-17
 CP-GW-1
 Sites & Facilities: Cribs, trenches and tanks located to the south of the 200-E area
 Key Data Sources Docs: DOE/RL-2010-49, Draft A

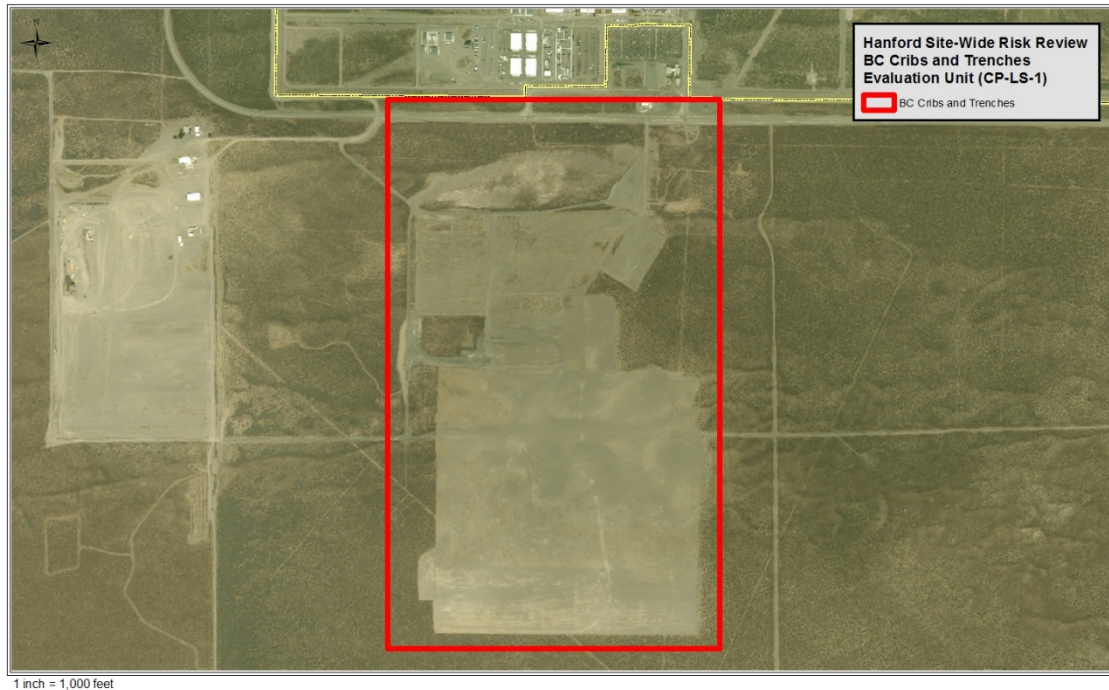
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Figure K.4. Site Map with Evaluation Unit Boundaries

CP-LS-1: BC Cribs and Trenches

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-LS-1, BC Cribs and Trenches EU is located south of the 200-East Area of the Hanford Site. Most of the BC Cribs and Trenches EU has been inventoried for archaeological resources (surface) under HCRC# 89-600-010 (Chatters, 1990), HCRC# 93-600-005A (Crist and Wright 1993), HCRC# 2008-600-006 (Kennedy 2008a), HCRC# 2008-600-006A (Kennedy 2008b), HCRC# 2008-600-006B (Sharpe 2009) covering most of the area. Two archaeological finds were identified and recorded by these inventories. Remediation of the BC Cribs and Trenches EU has been addressed by an NHPA Section 106 review under HCRC# 2008-600-006, 006A, and 006B. There is the potential for the presence of intact archaeological material in the small areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly where undisturbed soil deposits exist within the EU.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁷

- One archaeological site and one isolated find associated with the Native American Precontact and Ethnographic Landscape have been recorded within the BC Cribs and Trenches EU. Both remain unevaluated for National Register eligibility, however, it should be noted that isolates are typically considered not eligible.
- The BC Cribs are a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for this property.
- There are no known recorded TCPs located within the EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- There are 5 National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the EU (all 5 are contributing within the Manhattan Project and Cold War Era Historic District, 2 recommended for individual documentation and 3 with no additional documentation required). Mitigation for contributing buildings/structures has been completed in accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), and building demolition is ongoing.

Table K.X. National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-LS-1, BC Cribs and Trenches EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|---------------------------------------|---|--|------------------------------|
| 2101-M | Machine Shop/Office/Training Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2750-E | Office Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2751-E | Office Building | A.6 | Contributing Property | |

⁷ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices”(Parker and King 1998).

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|----------------------|--|---|-------------------------------------|
| 2752-E | Office Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2753-E | Office Building | A.6 | Contributing Property w/ no additional documentation requirements | |

Closest Recorded TCP

There are two known and recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the BC Cribs and Trenches EU.

Historic Map and Aerial Photograph Indicators

A review of 1916 United States Geological Survey (USGS) topographic maps (USGS 1916) shows no indications of historic land use such as roads or buildings within the BC Cribs and Trenches EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the BC Cribs and Trenches EU were owned by the United States and the J.M. Coleman Company in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). This information suggests a low to potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming landscape to be present within the BC Cribs and Trenches EU. 1943 aerials further confirm a lack of land use or development in this area with the exception of an east-to-west trending road, likely associated with the early stages of Manhattan Project construction, suggesting there is some potential for Manhattan Project/Cold War era archaeological resources to be present in the BC Cribs and Trenches EU.

Geomorphology Indicators

The geomorphology within the BC Cribs and Trenches EU consists of Pleistocene outburst flood deposits to the south suggesting a low potential for archaeological resources associated with the Native American Precontact and Ethnographic Era Landscape to be present where these soils overlap with disturbed portions of the subsurface component of this EU. To the north, the soils are comprised of Holocene sand dune deposits where the potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Era Landscape is higher, especially where these soils overlap with undisturbed soils.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the BC Cribs and Trenches EU depict paved roads, two-track dirt roads, crib and trench related disturbance, grubbed and cleared areas as well as areas with minimal disturbance. In the areas that are extensively disturbed to both surface and subsurface soils, it is unlikely that intact archaeological resources are present within the BC Cribs and Trenches EU. Because there are areas that appear to be minimally disturbed, it is possible for archaeological resources to be present both on the surface and within the subsurface. It also still possible for pockets of undisturbed soils to exist and therefore intact archaeological material to exist within the heavily disturbed areas.

Summary of Cultural Resources Review

A little over half of the BC Cribs and Trenches EU has been inventoried for archaeological resources and Remediation of the BC Cribs and Trenches EU has been addressed by an NHPA Section 106 review. There is a possibility that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly if undisturbed soil deposits exist within the BC Cribs and Trenches EU.

Cultural resources known to be recorded within the BC Cribs and Trenches EU are limited to the archaeological finds associated with the Native American Precontact and Ethnographic Landscape (1 isolated find and 1 archaeological site). Both remain unevaluated for National Register eligibility, however, it should be noted that isolates are typically considered not eligible. Additionally, the BC Cribs are contributing properties within the Manhattan Project and Cold War Era Historic District, with documentation required. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)*, all documentation requirements have been completed for this property.

There are 5 National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the EU (all 5 are contributing within the Manhattan Project and Cold War Era Historic District, 2 recommended for individual documentation and 3 with no additional documentation required). Mitigation for contributing buildings/structures has been completed in accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)*, and building demolition is ongoing.

Geomorphology, ground disturbance, historic maps, and the presence of archaeological resources associated with the Native American Precontact and Ethnographic landscape located within the BC Cribs and Trenches EU all suggest that the potential exists for additional archaeological resources associated with the Native American Precontact and Ethnographic landscape to be present on the surface or within the subsurface within the EU. The potential for intact archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape and the Manhattan Project associated archaeological resources is also possible.

Because portions BC Cribs and Trenches EU have not been investigated for archaeological resources and because of the potential for pockets of undisturbed soil to exist within the EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating any remediation activity. Indirect effects are always possible when TCPs

are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References⁸

Department of Energy. 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Richland, Washington.

Chatters, JC. 1990. *Cultural Resources Review of the Project L-006 Route 3/4S Intersection Safety Improvements*. Pacific Northwest Laboratory. Richland, Washington. **

Crist, ME and MK Wright. 1993. *Cultural Resources Review of the L-102 Primary Highway Route North of the Wye Barricade –Location Change HCRC #93-600-005*. Pacific Northwest Laboratories. Richland, Washington. **

Kennedy, EP. 2008a. *Cultural Resources Inventory and Review for Phase I of the Comprehensive Response, Compensation and Liability Act Treatability Test, Remediation of the 200-BC-1 Operable Unit, Hanford Site HCRC#2008-600-006*. Pacific Northwest National Laboratory. Richland, Washington. **

Kennedy, EP. 2008b . *Cultural Resources Review for Remediation of Zone A of the BC Control Area Waste Site UPR-200-E-83, Operable Unit 200-UR-1, at the 600 Area of the Hanford Site (HCRC# 2008-600-006A)*. Pacific Northwest National Laboratory. Richland, Washington. **

Parker, P. and T. King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

Sharpe, JJ. 2009. *Cultural Resources Review and Inventory for the BC Controlled Area Northern Zone of the U.S. Department of Energy's Hanford Site. Benton County, Washington, HCRC3 2008-600-006B*. CH2MHill. Richland, Washington. **

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

⁸ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: Plutonium Contaminated Waste Sites
 ID: CP-LS-2
 Group: Legacy Source
 Operable Unit Cross-Walk: 200-PW-1, 3, 6
 200-CW-5
 Related EU: CP-DD-5
 CP-GW-2
 Sites & Facilities: Plutonium (Pu) contaminated cribs and trenches associated with PFP in central part of 200-W area
 Key Data Sources Docs: ROD PW CW

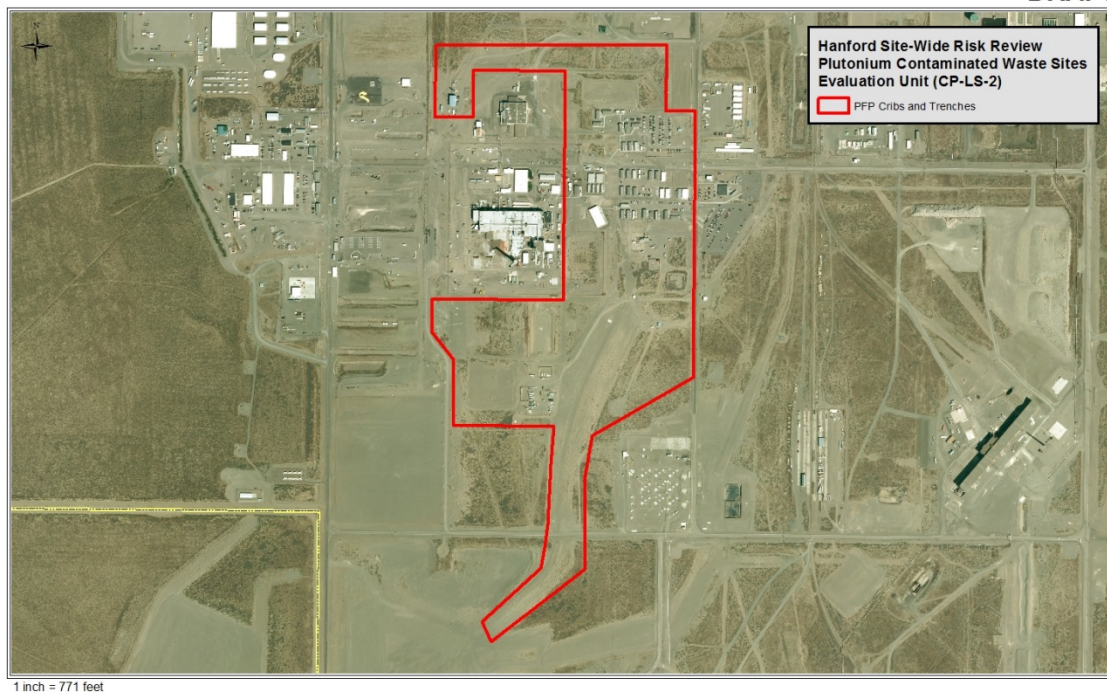
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Figure K.5. Site Map with Evaluation Unit Boundaries

CP-LS-2: Plutonium Contaminated Waste Sites

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The Plutonium Contaminated Waste Sites EU is located within the 200-West Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an

historic/ethnohistoric trail/ road corridor which runs through the 200-West Area not far from the Plutonium Contaminated Waste Sites EU.

Much of the Plutonium Contaminated Waste Sites EU has not been inventoried for archaeological resources and it is unknown if an NHPA Section 106 review has been completed for remediation of the Plutonium Contaminated Waste Sites EU as one was not located. One small archaeological survey was completed under HCRC# 87-200-014 with negative findings (Chatters and Cadoret 1987). It is unlikely that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly because the soils in the Plutonium Contaminated Waste Sites EU appear to be heavily disturbed.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁹

- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)* (DOE-RL 1998), all documentation requirements have been completed for this property.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- A non-contributing segment of the National Register-eligible historic/ethnohistoric Trail/Road, associated with the Pre-Hanford Early Settler/Farming Landscape and Native American Precontact and Ethnographic Landscape is located within 100 meters of the Plutonium Contaminated Waste Sites EU.
- There are one archaeological site, likely associated with the Pre-Hanford Early Settlers/Farming Landscapes, and two isolated finds (one associated with the Native American Precontact and Ethnographic Landscape and one associated with the Pre-Hanford Early Settlers/Farming Landscape) that have also been identified. None of these resources are considered to be National Register-eligible.
- There are 10 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District located within 500 meters of the Plutonium Contaminated Waste Sites EU as given in **Error! Reference source not found.** (all 10 are contributing within the Manhattan Project and Cold War Era Historic District, 9 with individual documents required, and 1 with no additional documentation required). In accordance with the 1998 *Hanford Site Manhattan Project*

⁹ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

and Cold War Era Historic District Treatment Plan (DOE/RL-97-56), all documentation requirements have been completed for these properties.

Table K.X. National Register-Eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-LS-2, Plutonium Contaminated Waste Sites EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|---|--|---|-------------------------------------|
| 231-Z | Plutonium Isolation Building/Plutonium Metallurgical Laboratory | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 234-5Z | Plutonium Finishing Plant | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 234-5ZA | 234-5Z South Annex | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 236-Z | Plutonium Reclamation Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 242-Z | Waste Treatment Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 291-Z | Air Filter and Exhaust Stack | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2736-Z | Primary Plutonium Storage Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 2736-ZA | Primary Plutonium Storage Annex | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2736-ZB | Primary Plutonium Storage Support | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 270-Z | PFP Operations and Support Building | A.6 | Contributing Property w/ no additional documentation requirements | |

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the Plutonium Contaminated Waste Sites EU.

Historic Map and Aerial Photograph Indicators

A review of 1916 historic United States Geological Survey (USGS) topographic maps (USGS 1916) depicts the historic/ethnohistoric Trail/Road running near the Plutonium Contaminated Waste Sites EU, suggesting a moderate potential for the presence of archaeological resources associated with both the Native American Precontact and Ethnographic Era Landscape and the Pre-Hanford Early Settlers/Farming Landscape, given the trail's relative proximity to this EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the Plutonium Contaminated Waste Sites EU were owned by the United States and Benton County in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs further confirm the nearby presence of the White Bluffs Road.

Geomorphology Indicators

The geomorphology within the Plutonium Contaminated Waste Sites EU is primarily Pleistocene outburst flood deposits with a small pocket of Holocene dune sands to the south suggesting a moderate potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape within the surface subsurface component of this EU where the Holocene Dune Sands are present and if pockets of undisturbed soils exist.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that the EU is heavily disturbed by building construction, buried pipelines, surface grading, roads and waste sites. This disturbance suggests low potential for intact archaeological resources to be present. It is possible but unlikely that pockets of undisturbed soils exist.

Summary of Cultural Resources Review

Much of the Plutonium Contaminated Waste Sites EU has not been inventoried for archaeological resources and it is unknown if an NHPA Section 106 review has been completed for remediation of the Plutonium Contaminated Waste Sites EU as one was not located. One small archaeological survey was completed with negative findings. It is unlikely that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), because the soils in the EU are extensively disturbed.

Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within the Plutonium Contaminated Waste Sites EU. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for this property.

Ten National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District located within 500 meters of the Plutonium Contaminated Waste Sites EU (all 10 are contributing within the Manhattan Project and Cold War Era Historic District, 9 with individual documents required, and 1 with no additional documentation required). In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for these properties. Additionally, there are 2 recorded archaeological sites located within 500 meters of the Plutonium EU: a non-contributing segment of a National Register-eligible historic/ethnohistoric Trail/Road associated with the Pre-Hanford Early Settlers/Farming and Native American Precontact and Ethnographic Landscapes and a site likely associated with the Pre-Hanford Early Settlers/Farming Landscape. Additionally two isolated finds, one associated with the Native American Precontact and Ethnographic Landscape, and one associated with the Pre-Hanford Early Settlers/Farming Landscape have also been identified. None of these resources are considered to be National Register-eligible.

Historic maps and cultural resources surveys indicate there is evidence of historic and ethnohistoric land use associated with transportation and travel through the area as a historic/ethnohistoric Trail/Road is located within close proximity to the Plutonium Contaminated Waste Sites EU. Geomorphology indicates a moderate potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape within the subsurface components of the EU, specifically within the small pocket of Holocene Dune Sands deposits contained within the Plutonium Contaminated Waste Sites EU. Extensive ground disturbance within the entire EU however, may negate this moderate potential.

Because the historic/ethnohistoric Trail/Road is located in such close proximity to the Plutonium Contaminated Waste Sites EU, mitigation for indirect impacts may need to be considered as part of the remediation efforts including measures undertaken to avoid and protect this area. Additionally, because of the potential for intact archaeological deposits within some portions of the EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and the B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References¹⁰

Department of Energy. 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Richland, Washington.

Chatters, JC and NA Cadoret. 1987. *Cultural Resources Survey of the Proposed 200- West Area Plutonium Finishing Plant Parking Lot Improvements*. Pacific Northwest Laboratory. Richland, Washington.**

Chatters JC and NA Cadoret 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington. **

Parker, P. and T. King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

USGS Topographic maps. 1916. Coyote Rapid Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

¹⁰ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: U Plant Cribs and Ditches
 ID: CP-LS-3
 Group: Legacy Source
 Operable Unit Cross-Walk: 200-DV-1, 200-WA-1
 Related EU: CP-LS-7, CP-DD-3, CP-GW-2
 Sites & Facilities: Liquid waste discharges in the central part of 200-W Area associated with U Plant operations.



Figure K.6. CP-LS-3 (U Plant Cribs and Ditches) Site Location Map

CP-LS-3 U Plant Cribs and Ditches

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-LS-3, U Plant Cribs and Ditches EU is located within the 200-West Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this

archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

Small portions of the EU have been surveyed for cultural resources under four reviews: HCRC#87-200-032 (Cadoret 1988), HCRC#93-600-004 (McIntire and Myers 1993), HCRC#94-200-097 (Crist 1994), and HCRC#2011-200-032 (Mendez 2011). None of these reviews resulted in the identification of cultural resources within the EU. It is unknown if an NHPA Section 106 review has been completed specifically for remediation of CP-LS-3, U Plant Cribs and Ditches EU. It is unlikely that intact previously undocumented archaeological material is present in the EU, both on the surface and in subsurface areas, because the soils in the CP-LS-3, U Plant Cribs and Ditches EU appear to have been extensively disturbed by Hanford Site activities.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU¹¹

- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within the CP-LS-3 U Plant Cribs and Ditches EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for this property.
- There are 10 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within CP-LS-3, U Plant Cribs and Ditches EU (all 10 are contributing properties within the Manhattan Project and Cold War Era Historic District, 1 with individual documentation required, and 9 with no additional documentation required) . In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)*, all documentation requirements have been completed for this property.

Table K.2. National Register-eligible Manhattan Project and Cold War Era Buildings located within CP-LS-3, U Plant Cribs and Ditches EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|------------------------------|--|---------------------------------------|-------------------------------------|
| 241-WR | Thorium Storage Vault U Area | A.5 | Contributing Property Recommended for | HPIF |

¹¹ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|-----------------------------|--|---|-------------------------------------|
| 221-U | U Plant Canyon | A.6 | Contributing Property w/ no additional documentation requirements | Individual Documentation |
| 2220-W | Telephone Exchange | A.6 | Contributing Property w/ no additional documentation requirements | |
| 271-U | Office And Service Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2727-W | Sodium Storage Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2727-WA | Sodium Storage Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 272-S | Maintenance Shop | A.6 | Contributing Property w/ no additional documentation requirements | |
| 291-U | Exhaust Fans & Stack | A.6 | Contributing Property w/ no additional documentation requirements | |
| 292-U | Gas Sampling Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| W-19 | Pipefitters Shop | A.6 | Contributing Property w/ no additional documentation requirements | |

Archaeological Sites, buildings, and TCPs located within 500 meters of the EU

- A non-contributing segment of a National Register Eligible historic/ethnohistoric trail/road corridor is located within 500 meters of the EU.
- There are 28 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the CP-LS-3 U Plant Cribs and Ditches EU (all 28 are contributing properties to the Manhattan Project and Cold War Era Historic District, 18 with individual documentation required, and 10 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these properties.

Table K.3. National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-LS-3 U Plant Cribs and Ditches EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|---|--|--|-------------------------------------|
| 202-S | REDOX Canyon Building | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 231-Z | Plutonium Isolation Building/Plutonium Metallurgical Laboratory | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 232-Z | Waste Incinerator Facility | A.5 | Contributing Property Recommended for Individual Documentation | HAER |
| 234-5Z | Plutonium Finishing Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 234-5ZA | 234-5ZA South Annex | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 236-Z | Plutonium Reclamation Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 241-T | Waste Disposal Tank Farm (Single Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 241-TX | Waste Disposal Tank Farm (Single | A.5 | Contributing Property Recommended for | HPIF |

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|---|--|---|-------------------------------------|
| | Shell) | | Individual Documentation | |
| 241-TY | Waste Disposal Tank Farm (Single Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 242-T | Waste Evaporator | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 242-Z | Waste Treatment Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 244-UR | Liquid Waste Disposal Vault | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2701-ZA | Central Alarm Station | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2704-Z | Office Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2736-Z | Primary Plutonium Storage Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 2736-ZA | Primary Plutonium Storage Annex | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2736-ZB | Primary Plutonium Storage Support | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 291-Z | Air Filter and Exhaust Stack | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 201-W | Instrument Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 242-S | Evaporator Building | A.6 | Contributing Property w/ no additional documentation requirements | |

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|--|--|---|-------------------------------------|
| 270-Z | PFP Operations and Support Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2713-WB | Regulated Vehicle Maintenance Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 282-W | Reservoir Pumphouse | A.6 | Contributing Property w/ no additional documentation requirements | |
| 283-W | Water Filtration Plant | A.6 | Contributing Property w/ no additional documentation requirements | |
| 284-W | Power House and Steam Plant | A.6 | Contributing Property w/ no additional documentation requirements | |
| 291-S | Exhaust Fan & Stack | A.6 | Contributing Property w/ no additional documentation requirements | |
| 292-S | Stack Monitoring Building/Jet Pit | A.6 | Contributing Property w/ no additional documentation requirements | |
| 293-S | Acid Recovery & Gas Treatment Building | A.6 | Contributing Property w/ no additional documentation requirements | |

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-LS-3, U Plant Cribs and Ditches EU.

Historic Map and Aerial Photograph Indicators

Historic United States Geological Survey (USGS) topographic maps (USGS 1916) do not show any manmade or cultural features within the EU, but it does show a historic/ethnohistoric trail/road corridor in the vicinity of the EU (to the northwest). Ownership information provided on 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the EU were owned by the United States and Benton County in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs are only available for the eastern two-thirds of the EU. Available imagery indicates that this area was not culturally used, but consisted of vegetated dunes in 1943. This information suggests a low potential for the presence of archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU.

Geomorphology Indicators

The geomorphology within the CP-LS-3, U Plant Cribs and Ditches EU consists of Pleistocene outburst flood deposits and Holocene dune sands, suggesting a moderate potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface subsurface component of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that the EU has been almost entirely disturbed by building construction, Hanford site facilities, buried utilities, surface grading, roads, railroads, waste sites, etc. This disturbance suggests an extremely low potential for intact archaeological resources on or below the ground surface within the EU. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Summary of Cultural Resources Review

Portions of the CP-LS-3, U Plant Cribs and Ditches EU have been inventoried for cultural resources under four reviews: HCRC#87-200-032 (Cadoret 1988), HCRC#93-600-004 (McIntire and Myers 1993), HCRC#94-200-097 (Crist 1994), and HCRC#2011-200-032 (Mendez 2011). None of these reviews resulted in the identification of cultural resources within the EU. It is unknown if an NHPA Section 106 review has been completed specifically for remediation of the CP-LS-3, U Plant Cribs and Ditches EU. It is unlikely that intact archaeological materials are present in the EU, both on the surface and in the subsurface, because the soils in the EU have been extensively disturbed.

Cultural resource documented within the CP-LS-3, U Plant Cribs and Ditches EU include segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required. In addition, 10 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within the EU (all 10 are contributing properties within the Manhattan Project and Cold War Era Historic District, 1 with individual documentation required, and 9 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District*

Treatment Plan (DOE/RL-97-56) (DOE-RL 1998), all applicable documentation requirements have been met for these properties. These buildings include those listed in the table below.

Table K.4. National Register-eligible Manhattan Project and Cold War Era Historic buildings located within CP-LS-3, U Plant Cribs and Ditches EU

| Building # | Building Name |
|------------|------------------------------|
| 241-WR | Thorium Storage Vault U Area |
| 221-U | U Plant Canyon |
| 2220-W | Telephone Exchange |
| 271-U | Office And Service Building |
| 2727-W | Sodium Storage Building |
| 2727-WA | Sodium Storage Building |
| 272-S | Maintenance Shop |
| 291-U | Exhaust Fans & Stack |
| 292-U | Gas Sampling Building |
| W-19 | Pipefitters Shop |

Cultural resources documented within 500 meters of the CP-LS-3 U Plant Cribs and Ditches EU include a non-contributing segment of a National Register Eligible historic/ethnohistoric road/trail corridor. Additionally 28 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District have been documented within 500 meters of the EU (all 28 are contributing properties within the Manhattan Project and Cold War Era Historic District, 18 with documentation required, and 10 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all applicable documentation requirements have been met for these properties.

Historic maps and aerial imagery do not indicate any cultural features within the EU, but do show a historic/ethnohistoric trail/road corridor in the vicinity of the EU suggesting a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU. Geomorphology indicates a moderate potential for the presence of Native American Precontact and Ethnographic cultural resources to be present within the CP-LS-3, U Plant Cribs and Ditches EU. However, extensive ground disturbance within the entire EU suggests a low potential for intact cultural resources at or below ground surface. Resources, if present, would likely be limited to area of intact or undisturbed soils.

Because of the potential for intact archaeological deposits within the EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach,

and the B-Reactor Museum Association) may be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References¹²

Cadoret, NA. 1988. *Cultural Resources Review of the 200-W Area Uranium Investigation, HCRC#87-200-032*. Pacific Northwest Laboratory, Richland, Washington. **

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DOE-RL (Department of Energy, Richland Operations Office). 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)*. Richland, Washington.

McIntire, WD and JW Meyers. 1993. *Cultural Resources Review of the W-236, Multi-Function Waste Tank Facility 200 West Area, HCRC#93-600-004*. Pacific Northwest Laboratory, Richland, Washington. **

Mendez, K. 2011. *Cultural Resources Review for Expanded Staging Area and Haul Roads for the Grout Batch Plant in the 200-West Area (HCRC#2011-200-032)*, CH2M HILL, Inc., Richland, Washington. **

Parker, P and T King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

¹² **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: REDOX Cribs and Ditches
 ID: CP-LS-4
 Group: Legacy Source
 Operable Unit Cross-Walk: 200-DV-1, 200-WA-1
 Related EU: CP-DD-4, CP-GW-2
 Sites & Facilities: Liquid waste discharges in the southern part of 200-W Area associated with REDOX (S Plant) operations.

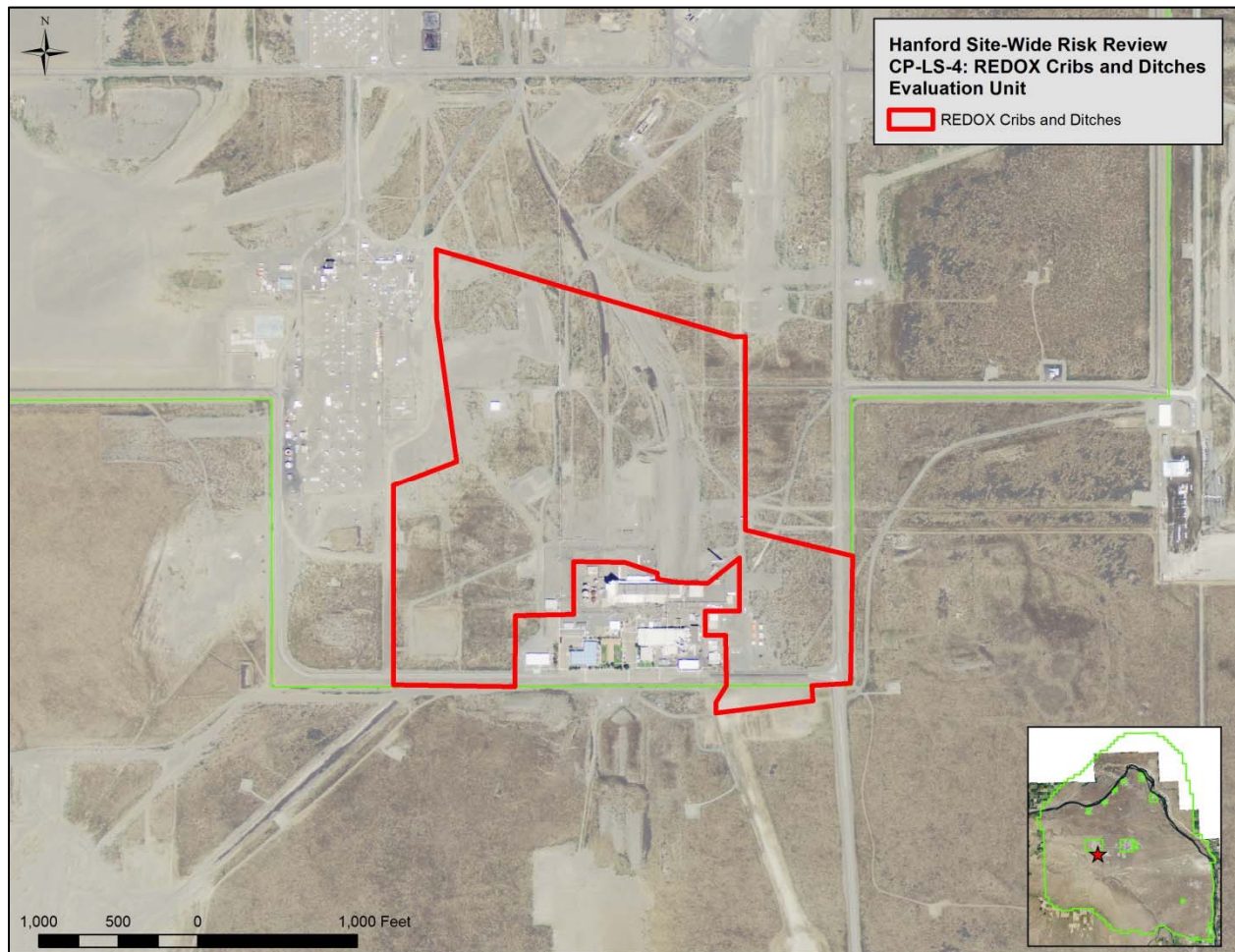


Figure K.7. CP-LS-4 (REDOX Cribs and Ditches) Site Location Map

CP-LS-4: REDOX Cribs and Ditches

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-LS-4, REDOX Cribs and Ditches EU is located in the 200 West Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this

archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area. Only a small portion of the EU has been inventoried for cultural resources under HCRC# 95-200-013 (Stapp & Woodruff 1994) and HCRC# 2013-600-012b (Hay et al. 2014). It is unknown if an NHPA Section 106 review has been completed specifically for the remediation of the CP-LS-4, REDOX Cribs and Ditches EU. Much of the land within the EU is extensively disturbed from 200-West area operations, suggesting a low potential for intact archaeological deposits to exist within the surface and subsurface components of the EU.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU¹³

- A segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within the boundary of the CP-LS-4, REDOX Cribs and Ditches EU. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.
- No additional archaeological sites, buildings, and/or TCPs are known to be located within the EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- There are 4 archaeological sites/isolates located within 500 meters of the CP-LS-4, REDOX Cribs and Ditches EU. Two of these are associated with the Native American Precontact and Ethnographic Landscape (1 isolate and 1 site), one is associated with the Pre-Hanford Early Settlers/Farming Landscape (1 isolate) and one is a multi-component site associated with both the Native American Precontact and Ethnographic and Pre-Hanford Early Settlers/Farming Landscapes that has been determined not eligible for the National Register of Historic Places. The other recorded archaeological resources (1 site and 2 isolates) have not been evaluated for listing in the National Register of Historic Places, however, it should be noted that isolates are typically assumed not eligible.
- There are 10 National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the EU (all 10 are contributing within the Manhattan Project and Cold War Era Historic District, 1 recommended for individual documentation and 9 with no additional documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998) and building demolition is ongoing.

¹³ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (a) rooted in the history of a community, and (b) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

Table K.5. National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-LS-4, REDOX Cribs and Ditches EU.

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|--|--|---|-------------------------------------|
| 202-S | REDOX Canyon Building | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 219-S | Waste Treatment Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 222-SB | HVAC Filter House | A.6 | Contributing Property w/ no additional documentation requirements | |
| 242-S | Evaporator Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 272-S | Maintenance Shop | A.6 | Contributing Property w/ no additional documentation requirements | |
| 291-S | Exhaust Fan & Stack | A.6 | Contributing Property w/ no additional documentation requirements | |
| 292-S | Stack Monitoring Building/Jet Pile | A.6 | Contributing Property w/ no additional documentation requirements | |
| 293-S | Acid Recovery & Gas Treatment Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2704-S | Office Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2727-W | Sodium Storage Building | A.6 | Contributing Property w/ no additional documentation | |

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility requirements | Documentation Completed/Type |
|------------|---------------|---|--|------------------------------|
|------------|---------------|---|--|------------------------------|

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-LS-4, REDOX Cribs and Ditches EU.

Historic Map and Aerial Photograph Indicators

A review of historic United States Geological Survey (USGS) topographic maps (USGS 1916) does not show any development within the CP-LS-4, REDOX Cribs and Ditches EU. A historic/ethnohistoric trail/ road corridor lies in the vicinity of the EU, suggesting the potential for historic use associated with travel in the area. Ownership information provided on the 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the EU were owned by public entities including the United States of America (northern portion) and Benton County (southern portion) (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs confirm that this area was undeveloped. This information suggests a low potential for the presence of archaeological resources associated with the Pre-Hanford Early-Settlers/Farming Landscape within the EU boundary.

Geomorphology Indicators

The geomorphology within the CP-LS-4, REDOX Cribs and Ditches EU is comprised of Pleistocene outburst flood deposits overlaid by pockets of Holocene dune sands (especially in the southern portion of the EU), suggesting a moderate potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface component of this EU. Archaeological resources, if present, would likely be limited to areas of intact or undisturbed soils.

Ground Disturbance Indicators

Examination of 2012 aerial imagery indicates that the EU has been heavily disturbed by 200-West Area operations. Pockets of undisturbed soil do appear to exist in several areas of the EU, suggesting a moderate potential for intact archaeological resources to exist within these isolated undisturbed areas.

Summary of Cultural Resources Review

A very small portion of the CP-LS-4, REDOX Cribs and Ditches EU has been inventoried for archaeological resources. It is unknown if an NHPA Section 106 review has been completed specifically for the remediation of the CP-LS-4, REDOX Cribs and Ditches EU. Much of the land within the EU is extensively disturbed from 200-West area operations, suggesting a low

potential for intact archaeological deposits to exist within the surface and subsurface components of the EU.

The National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required is the only cultural resource that has been recorded within the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property. No additional archaeological sites and/or TCPs are known to be located within the boundary of the EU.

There are 4 recorded archaeological resources located within 500 meters of the EU; two associated with the Native American Precontact and Ethnographic Landscape (1 site & 1 isolate), one with the Pre-Hanford Early Settlers/Farming Landscape (1 isolate) and one multi-component archaeological site with elements from both landscapes represented. This multi-component site has been determined not eligible for inclusion in the National Register of Historic Places. The remaining archaeological resources (1 site & 2 isolates) have not been formally evaluated for listing in the National Register of Historic Places, however, it should be noted that isolates are typically considered not eligible. In addition, there are 10 National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the EU (1 recommended for individual documentation and 9 with no additional documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998) and building demolition is ongoing.

Historic maps and aerial imagery indicate that the area was relatively undeveloped aside from one historic trail/road in the general vicinity of the EU. This suggests a low potential for the presence of archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU. Geomorphology indicates a moderate potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the EU boundary. Recent aerial imagery of the area indicate extensive ground disturbance across large portion of the EU; however, pockets of undisturbed soil do appear to exist in several areas, suggesting a moderate potential for intact archaeological resources to exist. Resources, if present, would likely be limited to these areas of intact or undisturbed soils.

Because of the potential for intact archaeological deposits within portions of the CP-LS-4, REDOX Cribs and Ditches EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups who may have an interest in the areas (e.g. East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References¹⁴

Chatters JC and NA Cadoret 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington.**

DOE-RL (Department of Energy, Richland Operations Office). 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)*. Richland, Washington.

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¹⁴ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: U and S Pond
 ID: CP-LS-5
 Group: Legacy Source
 Operable Unit Cross-Walk: 200-CW-1, 200-OA-1
 Related EU: CP-GW-2
 Sites & Facilities: Liquid waste discharges in the southern part of 200-W and outside the fence of 200 West associate with U and S ponds and closely related trenches, ditches, and cribs.

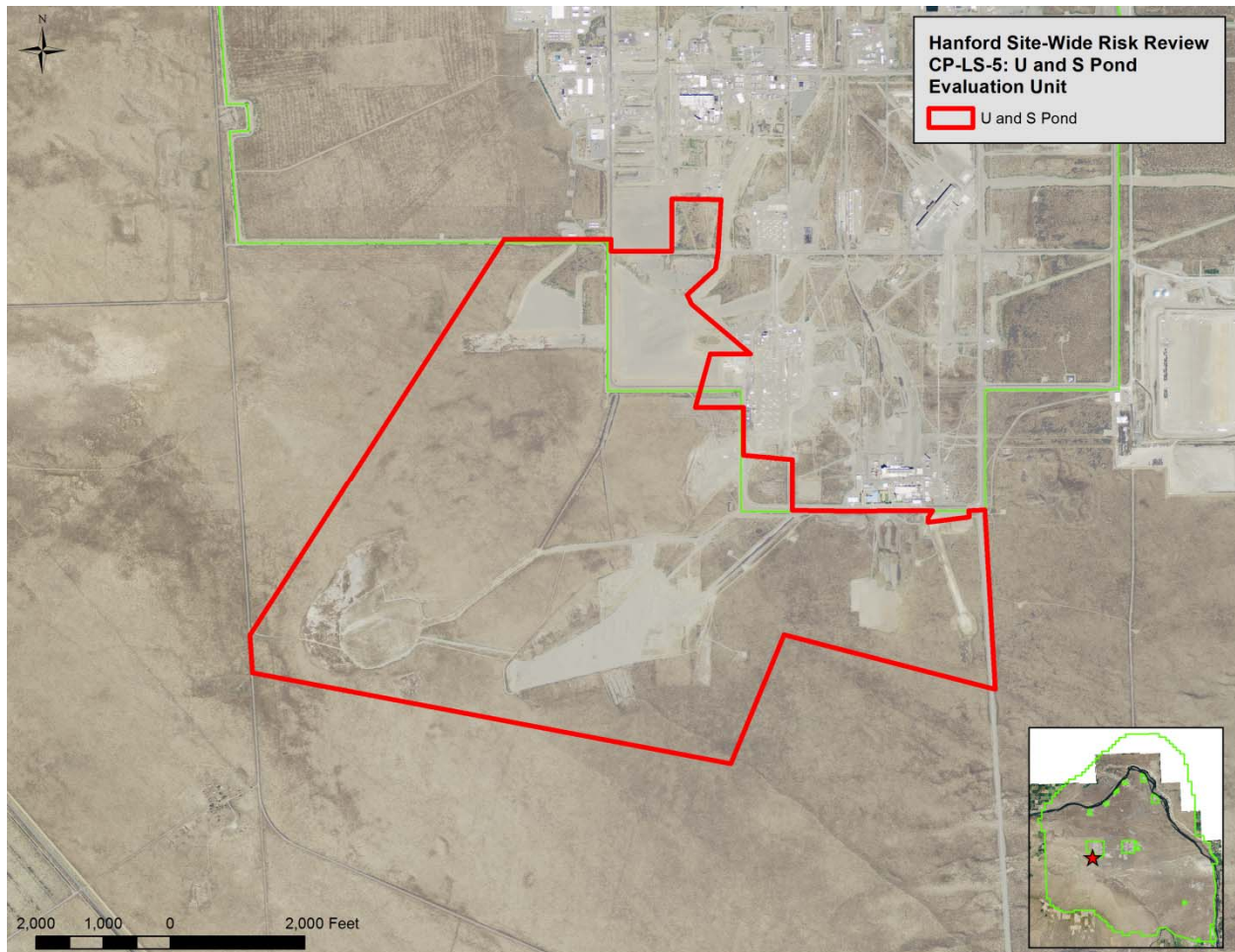


Figure K.8. CP-LS-5 (U and S Pond) Site Location Map

CP-LS-5: U and S Pond

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-LS-5, U and S Pond EU is located in the 600 Area of the Hanford Site, just southwest of the 200 West area. Small portions of the EU have been inventoried for cultural resources under various survey efforts including, HCRC# 88-200-009 (Cadoret and Chatters 1989a), HCRC# 89-200-010 (Cadoret and Chatters 1989b), HCRC# 89-200-023 (Minthorn and Chatters 1990),

HCRC# 93-200-023 (Crist and Wright 1993), HCRC# 93-200-0136 (Nickens 1996), HCRC# 93-600-014 (Last 1993), HCRC# 93-600-016 (Wright 1993), HCRC# 94-600-032 (Crist and Nickens 1994), HCRC# 95-200-013 (Stapp and Woodruff 1994), HCRC# 95-600-020 (Crist and Nickens 1995), HCRC# 2007-600-034 (McFarland et al. 2009), HCRC# 2011-600-015 (Hughes et al. 2011) and HCRC# 2013-600-012b (Hay et al. 2014). An NHPA Section 106 review has not been completed specifically for the remediation of the CP-LS-5, U and S Pond EU. Much of the EU remains relatively undisturbed, suggesting a high potential for intact surface and subsurface archaeological resources.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU¹⁵

- Two archaeological isolates associated with the Pre-Hanford Early Settlers/Farming Landscape have been recorded within the CP-LS-5, U and S Pond EU. Neither of these isolates have been formally evaluated for listing in the National Register of Historic Places, however, it should be noted that isolates are typically considered not eligible.
- No buildings and/or Traditional Cultural Properties (TCPs) are currently known to exist within the EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- Nine archaeological sites/isolates have been recorded within 500 meters of the CP-LS-5, U and S Pond EU. Two of these resources are associated with the Native American Precontact and Ethnographic Landscape (1 isolate and 1 site) and 7 are associated with the Pre-Hanford Early Settlers/Farming landscape (6 isolates and 1 site). The one site associated with the Native American Precontact and Ethnographic Landscape is the only resource located within the EU that has been formally evaluated for listing in the National Register of Historic Places, and it has been determined not eligible. The remaining archaeological resources have not been formally evaluated, however, it should be noted that isolates are typically considered not eligible.
- A non-contributing segment of a National Register-eligible historic/ethnohistoric Trail/Road is located within 500 meters of the CP-LS-5, U and S Pond EU.
- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500 meters of the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.
- There are 18 National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the EU (all 18 are contributing within the Manhattan Project and Cold War Era Historic District, 10 recommended for individual

¹⁵ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (a) rooted in the history of a community, and (b) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

documentation and 8 with no additional documentation required). Mitigation for contributing buildings/structures has been completed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998) and buildings demolition is ongoing.

Table K.6. National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-LS-5, U and S Pond EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|------------------------------------|--|---|-------------------------------------|
| 202-S | REDOX Canyon Building | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 234-5Z | Plutonium Finishing Plant | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 234-5ZA | 234-5Z South Annex | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 236-Z | Plutonium Reclamation Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 242-Z | Waste Treatment Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 244-UR | Liquid Waste Disposal Vault | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2736-Z | Primary Plutonium Storage Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 2736-ZA | Primary Plutonium Storage Annex | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2736-ZB | Primary Plutonium Storage Support | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 291-Z | Air Filter and Exhaust Stack | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 219-S | Waste Treatment Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 222-SB | HVAC Filter House | A.6 | Contributing Property w/ no additional documentation requirements | |

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|--|--|---|-------------------------------------|
| 242-S | Evaporator Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2704-S | Office Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 272-S | Maintenance Shop | A.6 | Contributing Property w/ no additional documentation requirements | |
| 291-S | Exhaust Fans & Stack | A.6 | Contributing Property w/ no additional documentation requirements | |
| 292-S | Stack Monitoring Building/Jet Pit | A.6 | Contributing Property w/ no additional documentation requirements | |
| 293-S | Acid Recovery & Gas Treatment Building | A.6 | Contributing Property w/ no additional documentation requirements | |

Closest Recorded TCP

There are 2 recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-LS-5, U and S Pond EU.

Historic Map and Aerial Photograph Indicators

Review of historic United States Geological Survey (USGS) topographic maps (USGS 1916) does not show any development in the area of the CP-LS-5, U and S Pond EU. One historic ethnohistoric trail/road is in the vicinity of the EU, but there is no indication that any features from this time period existed within the EU itself, or within adjacent areas. This suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming landscape to be present. Ownership information provided on the 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the EU were owned by the United States of America and Benton County (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial

photographs confirm that this area was undeveloped. This information suggests that there is a low potential for archaeological resources associated with the Pre-Hanford Early-Settlers/Farming landscape to be present within the EU boundary.

Geomorphology Indicators

The geomorphology within the CP-LS-5, U and S Pond EU is comprised of Pleistocene outburst flood deposits overlaid by stabilized Holocene dune sands (particularly in the central and southern portions of the EU), suggesting a moderate potential for Native American Precontact landscape associated archaeological resources to be present within the surface and subsurface component of this EU. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Ground Disturbance Indicators

Examination of 2012 aerial imagery indicates that large portions of the EU remain relatively undisturbed. Surface disturbances from Hanford remediation efforts and operations are evident within portions of the EU boundary. This information suggests a high potential for intact archaeological resources to exist within these large undisturbed portions of the EU.

Summary of Cultural Resources Review

Only small portions of the CP-LS-5, U and S Pond EU have been inventoried for archaeological resources. These survey efforts have identified and recorded 2 archaeological isolates within the EU boundary. Both of these isolates are associated with the Pre-Hanford Early Settlers/Farming landscape and remain unevaluated for listing in the National Register of Historic Places (although it should be noted that isolates are typically assumed not eligible). An NHPA Section 106 review has not been completed specifically for the remediation of the CP-LS-5, U and S Pond EU. The EU remains relatively undisturbed, with isolated areas of surface disturbances associated with Hanford Site remediation activities and operations evident within the EU boundary, suggesting a high potential for intact archaeological resources to exist within the EU.

There are 9 archaeological sites/isolates recorded within 500 meters of the CP-LS-5, U and S Pond EU. Two of these resources are associated with the Native American Precontact and Ethnographic Landscape (1 isolate and 1 site) and 7 are associated with the Pre-Hanford Early Settlers/Farming landscape (6 isolates and 1 site). Only one of these sites (associated with the Native American Precontact and Ethnographic Landscape) has been formally evaluated for listing in the National Register of Historic Places, and it has been determined not eligible. The remaining archaeological resources have not been formally evaluated (7 isolates and 1 site), however, it should be noted that isolates are typically considered not eligible. In addition to the 9 archaeological sites/isolates, a non-contributing segment of a National Register-eligible historic/ethnohistoric Trail/Road is located within 500 meters of the CP-LS-5, U and S Pond EU.

Also, several resources associated with the Manhattan Project and Cold War Era Landscape are located within 500 meters of the CP-LS-5, U and S Pond EU. These resources include segments of the National Register-eligible Hanford Site Plant Railroad and 18 National Register-eligible Manhattan Project and Cold War Era buildings. All of these resources are considered as

contributing properties within the Manhattan Project and Cold War Era Historic District. Of the 18 buildings, 10 have been recommended for individual documentation and 8 with no additional documentation required. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all mitigation and documentation requirements have been completed for these properties.

Historic maps and aerial imagery indicate that the area was largely undeveloped. This suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU. Geomorphology indicates a moderate potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the EU boundary, primarily in areas with Holocene deposits (which extend over the central and southern portions of the EU). These resources would likely be limited to areas of intact, undisturbed soils. A review of recent aerial imagery of the area suggest that large portions of the EU remain relatively undisturbed; aside from isolated surface disturbances associated with Hanford Site remediation efforts and ongoing operations. This information suggests a high potential for intact archaeological resources to be present within the EU.

Because of the potential for intact archaeological deposits within portions of the CP-LS-5, U and S Pond EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups who may have an interest in the areas (e.g. East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References¹⁶

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¹⁶ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

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- Wright, MK. 1993. *Cultural Resources Review of the Hanford Well and Borehole Survey (HCRC# 93-600-016)*. Pacific Northwest National Laboratory, Richland, Washington.**

Evaluation Unit: T Plant Cribs and Ditches
 ID: CP-LS-6
 Group: Legacy Source
 Operable Unit Cross-Walk: 200-WA-1, 200-DV-1
 Related EU: CP-GW-2
 Sites & Facilities: Liquid waste sites on the northern end of 200-W area (associated with T Plant operations).

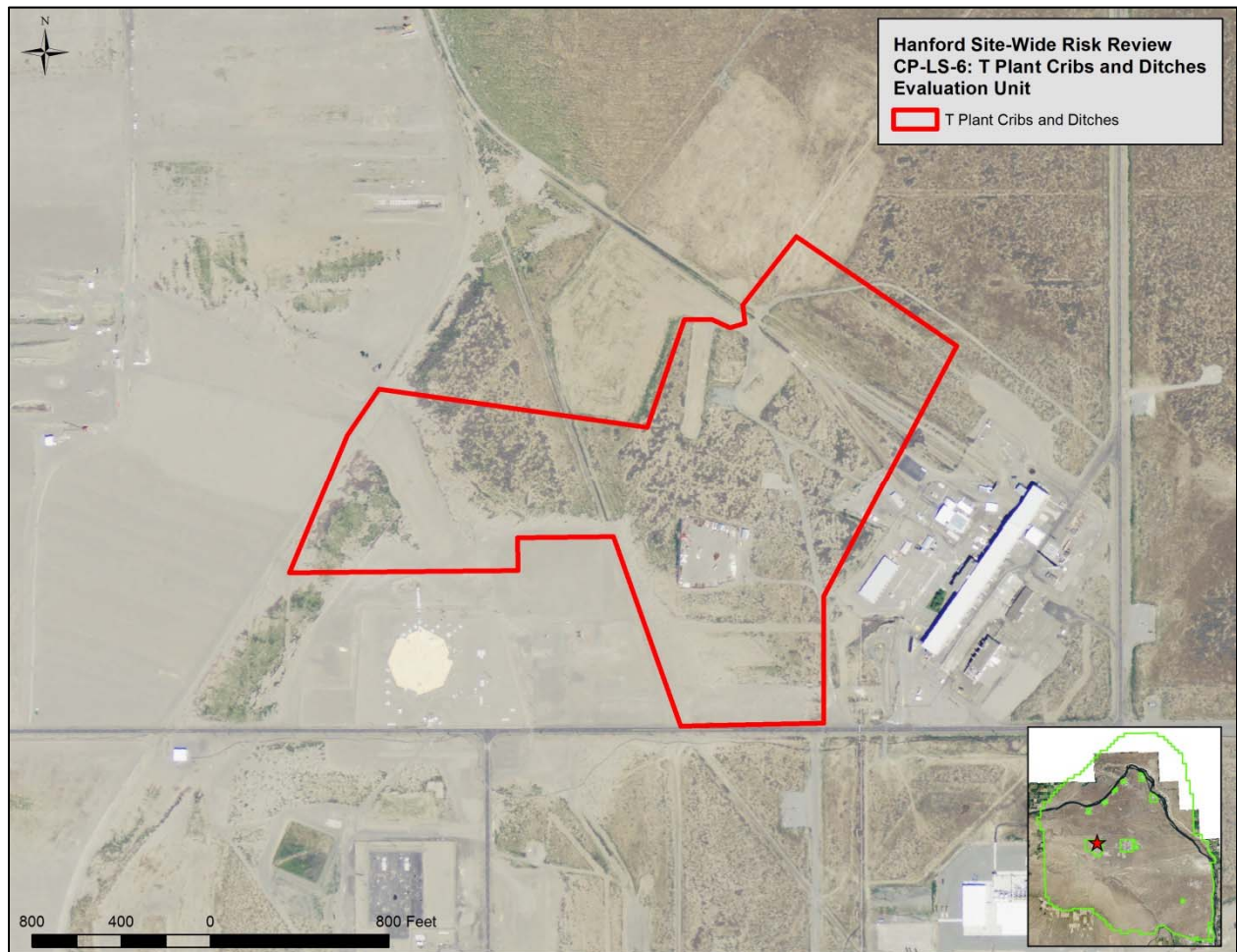


Figure K.9. CP-LS-6 (T Plant Cribs and Ditches) Site Location Map

CP-LS-6 T Plant Cribs and Ditches

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-LS-6, T Plant Cribs and Ditches EU is located within the 200-West Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much

of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

Very small portions of the CP-LS-6, T Plant Cribs and Ditches EU were inventoried for cultural resource under two archaeological surveys: HCRC#87-200-016 (Cadoret and Chatters 1988) and HCRC#88-200-038 (Chatters and Cadoret 1990). Neither review resulted in the identification of cultural resources within the EU. It is unknown if an NHPA Section 106 review has been completed specifically for remediation of CP-LS-6, T Plant Cribs and Ditches EU. It is unlikely that intact previously undocumented archaeological material is present in the EU, both on the surface and in subsurface areas, because the soils in the CP-LS-6, T Plant Cribs and Ditches EU appear to have been heavily disturbed by Hanford Site activities.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU¹⁷

- A non-contributing segment of a National Register eligible, historic/ethnohistoric trail/road is located within the EU.
- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within the CP-LS-6 T Plant Cribs and Ditches EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.

Archaeological sites, buildings, and TCPs located within 500 meters of the EU

- One archaeological isolate associated with the Native American Precontact and Ethnographic Landscape has been documented within 500 meters of the EU. This isolate has not been formally evaluated for listing in the National Register, however, it should be noted that isolates are typically considered not eligible.
- There are 13 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the CP-LS-6, T Plant Cribs and Ditches EU (all 14 are contributing within the Manhattan Project and Cold War Era Historic District, 10 with individual documentation required, and 3 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan*

¹⁷ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

(DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these properties.

Table K.7. National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-LS-6, T Plant Cribs and Ditches EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|--|--|---|-------------------------------------|
| 221-T | T Plant/Equipment Decontamination | A.5 | Contributing Property Recommended for Individual Documentation | HAER |
| 221-TA | Fan House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 222-T | Process Control Laboratory/Office Building | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 241-T | Waste Disposal Tank Farm (Single Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 241-TX | Waste Disposal Tank Farm (Single Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 241-TY | Waste Disposal Tank Farm (Single Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 242-T | Waste Evaporator | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 271-T | Office Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 291-T | Exhaust Stack | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 292-T | Fission Products Release Lab | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 224-T | Transuranic Storage And Assay Facility | A.6 | Contributing Property w/ no additional documentation requirements | |

| | | | |
|--------------------|--|-----|--|
| 2706-T/ 2706-TA | Equipment Decontamination Building/Annex | A.6 | Contributing Property w/ no additional documentation requirements |
| 277-T | Blow Down Building | A.6 | Contributing Property w/ no additional documentation requirements |

- T Plant (221-T) is located within 500 meters of the CP-LS-6, T Plant Cribs and Ditches EU. This building has been selected for preservation, and HAER level documentation has been completed. Additionally, T Plant (221-T) has been identified as part of the Manhattan Project National Historic Park by the National Park Service.

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-LS-6, T Plant Cribs and Ditches EU.

Historic Map and Aerial Photograph Indicators

Historic United States Geological Survey (USGS) topographic maps (USGS 1916) show a historic/ethnohistoric trail/road running through the EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps indicate that these lands were owned by Washington State, Benton County, and Elbert Frazier et al. in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943). 1943 aerial photographs are only available for a sliver of the northeast portion of the EU, and show the same historic/ethnohistoric trail/road in this area. This information suggests a moderate potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU.

Geomorphology Indicators

The geomorphology within the CP-LS-6, T Plant Cribs and Ditches EU consists of Pleistocene outburst flood deposits and Holocene dune sands suggesting a moderate potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface subsurface component of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that the EU is has been heavily disturbed in places by building construction, Hanford site facilities, buried utilities, surface grading, roads and waste sites. Ground disturbance suggests very low potential for intact archaeological resources to be present. It is possible that pockets of undisturbed soils exist within the EU. Resources, if present, would likely be limited to these areas of intact or undisturbed soils.

Summary of Cultural Resources Review

Very small portions of the CP-LS-6, T Plant Cribs and Ditches EU were inventoried for cultural resource under two archaeological surveys: HCRC#87-200-016 (Cadoret and Chatters 1988) and HCRC#88-200-038 (Chatters and Cadoret 1990). It is unknown if an NHPA Section 106 review has been completed for remediation of CP-LS-6, T Plant Cribs and Ditches EU. It is possible, but not likely, that intact archaeological material is present in the EU, both on the surface and in the subsurface, because the soils in the EU have been disturbed by Hanford Site activities.

One archaeological resource, a non-contributing segment of a National Register eligible historic/ethnohistoric trail/road has been documented within the CP-LS-6, T Plant Cribs and Ditches EU which runs through the EU. Additionally, a segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required has also been documented with the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for this latter property.

One archaeological isolate associated with the Native American Precontact and Ethnographic Landscape has been recorded within 500 meters of the CP-LS-6, T Plant Cribs and Ditches EU. This isolate has not been formally evaluated for listing in the National Register of Historic Places, however, it should be noted that isolates are typically considered not eligible. In addition 13 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the CP-LS-6, T Plant Cribs and Ditches EU (all 13 are contributing within the Manhattan Project and Cold War Era Historic District, 10 with individual documentation required, and 3 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for these contributing properties. T Plant (221-T) is located within 500 meters of the CP-LS-6, T Plant Cribs and Ditches EU. This building has been selected for preservation, and HAER level documentation has been completed. Additionally, T Plant (221-T) has been identified as part of the Manhattan Project National Historic Park by the National Park Service.

Historic maps and aerial imagery of this area show a historic/ethnohistoric trail/road running through the EU suggesting a moderate potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU. Geomorphology indicates a moderate potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the CP-LS-6, T Plant Cribs and Ditches EU. However, extensive ground disturbance throughout the entire EU suggests a lower potential for intact cultural resources at or below ground surface. It is possible that pockets of undisturbed soils exist within the EU. Resources, if present, would likely be limited to these areas of intact or undisturbed soils.

Because only small portions of the CP-LS-6 have been inventoried for cultural resources, and because of the potential for intact archaeological deposits within portions of the EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas

prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and the B-Reactor Museum Association) may be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References¹⁸

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USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

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¹⁸ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: 200 Area Transfer Pipeline
 ID: CP-LS-7
 Group: Legacy Source
 Operable Unit Cross-Walk: 200-IS-1
 Related EU: CP-TF-1 through CP-TF-9
 Sites & Facilities: Pipelines outside of Tank Farms evaluation units. Includes 200 East-West transfer lines, IMUSTS, catch tanks, diversion boxes, etc.

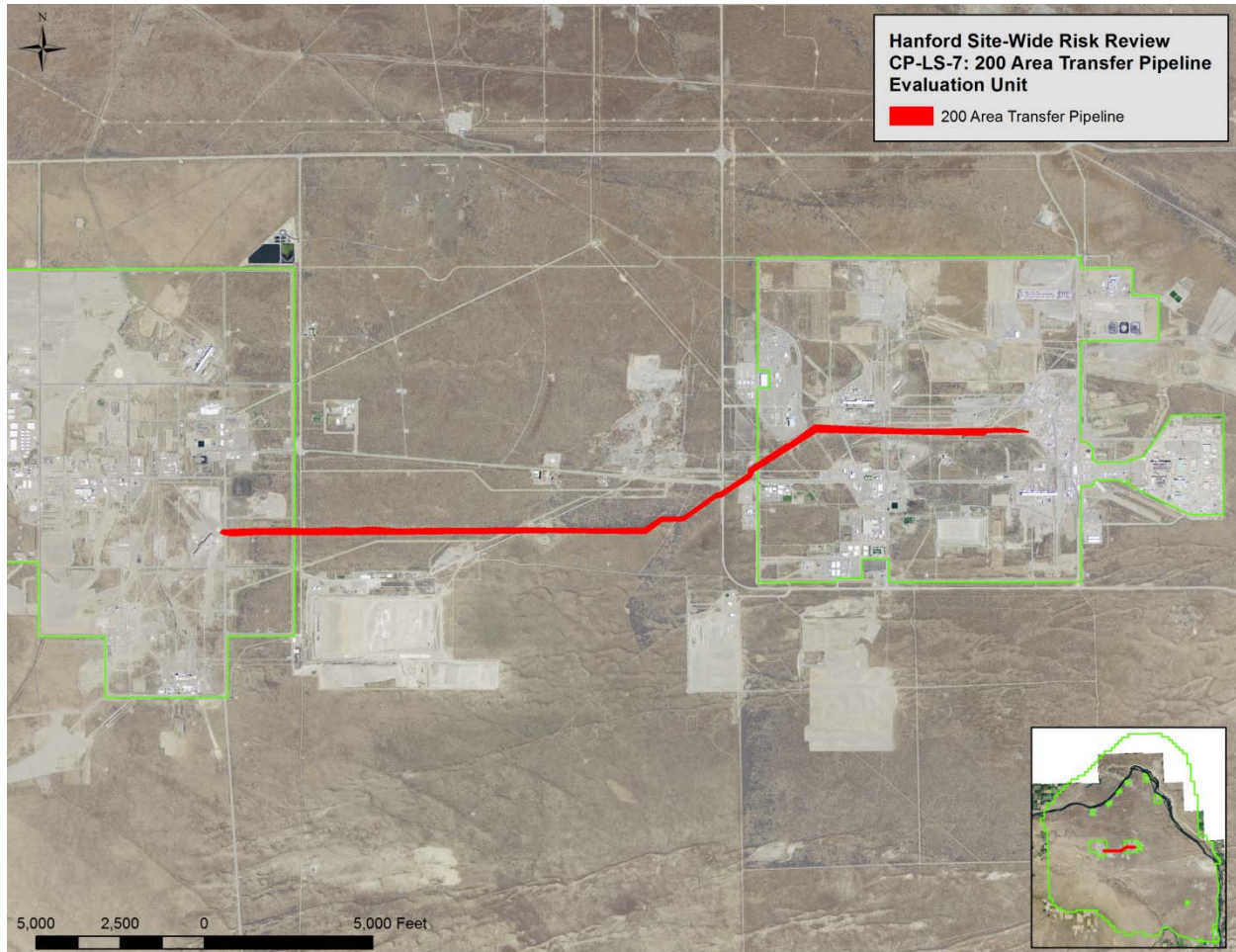


Figure K.10. CP-LS-7 (200 Area Transfer Pipeline) Site Location Map

CP-LS-7: 200 Area Transfer Pipeline

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-LS-7, 200 Area Transfer Pipeline EU is located in the 200 West, 200 East and 600 Area of the Hanford Site, and runs between the former two areas (200 East and 200 West). Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this

archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

Portions of the CP-LS-7, 200 Area Transfer Pipeline EU have been inventoried for cultural resources under various survey efforts including HCRC# 87-200-004 (Chatters 1987), HCRC# 87-200-032 (Cadoret and Chatters 1988), HCRC# 87-200-036 (Hoover 1988), HCRC# 89-600-010 (Minthorn 1990), HCRC# 92-600-030 (Longenecker 1993), HCRC# 93-600-001 (Crist and Longenecker 1994), HCRC# 93-600-038 Crist and Wright 1994), HCRC# 94-600-040 (Crist 1994), HCRC# 94-600-054 (Dauble and Wright 1994), HCRC# 94-600-065 (Crist and Cadoret 1995), HCRC# 96-200-058 (Cadoret 1996), HCRC# 2011-200-052 (Clark and Mendez 2011), HCRC# 2012-200-021 (Hay et al. 2012), HCRC# 2014-600-007 (Mendez and Hay 2014), and HCRC# 2015-600-006 (Mendez 2015). It is unknown if an NHPA Section 106 review has been completed specifically for remediation of the CP-LS-7, 200 Area Transfer Pipeline EU. Most of the EU is heavily disturbed from the installation and maintenance of the transfer pipeline, however small pockets of undisturbed deposits do appear to exist adjacent to these areas, suggesting a moderate potential for intact surface and subsurface archaeological resources.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU¹⁹

- One archaeological site associated with the Manhattan Project and Cold War Era Landscape lies within the boundary of the EU. This site has been determined a National Register-eligible property, and is considered a contributing property within the Manhattan Project and Cold War Era Historic District. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property. Direct impacts to contributing components of the archaeological site however have not been addressed and are dealt with on a project-by-project basis.
- A segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within the EU boundary. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.
- No other archaeological sites/isolates, buildings and/or Traditional Cultural Properties (TCPs) are currently known to exist within the EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

¹⁹ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (a) rooted in the history of a community, and (b) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

- Three archaeological sites have been recorded within 500 meters of the CP-LS-7, 200 Area Transfer Pipeline EU. One of these resources is associated with the Native American Precontact and Ethnographic Landscape, one is associated with the Pre-Hanford Early Settlers/Farming Landscape and one is a multi-component site with elements associated with both of these landscapes. The archaeological site associated with the Pre-Hanford Early Settlers/Farming Landscape is the only one that has been evaluated for listing in the National Register of Historic Places, and it has been determined not eligible. The other two sites remain unevaluated.
- There are 33 National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the EU (all 33 are contributing within the Manhattan Project and Cold War Era Historic District, 9 with documentation required and 24 with no additional documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998) and building demolition is ongoing.

Table K.8. National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-LS-7, 200 Area Transfer Pipeline EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|---|---|--|------------------------------|
| 209-E | Critical Mass Laboratory | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 212-B | Fission Product Loadout Station | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 225-B | Waste Encapsulation and Storage Facility (WESF) | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 241-AW | Waste Storage tank Farm (Double Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 241-WR | Thorium Storage Vault U Area | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2701-AB | PUREX Badge House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2707-AR | Change House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|--|--|---|-------------------------------------|
| 2721-E | Patrol Headquarters | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 276-B | Organic Make Up/Solvent Storage | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 215-C | Gas Preparation Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 221-B | B Plant Canyon/Separations Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 221-BC | SWP Change House | A.6 | Contributing Property w/ no additional documentation requirements | |
| 221-U | U Plant Canyon | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2220-E | Telephone Exchange | A.6 | Contributing Property w/ no additional documentation requirements | |
| 222-B | Process Control Laboratory/Office Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 224-B | Concentration Facility | A.6 | Contributing Property w/ no additional documentation requirements | |
| 244-AR | Sludge Storage Vault | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2703-E | Chemical Engineering Laboratory | A.6 | Contributing Property w/ no additional documentation | |

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|------------------------------------|--|---|-------------------------------------|
| 2719-EA | Medical Aid Station | A.6 | Contributing Property w/ no additional documentation requirements | |
| 271-B | Office & Service Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 271-CR | Aqueous Make-up and Control House | A.6 | Contributing Property w/ no additional documentation requirements | |
| 271-U | Office & Service Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2727-E | Safeguards and Security Offices | A.6 | Contributing Property w/ no additional documentation requirements | |
| 272-B | Service Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 275-EA | Carpenter Shop Storage Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 282-B | Pumphouse | A.6 | Contributing Property w/ no additional documentation requirements | |
| 291-B | Exhaust Air Control Building/Stack | A.6 | Contributing Property w/ no additional documentation requirements | |
| 291-U | Exhaust Fans & Stack | A.6 | Contributing Property w/ no additional documentation requirements | |

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|--------------------------------|--|---|-------------------------------------|
| 292-B | Stack Monitoring Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 292-U | Gas Sampling Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 506-B | Telephone Storage Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 609-A | Fire Station 200-E-W | A.6 | Contributing Property w/ no additional documentation requirements | |
| 609-D | Fire Department Training Tower | A.6 | Contributing Property w/ no additional documentation requirements | |

- No additional archaeological sites/isolates, buildings and/or Traditional Cultural Properties (TCPs) are currently known to exist within 500 meters of the EU.

Closest Recorded TCP

There are 2 recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-LS-7, 200 Area Transfer Pipeline EU.

Historic Map and Aerial Photograph Indicators

Historic United States Geological Survey (USGS) topographic maps (USGS 1916) do not show any development in the area of the CP-LS-7, 200 Area Transfer Pipeline EU. Ownership information provided on the 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the EU were owned by both private and public entities including the United States of America, Benton County, Chas F. Zanzig, William Olson and the J.M. Coleman Co. (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs only cover the western portion of the EU; however they do confirm that this area was undeveloped. This information suggests that there is a low potential for archaeological resources associated with the Pre-Hanford Early-Settlers/Farming Landscape to be present within the EU boundary.

Geomorphology Indicators

The geomorphology within the CP-LS-7, 200 Area Transfer Pipeline EU is comprised of Pleistocene outburst flood deposits, overlaid with pockets of Holocene dune sand and stabilized dunes (especially in the central portion of the EU), suggesting a moderate potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface component of this EU. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Ground Disturbance Indicators

Examination of 2012 aerial imagery indicates that most of the EU is heavily disturbed from the installation and maintenance of the transfer pipeline, however small pockets of undisturbed deposits do appear to exist adjacent to these areas, suggesting a moderate potential for intact surface and subsurface archaeological resources to exist within portions of the EU.

Summary of Cultural Resources Review

Portions of the CP-LS-7, 200 Area Transfer Pipeline EU have been inventoried for archaeological resources. It is unknown if an NHPA Section 106 review has been completed specifically for the remediation of the CP-LS-7, 200 Area Transfer Pipeline EU. One archaeological site associated with the Manhattan Project and Cold War Era Landscape lies within the boundary of the EU. This site has been determined a National Register-eligible property, and is considered a contributing property within the Manhattan Project and Cold War Era Historic District. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property. Direct impacts to contributing components of the archaeological site however have not been addressed and are dealt with on a project-by-project basis. Additionally, a segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.

Three archaeological sites have been recorded within 500 meters of the CP-LS-7, 200 Area Transfer Pipeline EU. One of these resources is associated with the Native American Precontact and Ethnographic Landscape, one is associated with the Pre-Hanford Early Settlers/Farming Landscape and one is a multi-component site with elements from both of these landscapes. The archaeological site associated with the Pre-Hanford Early Settlers/Farming Landscape is the only one that has been evaluated for listing in the National Register of Historic Places, and it has been determined not eligible. The other two sites remain unevaluated. In addition, there are 33 National Register-eligible Manhattan Project and Cold War Era buildings located within the Evaluation Unit (all 33 are contributing within the Manhattan Project and Cold War Era Historic District, 9 with documentation required and 24 with no additional documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998) and building demolition is ongoing.

Historic maps and aerial imagery indicate that the area was largely undeveloped, suggesting a low potential for the presence of archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape. The geomorphology within the CP-LS-7, 200 Area Transfer Pipeline EU suggests a moderate potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape within the surface and subsurface component of this EU. A review of recent aerial imagery of the area indicates most of the EU is heavily disturbed from the installation and maintenance of the transfer pipeline, however small pockets of undisturbed deposits do appear to exist adjacent to these areas, suggesting a moderate potential for intact surface and subsurface archaeological resources. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Because of the potential for intact archaeological deposits within the CP-LS-7, 200 Area Transfer Pipeline EU, it may be appropriate to conduct surface and possibly subsurface archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups who may have an interest in the areas (e.g. East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

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Crist, ME. 1994. *Cultural Resources Review of the W-058 Replacement of Cross Site Transfer Line #2 (HCRC# 94-600-040)*. Pacific Northwest National Laboratory, Richland, Washington.**

Crist, ME and JG Longenecker. 1994. *Cultural Resources Review of the Rail Line for ERDF Project, HCRC# 93-600-038*. Pacific Northwest National Laboratory, Richland, Washington.**

²⁰ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

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- DOE-RL (Department of Energy, Richland Operations Office). 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)*. Richland, Washington.
- Hay, H., K.M. Mendez and K. Clark. 2012. *Cultural Resource Review for the Replacement of a 13.8kV Distribution Line and Installation of New 13.8kV Distribution Lines in the 200 East and 600 Areas of the Hanford Site, Benton County, Washington (HCRC# 2012-200-021)*. CH2M Hill, Richland, Washington.**
- Hoover. 1988. *Cultural Resources Survey of the Proposed Rigging Services Facility, HCRC# 87-200-036*. Pacific Northwest National Laboratory, Richland, Washington.**
- Longenecker, JG. 1993. *Cultural Resources Review of the Integrated Voice/Data Telecommunications System (IVDTS) (HCRC# 93-600-030)*. Pacific Northwest National Laboratory, Richland, Washington.**
- Mendez, K.M. 2015. *Cultural Resources Review for the Installation of 3 Pump and Treat Injection Wells (C9482, C9483, C9484) in the 600 Area of the Hanford Site (HCRC# 2015-600-006)*. Mission Support Alliance, Richland, Washington.**
- Mendez, K.M. and H.H. Hay. 2014. *Cultural Resources Review for the Installation of One ZP-1 Well in the 600 Area of the Hanford Site (HCRC# 2014-600-007)*. Mission Support Alliance, Richland, Washington.**
- Minthorn, P.E. 1990. *Cultural Resources Review of the Project L-006 Route 3/4S Intersection Safety Improvements, HCRC# 89-600-010*. Pacific Northwest National Laboratory, Richland, Washington.**
- Parker, P. and T. King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.
- USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.
- U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

| | |
|---------------------------|---|
| Evaluation Unit: | B Plant Cribs and Trenches |
| ID: | CP-LS-8 |
| Group: | Legacy Source |
| Operable Unit Cross-Walk: | 200-EA-1, 200-DV-1, 200-OA-1 |
| Related EU: | CP-DD-2, CP-GW-1 |
| Sites & Facilities: | Liquid waste sites on the west side of 200-East (associated with B Plant operations). |



Figure K.11. CP-LS-8 (B Plant Cribs and Trenches) Site Location Map

CP-LS-8 B Plant Cribs and Trenches

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-LS-8, B Plant Cribs and Trenches EU is located within the 200-East Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this

archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

Most of the CP-LS-8, B Plant Cribs and Trenches EU has not been inventoried for archaeological resources and it is unknown if an NHPA Section 106 review has been completed specifically for remediation of CP-LS-8, B Plant Cribs and Trenches EU. Five archaeological surveys have been completed in portions of the EU: HCRC#87-200-004 (Chatters 1987), HCRC#87-200-037 (Hoover and Chatters 1988), HCRC#88-200-038 (Chatters and Cadoret 1990), HCRC#2011-200-035a (Hay, Hughes and White 2011), and HCRC#2013-600-010 (Mendez, Hay, Sexton and Clark 2013). All of these surveys resulted in negative archaeological findings within the EU. In addition, one archaeological monitoring report resulted in negative findings (Hughes 2011). It is unlikely that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly because the soils in the CP-LS-8, B Plant Cribs and Trenches EU appear to be heavily disturbed.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU²¹

- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within the CP-LS-8, B Plant Cribs and Trenches EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)* (DOE-RL 1998), all documentation requirements have been completed for this property.
- There are 12 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District located within CP-LS-8 B Plant Cribs and Trenches EU (all 12 are contributing within the Manhattan Project and Cold War Era Historic District, 3 with individual documentation required, and 9 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)* (DOE-RL 1998), all documentation requirements have been completed for these properties.

Table K.9. National Register-eligible Manhattan Project and Cold War Era buildings located within CP-LS-8 B Plant Cribs and Trenches EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table | National Register Eligibility | Documentation Completed/Type |
|------------|---------------|------------------------------------|-------------------------------|------------------------------|
|------------|---------------|------------------------------------|-------------------------------|------------------------------|

²¹ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

| Number | | | | |
|---------------|---|-----|---|--------|
| 212-B | Fission Product Load Out Station | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 225-B | Waste Encapsulation Storage Facility (WESF) | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 276-B | Organic Make Up/Solvent Storage | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 221-B | B Plant Canyon/Separations Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 221-BC | SWP Change House | A.6 | Contributing Property w/ no additional documentation requirements | |
| 222-B | Process Control Laboratory/Office Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 224-B | Concentration Facility | A.6 | Contributing Property w/ no additional documentation requirements | |
| 271-B | Office & Service Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 272-B | Service Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 282-B | Pumphouse | A.6 | Contributing Property | |

| | | | |
|-------|------------------------------------|-----|---|
| | | | w/ no additional documentation requirements |
| 291-B | Exhaust Air Control Building/Stack | A.6 | Contributing Property w/ no additional documentation requirements |
| 292-B | Stack Monitoring Building | A.6 | Contributing Property w/ no additional documentation requirements |

Archaeological sites, buildings, and TCPs located within 500 meters of the EU

- There are 5 National Register-eligible building that are contributing properties within the Manhattan Project and Cold War Era Historic District located within 500 meters of the CP-LS-8 B Plant Cribs and Trenches EU (all 5 are contributing with the Manhattan Project and Cold War Era Historic District, 1 with individual documentation required, and 4 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)*, all documentation requirements have been completed for these properties:

Table K.10. National Register-eligible Manhattan Project and Cold War Era building located within 500 meters of the CP-LS-8 B Plant Cribs and Trenches EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|---|---|---|------------------------------|
| 209-E | Critical Mass Laboratory | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 2220-E | Telephone Exchange | A.6 | Contributing Property w/ no additional documentation requirements | |
| 242-B | Waste Evaporator/ Particle Research Lab | A.6 | Contributing Property w/ no additional documentation requirements | |

| | | | |
|-------------|---------------------------------------|-----|--|
| 2703-E | Chemical Engineering Laboratory | A.6 | Contributing Property w/ no additional documentation requirements |
| 2719- EA | Medical Aid Station | A.6 | Contributing Property w/ no additional documentation requirements |

- In addition, the 216-B-5 Reverse Well has been documented within 500 meters of the EU as a contributing component of the Manhattan Project and Cold War Era Historic District.

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-LS-8, B Plant Cribs and Trenches EU.

Historic Map and Aerial Photograph Indicators

Historic United States Geological Survey (USGS) maps (USGS 1916) do not show any manmade or otherwise cultural features within or in the vicinity of the EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps indicate that these lands were owned by Benton County and the United States in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs indicate that a historic road was present in the vicinity of the EU (to the north). 1943 imagery is not available for the CP-LS-8, B Plant Cribs and Trenches EU itself. This information suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU boundary.

Geomorphology Indicators

The geomorphology within the CP-LS-8, B Plant Cribs and Trenches EU consists of Pleistocene outburst flood deposits with some isolated Holocene dune sands overlaying Pleistocene deposits in the northwest and southwest portions of the EU. This geomorphology suggests an overall low potential for Native American Precontact landscape associated archaeological resources to be present within the surface subsurface component of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that the EU is heavily disturbed by building construction, Hanford site facilities, wells and borings, buried utilities, surface grading, roads and waste sites. This disturbance suggests low potential for intact archaeological resources to be present. It is possible that isolated pockets of undisturbed soils exist. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Summary of Cultural Resources Review

Much of the CP-LS-8, B Plant Cribs and Trenches EU has not been inventoried for archaeological resources and it is unknown if an NHPA Section 106 review has been completed specifically for remediation of the CP-LS-8, B Plant Cribs and Trenches EU. Five archaeological surveys were completed within portions of the EU, all with negative findings. It is unlikely that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), because the soils in the EU are extensively disturbed.

Segments of the National Register-eligible Hanford Site Plant Railroad have been recorded within the CP-LS-8, B Plant Cribs and Trenches EU. The Plant Railroad is considered a contributing property within the Manhattan Project and Cold War Era Historic District (with documentation required). In addition, 12 National Register-eligible buildings associated with the Manhattan Project/Cold War Era Landscape have been recorded within the EU (all 12 are contributing within the Manhattan Project and Cold War Era Historic District, 3 with documentation required, and 9 with no additional documentation required). All National-Register-eligible Manhattan Project and Cold War Era buildings/properties have been documented as described in the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998).

Table K.11. National Register-eligible Manhattan Project and Cold War Era buildings located within the CP-LS-8, B Plant Cribs and Trenches EU

| Building # | Building Name |
|-------------------|---|
| 212-B | Fission Product Load Out Station |
| 225-B | Waste Encapsulation Storage Facility (WESF) |
| 276-B | Organic Make Up/Solvent Storage |
| 221-B | B Plant Canyon/Separations Building |
| 221-BC | SWP Change House |
| 222-B | Process Control Laboratory/Office Building |
| 224-B | Concentration Facility |
| 271-B | Office & Service Building |
| 272-B | Service Building |
| 282-B | Pumphouse |
| 291-B | Exhaust Air Control Building/Stack |
| 292-B | Stack Monitoring Building |

Cultural resources located within 500 meters of the CP-LS-8, B Plant Cribs and Trenches EU include: five National Register-eligible buildings that are contributing properties within the

Manhattan Project and Cold War Era Historic District (all 5 are contributing within the Manhattan Project and Cold War Era Historic District, 1 with documentation required, and 4 with no additional documentation required). All National-Register-eligible Manhattan Project and Cold War Era buildings/properties have been documented as described in the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998). In addition, the 216-B-5 Reverse Well has been documented within 500 meters of the EU and is also considered as a contributing property to the Historic District.

Historic maps and aerial imagery of the area suggest a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU and its vicinity. Geomorphology indicates a low potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the CP-LS-8, B Plant Cribs and Trenches EU. Further, extensive ground disturbance within the EU suggests a low potential for intact cultural resources at or below ground surface.

Because much of the CP-LS-8, B Plant Cribs and Trenches EU has not been inventoried for cultural resources, it may be appropriate to conduct surface archaeological investigations proper to any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and the B-Reactor Museum Association) may be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References²²

Chatters, JC. 1987. *Cultural Resources Survey of the Proposed Hanford Waste Vitrification Plant, HCRC#87-200-004*. Pacific Northwest Laboratory, Richland, Washington.**

Chatters, JC and NA Cadoret. 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site HCRC#88-200-038*. Pacific Northwest Laboratory, Richland, Washington.**

DOE-RL (Department of Energy, Richland Operations Office). 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Richland, Washington.

Hay, H, S Hughes, and E White. 2011. *Section 106 NHPA Review For the BP-5 Aquifer Drawdown Treatability Test and B-Farms Perched Water Removal/Pore Eater Extraction Test in 200E, HCRC#2011-200-035a*, Pacific Northwest National Laboratory, Richland, Washington.**

Hoover, KA and JC Chatters. 1988. *Cultural Resources Survey of the 200-East Area B-Plant Facilities HCRC#87-200-037*. Pacific Northwest Laboratory, Richland, Washington.**

²² **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Hughes, S. 2011. *Archaeological Monitoring Report of Road Trenching for the 200 East BP-5 Aquifer Drawdown Treatability Test, Benton County, Washington (HCRC#2011-200-035a)*, Pacific Northwest National Laboratory, Richland, Washington.**

Mendez, K, H Hay, S Sexton and K Clark. 2013. *Section 106 Review for the Probabilistic Seismic Hazard Analysis of the Hanford Site and Hanford Reach National Monument, Benton County, Washington (HCRC#2013-600-010)*. CH2M HILL, Richland, Washington.**

Parker, P and T King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

Evaluation Unit: PUREX Cribs and Trenches (inside 200-E)
 ID: CP-LS-9
 Group: Legacy Source
 Operable Unit Cross-Walk: 200-EA-1, 200-PW-3
 Related EU: CP-DD-1, CP-GW-1
 Sites & Facilities: Liquid waste sites on the east side of 200-East (associated with PUREX Operations and immediately surrounding PUREX).

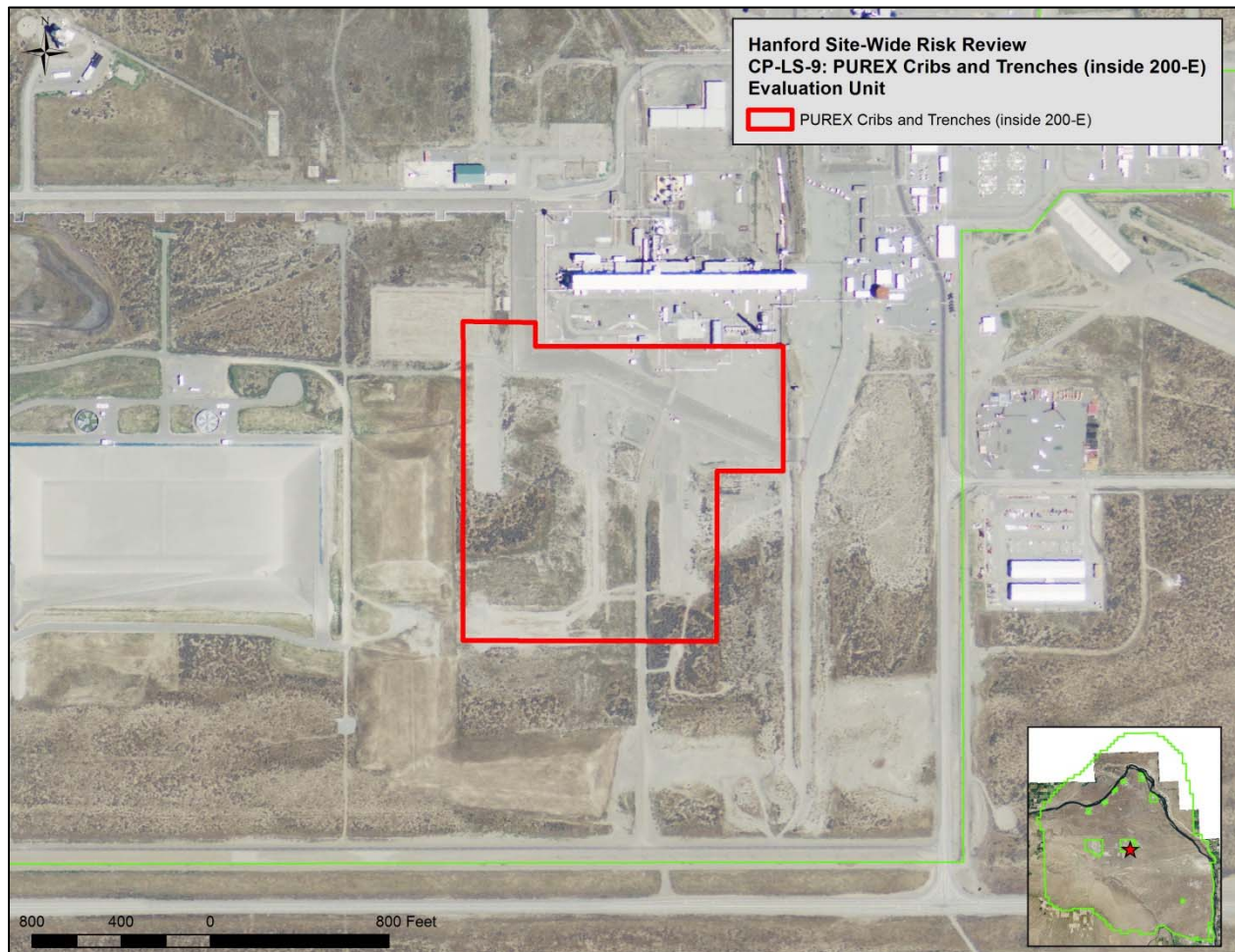


Figure K.12. CP-LS-9 [PUREX Cribs and Trenches (inside 200-E)] Site Location Map

CP-LS-9 PUREX and Tank Farms Cribs and Trenches (Inside 200-E)

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-LS-9, PUREX and Tank Farms Cribs and Trenches (inside 200-E) EU is located within the 200-East Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*

(Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

Small portions of the EU have been inventoried for archaeological resources under two cultural resource reviews: HCRC#87-200-001 (Chatters 1987), and HCRC#87-200-046 (Chatters 1987). Neither of these cultural resource reviews resulted in the identification of any cultural resources within the CP-LS-9, PUREX and Tank Farms Cribs and Trenches (inside 200-E) EU. It is unknown if an NHPA Section 106 review has been completed specifically for remediation of the CP-LS-9, PUREX and Tank Farms Cribs and Trenches (inside 200-E) EU. It is possible but unlikely that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), because soils in the majority of the EU appear to have been heavily disturbed by Hanford Site activities.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU²³

- There are no known archaeological sites, inventoried historic buildings, or TCPs located within the CP-LS-9, PUREX and Tank Farms Cribs and Trenches (inside 200-E) EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- Two archaeological isolates associated with the Pre-Hanford Early Settlers/Farming Landscape have been documented within 500 meters of the EU. While these resources have not been formally evaluated for listing in the National Register of Historic Places, it should be noted that isolates are typically considered not eligible.
- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500-meters of the CP-LS-9, PUREX and Tank Farms Cribs and Trenches (inside 200-E) EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.
- There are 9 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District located within 500-meters of the CP-LS-9, PUREX and Tank Farms Cribs and Trenches (inside 200-E) EU (all 9 are contributing with the Manhattan Project and Cold War Era Historic District, 5 with individual documentation required, and 4 with no additional documentation required. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have

²³ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

been completed for these properties.

Table K.12. National Register-eligible Manhattan Project and Cold War Era buildings located within 500-meters of the CP-LS-9, PUREX and Tank Farms Cribs and Trenches (inside 200-E) EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|---|--|---|-------------------------------------|
| 202-A | Plutonium-Uranium Extraction Facility (PUREX) | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 241-AW | Waste Storage Tank Farm (Double Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2701-AB | PUREX Badge House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 293-A | Dissolver Off-Gas Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 294-A | Exhaust Air Filter Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 212-A | Fission Product Load Out Station | A.6 | Contributing Property w/ no additional documentation requirements | |
| 242A/AB | Evaporator Building/Evaporator Control | A.6 | Contributing Property w/ no additional documentation requirements | |
| 275-EA | Carpenter Shop Storage Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 291-A | PUREX Exhaust Stack | A.6 | Contributing Property w/ no additional documentation requirements | |

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-LS-9, PUREX and Tank Farms Cribs and Trenches (inside 200-E) EU.

Historic Map and Aerial Photograph Indicators

Historic United States Geological Survey (USGS) maps (USGS 1916) do not show any manmade or otherwise cultural features within or in the vicinity of the EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps indicate that these lands were owned by the J.M. Coleman Co. and the United States in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial imagery is not available for this EU. This information suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU.

Geomorphology Indicators

The geomorphology within the CP-LS-9, PUREX and Tank Farms Cribs and Trenches (inside 200-E) EU is primarily Pleistocene outburst flood deposits with the potential for Holocene dune sands present in the north one-third of the EU, suggesting an overall low potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface components of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that the EU has undergone significant ground disturbances from roads, waste sites, utilities and other Hanford Site activities. This disturbance suggests a low potential for intact archaeological resources to be present in the EU. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Summary of Cultural Resources Review

Small portions of the CP-LS-9, PUREX and Tank Farms Cribs and Trenches (inside 200-E) EU have been inventoried for cultural resources by two cultural resource inventory surveys, each with negative results. It is unknown if an NHPA Section 106 review has been completed specifically for the remediation of the CP-LS-9, PUREX and Tank Farms Cribs and Trenches (inside 200-E) EU. No cultural resources have been documented within the CP-LS-9 PUREX and Tank Farms Cribs and Trenches (inside 200-E) EU. It is unlikely that intact archaeological material is present in the EU, which has been extensively disturbed by building and utilities construction.

Two archaeological isolates associated with the Pre-Hanford Early Settlers/Farming Landscape have been recorded within 500 meters of the CP-LS-9, PUREX and Tank Farms Cribs and Trenches (inside 200-E) EU. These resources have not been formally evaluated for listing in the National Register of Historic Places, however, it should be noted that isolates are typically considered not eligible. Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District with documentation required have also been recorded within 500 meters of the EU. Lastly, 9 National Register-eligible buildings that are contributing properties within the Manhattan

Project and Cold War Era Historic District have been recorded within 500 meters of the EU (all 9 are contributing within the Manhattan Project and Cold War Era Historic District, 5 with individual documentation required, and 4 with no additional documentation required). All National-Register-eligible Manhattan Project and Cold War Era buildings and properties have been documented as described in the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998).

Historic maps for this area do not indicate any cultural features within or in the vicinity of the EU suggesting a low potential for the presence of archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape within the EU. Geomorphology suggests a low potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the CP-LS-9, PUREX and Tank Farms Cribs and Trenches (inside 200-E) EU. Moderate ground disturbance within the EU suggests low potential for intact cultural resources at or below ground surface. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Because only small portions of the CP-LS-9, PUREX and Tank Farms Cribs and Trenches (inside 200-E) EU have been inventoried for cultural resources, it may be appropriate to conduct surface archaeological investigations prior to the initiation of any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and the B-Reactor Museum Association) may be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References²⁴

Chatters, J.C., 1987a, *Cultural Resources Survey, Proposed PFM Construction Site, Hanford Reservation, Washington*, Pacific Northwest Laboratories, Richland, Washington. **

Chatters, J.C., 1987b *Report of Cultural Resources Survey of the Proposed Decontamination Laundry Facility HCRC #87-200-046*, Pacific Northwest National Laboratory, Richland, Washington. **

Chatters J.C. and N.A. Cadoret, 1990, *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington. **

DOE-RL (Department of Energy, Richland Operations Office). 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Richland, Washington.

²⁴ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Parker, P and T King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department, 1943, *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

Evaluation Unit: PUREX and Tank Farms Cribs and Trenches (outside 200-E)
 ID: CP-LS-10
 Group: Legacy Source
 Operable Unit Cross-Walk: 200-EA-1
 Related EU: CP-GW-1
 Sites & Facilities: Liquid waste sites on the east side of 200-East (associated with PUREX and Tank Farm operations, but outside the 200-E area fence).

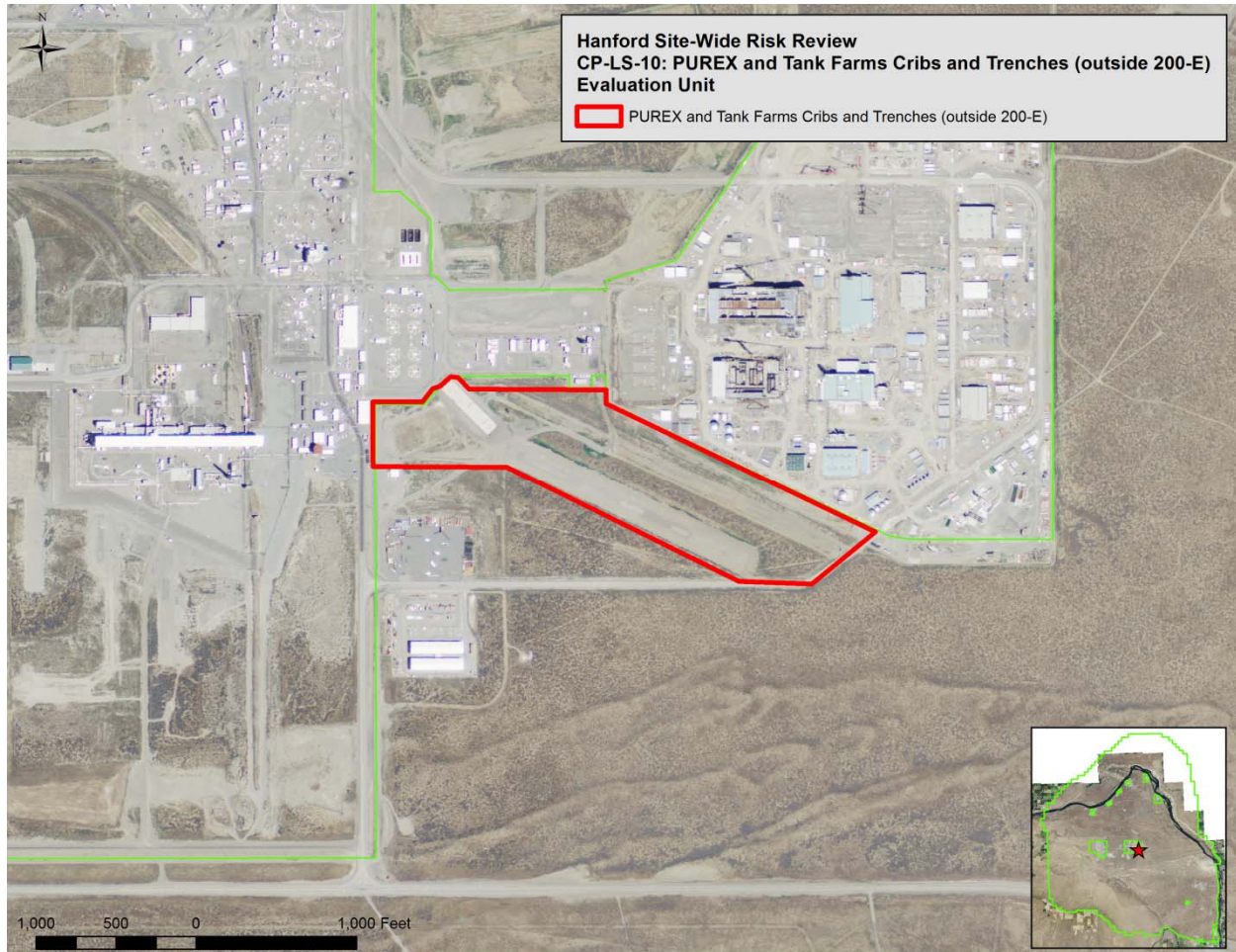


Figure K.13. CP-LS-10 (PUREX and Tank Farms Cribs and Trenches (outside 200-E)) Site Location Map

CP-LS-10 PUREX and Tank Farms Cribs and Trenches (Outside 200-E)

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-LS-10, PUREX and Tank Farms Cribs and Trenches (outside 200-E) EU is located within the 200-East Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early

Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

Portions of the CP-LS-10, PUREX and Tank Farms Cribs and Trenches (outside 200-E) EU have been inventoried for archaeological resources under four cultural resource reviews: HCRC#88-200-055 (Cadoret 1988), HCRC#2003-200-044 (Kennedy 2003), HCRC#2011-200-063 (Clark and Mendez 2011), and HCRC#2012-600-031a (Gilmour, Solimano and Daniels, 2013). None of these cultural resource reviews resulted in the identification of any cultural resources within the CP-LS-10 PUREX and Tank Farms Cribs and Trenches (outside 200-E) EU. It is unknown if an NHPA Section 106 review has been completed specifically for the remediation of CP-LS-10, PUREX and Tank Farms Cribs and Trenches (outside 200-E). It is unlikely that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), because the soils in the EU appear to be heavily disturbed by the PUREX and Tank Farms Cribs and Trenches themselves.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU²⁵

- There are no known archaeological sites, inventoried historic buildings, or TCPs located within the CP-LS-10, PUREX and Tank Farms Cribs and Trenches (outside 200-E) EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500-meters of the CP-LS-10 PUREX and Tank Farms Cribs and Trenches (outside 200-E) EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)* (DOE-RL 1998), all documentation requirements have been completed for this property.
- There are 11 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the EU (all 11 are contributing within the Manhattan Project and Cold War Era Historic District, 6 with individual documentation required, and 5 with no additional documentation required). Mitigation for contributing buildings/structures has been

²⁵ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

completed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998).

Table K.13. National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-LS-10, PUREX and Tank Farms Cribs and Trenches (outside 200-E) EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|---|---|---|------------------------------|
| 202-A | Plutonium-Uranium Extraction Facility (PUREX) | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 241-AW | Waste Storage Tank Farm (Double Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2701-AB | PUREX Badge House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2707-AR | Change House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 293-A | Dissolver Off-Gas Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 294-A | Exhaust Air Filter Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 212-A | Fission Product Load Out Station | A.6 | Contributing Property w/ no additional documentation requirements | |
| 242A/A B | Evaporator Building/Evaporator Control | A.6 | Contributing Property w/ no additional documentation requirements | |
| 244-AR | Sludge Storage Vault | A.6 | Contributing Property w/ no additional documentation | |

| | | | requirements |
|--------|------------------------------------|-----|--|
| 275-EA | Carpenter Shop Storage Building | A.6 | Contributing Property w/ no additional documentation requirements |
| 291-A | PUREX Exhaust Stack | A.6 | Contributing Property w/ no additional documentation requirements |

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-LS-10, PUREX and Tank Farms Cribs and Trenches (outside 200-E) EU.

Historic Map and Aerial Photograph Indicators

Historic United States Geological Survey (USGS) maps (USGS 1916 & 1924) do not show any manmade or otherwise cultural features within or in the vicinity of the EU. However, ownership information provided on 1943 *Hanford Engineer Works Real Estate maps* indicate that lands within the EU were owned by the United States and Benton County in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial imagery is not available for this EU. This information suggests a low potential for the presence of archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape within the EU boundary.

Geomorphology Indicators

The geomorphology within the CP-LS-10, PUREX and Tank Farms Cribs and Trenches (outside 200-E) EU is primarily Pleistocene outburst flood deposits with the potential for Holocene dune sands present at the southeast edge of the EU, suggesting a low potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface components of this EU. Archaeological resources, if present, would likely be limited to areas of intact or undisturbed soils.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the area indicates that the EU has been extensively disturbed by Hanford Site activities. This disturbance suggests a low potential for intact archaeological resources to be present in the EU.

Summary of Cultural Resources Review

Portions of the CP-LS-10, PUREX and Tank Farms Cribs and Trenches (outside 200-E) EU have been inventoried for cultural resources, all with negative results. It is unknown if an NHPA

Section 106 review has been completed specifically for the remediation of the CP-LS-10, PUREX and Tank Farms Cribs and Trenches (outside 200-E) EU. No cultural resources have been documented within the CP-LS-10, PUREX and Tank Farms Cribs and Trenches (outside 200-E) EU. It is unlikely that intact archaeological material is present in the EU, which has been extensively disturbed by building and utilities construction.

While no cultural resources are known to be located within the EU, several have been recorded within 500 meters of the CP-LS-10, PUREX and Tank Farms Cribs and Trenches (outside 200-E) EU. They include: Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District with documentation required; six National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District, with documentation required; and five National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District, with no documentation required. All National-Register-eligible Manhattan Project and Cold War Era buildings have been documented as described in the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998).

Historic maps of the EU indicate a low potential for the presence of archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape within the EU.

Geomorphology indicates a low potential for the presence of Native American Precontact and Ethnographic cultural resources to be present within the CP-LS-10, PUREX and Tank Farms Cribs and Trenches (outside 200-E) EU. Further, extensive ground disturbance within the EU suggests little to no potential for intact cultural resources at or below ground surface.

Because the CP-LS-10, PUREX and Tank Farms Cribs and Trenches (outside 200-E) EU has not been completely inventoried for cultural resources, it may be appropriate to conduct surface archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and the B-Reactor Museum Association) may be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References²⁶

Cadoret, NA. 1988. *Letter to E.T. Trost Regarding Cultural Resources Review of the Grout Facilities Complex Multipurpose Facility, HCRC#88-200-055*, Pacific Northwest National Laboratory, Richland, Washington. **

Chatters, JC and NA Cadoret. 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington. **

²⁶ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Clark, C and KM Mendez. 2011. *Waste Treatment Plant South Expansion, 200 West Area, Hanford Site, Benton County, Washington (HCRC#2011-200-063)*. CH2M HILL, Inc., Richland, Washington.**

DOE-RL (Department of Energy, Richland Operations Office). 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)*. Richland, Washington.

Gilmour, DM, PS Solimano, and MA Daniels. 2013. *Cultural Resources Survey Report for the U.S. Department of Energy's Proposed Esquatzel Route for the Cascade Natural Gas Pipeline Project in Benton and Franklin Counties, Washington (HCRC#2012-600-031a)*, Willamette Cultural Resources Associated, Ltd., Portland, Oregon.**

Kennedy, EP. 2003. *Letter to C. Johnson regarding Cultural Resources Review of Retrieval, Treatment and Disposal of Tank Waste and Closure of Single Shell Tanks (Tank Closure) Environmental Impact Statement (EIS) (HCRC#2003-200-044)*, Pacific Northwest National Laboratory, Richland, Washington.**

Parker, P and T King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

USGS (United States Geological Survey). 1924. Hanford Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

Evaluation Unit: B Pond
 ID: CP-LS-11
 Group: Legacy Source
 Operable Unit Cross-Walk: 200-EA-1, 200-CW-1, 200-OA-1, 200-IS-1
 Related EU: CP-LS-7, CP-GW-1
 Sites & Facilities: B pond and associated ditches, where liquid wastes were discharged in the northern and western part of 200-E and outside the fence of 200-E.

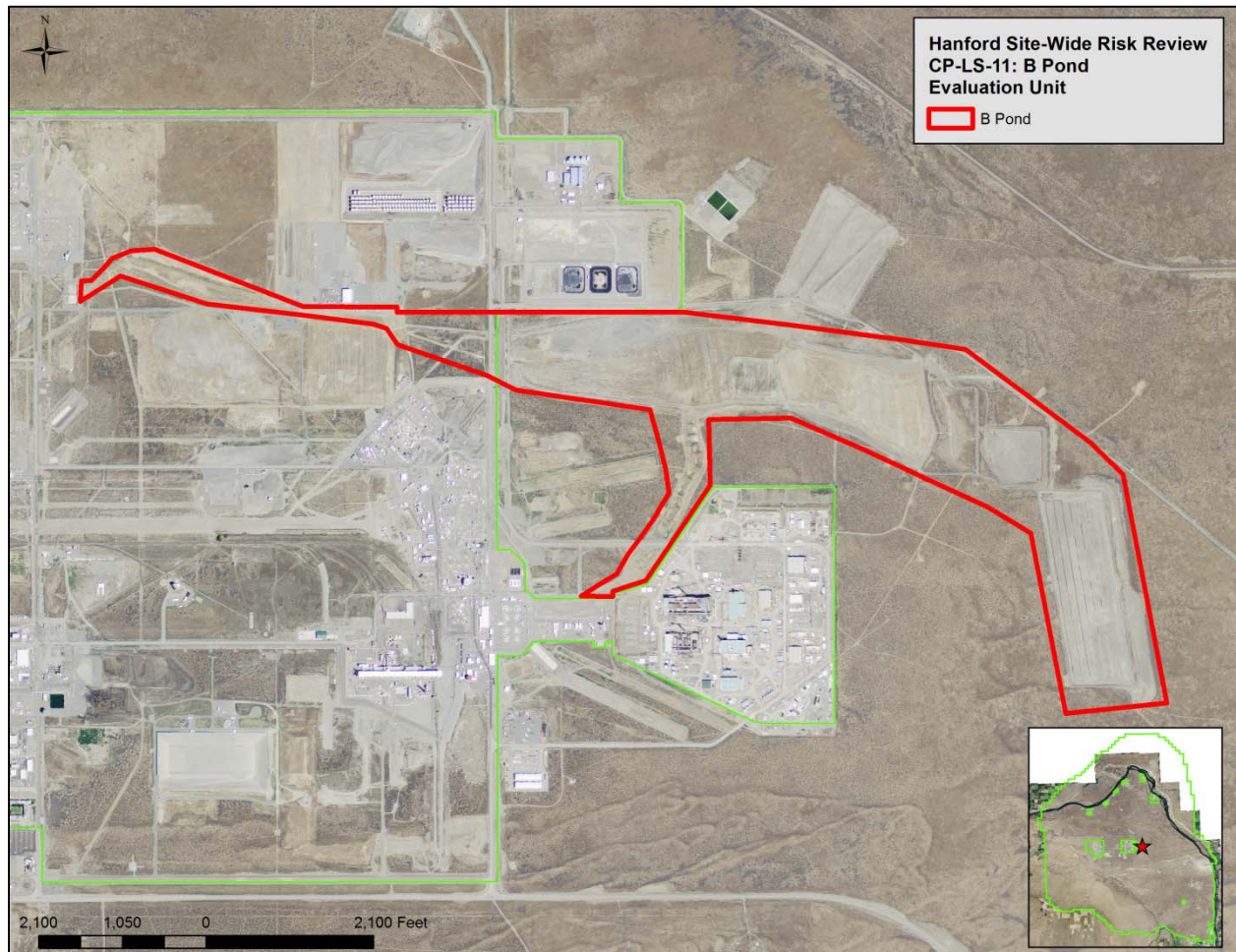


Figure K.14. CP-LS-11 (B Pond) Site Location Map

CP-LS-11 B Pond

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-LS-11, B Pond EU is located partially within and adjacent to the 200-East Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of*

the 200 East and 200 West Areas, Hanford Site (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

Portions of the EU have been inventoried for archaeological resources under ten cultural resource reviews: HCRC#87-200-046 (Chatters 1987), HCRC#88-200-009 (Cadoret 1988, Cadoret and Chatters 1989), HCRC#88-200-015 (Hoover 1988), HCRC#88-200-038 (Chatters and Cadoret 1990), HCRC#90-600-006 (Gard and Chatters 1990), HCRC#92-200-008 (Gard and Chatters 1992), HCRC#96-200-109 (Cadoret 1996), HCRC#98-200-022 (Hale and Stapp 1998), HCRC#2003-200-044 (Kennedy and Stapp 2003), and HCRC#2008-200-017 (Kennedy 2008). With the exception of HCRC#92-200-008, none of these cultural resource reviews resulted in the identification of any cultural resources within the CP-LS-11, B Pond EU. The isolated historic artifact identified as a result of HCRC#92-200-008 was collected by archaeologists during survey. It is unknown if an NHPA Section 106 review has been completed specifically for the remediation of CP-LS-11, B Pond EU. Extensive ground disturbance within most of the EU suggest a low potential for intact cultural resources at or below ground surface, except in a few isolated pockets where some intact deposits may be present.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU²⁷

- Two archaeological isolates associated with the Pre-Hanford Early Settlers/Farming Landscape have been documented within the EU. One of these isolates was collected during survey. These isolates have not been formally evaluated for listing in the National Register of Historic Places, however, isolates are typically considered not eligible.

Contributing Archaeological sites, buildings and TCPs located within 500 meters of the EU

- One archaeological site associated with the Native American Precontact and Ethnographic Landscape has been recorded within 500 meters of the EU. This site has not been evaluated for listing in the National Register of Historic Places.
- Four additional archaeological isolates have been documented within 500 meters of the EU (2 associated with the Native American Precontact and Ethnographic Landscape and 2 associated with the Pre-Hanford Early Settlers/Farming Landscape. None of these isolates have been formally evaluated for listing in the National Register of Historic Places, however, isolates are typically considered not eligible.
- There are 4 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500-meters of the CP-LS-11, B Pond EU (all 4 are contributing properties within the Manhattan

²⁷ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998)

Project and Cold War Era Historic District, 1 with individual documentation required, and 3 with no additional documentation required). Mitigation of contributing buildings/structures has been completed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998).

Table K.14. National Register-eligible Manhattan Project and Cold War Era buildings located within 500-meters of the CP-LS-11, B Pond EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|--|--|---|-------------------------------------|
| 241-AW | Waste Storage Tank Farm (Double Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 242A/AB | Evaporator Building/Evaporator Control | A.6 | Contributing Property w/ no additional documentation requirements | |
| 242-B | Waste Evaporator/Particle Research Lab | A.6 | Contributing Property w/ no additional documentation requirements | |
| 271-CR | Aqueous Make-up and Control House | A.6 | Contributing Property w/ no additional documentation requirements | |

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-LS-11, B Pond EU.

Historic Map and Aerial Photograph Indicators

Historic United States Geological Survey (USGS) topographic maps (USGS 1916 & 1924) do not show any manmade or otherwise cultural features within or in the vicinity of the EU. 1943 real estate data indicates that the Northern Pacific Railway Co., Benton County, the United States, and Margaret Porter owned lands within the EU prior to the Manhattan Project in 1943 (The 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial imagery is not available for the EU.

This information suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU boundary.

Geomorphology Indicators

The geomorphology within the CP-LS-11, B Pond EU consists of Pleistocene outburst flood deposits and Holocene dune sands, suggesting a moderate potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface components of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the area indicates that most of the EU has undergone significant ground disturbances by Hanford Site activities. This disturbance suggests a low potential for intact archaeological resources to be present in the EU. However, some portions of the EU appear to have intact soils, particularly around the outer edges of the eastern one-third of the EU. Resources, if present, would likely be limited to area of intact or undisturbed soils.

Summary of Cultural Resources Review

Portions of the CP-LS-11, B Pond EU have been inventoried under 10 cultural resource inventory surveys. Two archaeological isolates associated with the Pre-Hanford Early Settlers/Farming Landscape were located within the EU, one of which was collected during the archaeological survey. These isolates have not been formally evaluated for listing in the National Register of Historic Places, however, isolates are typically considered not eligible. It is unknown if an NHPA Section 106 review has been completed specifically for the remediation of CP-LS-11, B Pond EU. Portions of the EU have not been inventoried for cultural resources. It is possible, but not likely that intact archaeological material is present in the EU, which has been extensively disturbed by Hanford Site activities.

Cultural resources within 500 meters of the CP-LS-11, B Pond EU include: one archaeological site associated with the Native American Precontact and Ethnographic Landscape. This site has not been evaluated for listing in the National Register of Historic Places. Four additional archaeological isolates have been documented within 500 meters of the EU (2 associated with the Native American Precontact and Ethnographic Landscape and 2 associated with the Pre-Hanford Early Settlers/Farming Landscape. None of these isolates have been formally evaluated for listing in the National Register of Historic Places, however, isolates are typically considered not eligible. In addition, there are 4 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500-meters of the CP-LS-11, B Pond EU (all 4 are contributing properties within the Manhattan Project and Cold War Era Historic District, 1 with individual documentation required, and 3 with no additional documentation required). Mitigation of contributing buildings/structures has been completed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998).

Historic maps indicate a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU boundary.

Geomorphology suggests a moderate to low potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the CP-LS-11, B Pond EU. Extensive ground disturbance within most of the EU suggest a low potential for intact cultural resources at or below ground surface, except at the outer margins of the eastern one-third of the EU where some intact Holocene dune sands may be present.

Because portions of the EU have not been inventoried for cultural resources and because of the potential for buried archaeological deposits within the CP-LS-11, B Pond EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and the B-Reactor Museum Association) may be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

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²⁸ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

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U.S. War Department, 1943, *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

Evaluation Unit: 200-W Burial Grounds
 ID: CP-LS-12
 Group: Legacy Source
 Operable Unit Cross-Walk: 200-SW-2
 Related EU: NA
 Sites & Facilities: Past practice radioactive waste burial grounds, including retrievable stored TRU trenches.

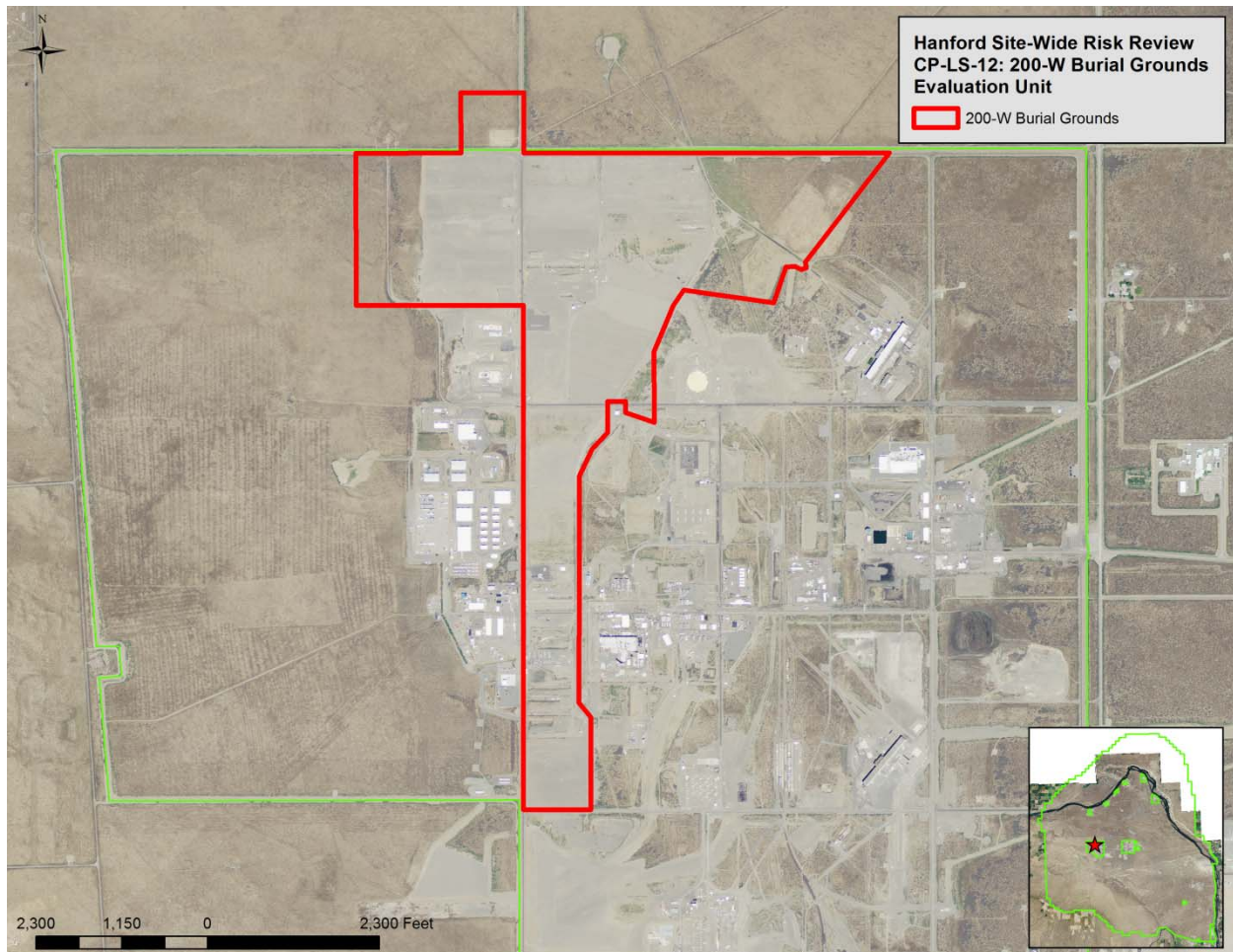


Figure K.15. CP-LS-12 (200-W Burial Grounds) Site Location Map

CP-LS-12 200-W Burial Grounds

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-LS-12, 200-W Burial Grounds EU is located within the 200-West Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this

archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

Portions of the CP-LS-12, 200-W Burial Grounds EU have been inventoried for archaeological resources under eight cultural resources reviews: HCRC#87-200-016 (Cadoret and Chatters 1988), HCRC#88-200-032a (Hoover and Chatters 1988), HCRC#88-200-038 (Chatters and Cadoret 1990), HCRC#88-200-038a (Chatters and Cadoret 1990), HCRC#88-200-038b (Chatters and Cadoret 1990), HCRC#95-200-039 (Crist 1995), HCRC#96-200-058 (Nickens et al. 1996), and HCRC#2000-600-023 (Hale 2000). It is unknown if an NHPA Section 106 review has been completed specifically for remediation of the CP-LS-12, 200-W Burial Grounds EU. It is unlikely that intact previously undocumented archaeological material is present in the EU, both on the surface and in subsurface areas, because the soils in the CP-LS-12, 200-W Burial Grounds EU appear to have been extensively disturbed by Hanford Site activities.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU²⁹

- A non-contributing section of a National Register eligible historic/ethnohistoric trail/road corridor is located within this EU.
- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)* (DOE-RL 1998), all documentation requirements have been completed for this property.

Archaeological sites, buildings, and TCPs located within 500 meters of the EU

- Five archaeological isolates have been documented within 500 meters of the EU (4 associated with the Native American Precontact and Ethnographic Landscape and 1 with the Pre-Hanford Early Settlers/Farming Landscape). None of these isolates have been evaluated for listing in the National Register of Historic Places, however, it should be noted that isolates are typically considered not eligible.
- There are two archaeological sites (one associated with the Native American Precontact and Ethnographic Landscape and one associated with the Pre-Hanford Early Settlers/Farming Landscape) located within 500 meters of the EU. Neither of these sites have been evaluated for listing in the National Register of Historic Places.
- There are 23 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District that are located within 500 meters of the CP-LS-12, 200-W Burial Grounds EU (all 23 are contributing properties

²⁹ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

within the Manhattan Project and Cold War Era Historic District, 20 with individual documentation required, and 3 with no additional documentation required) In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for these properties.

Table K.15. National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-LS-12, 200-W Burial Grounds EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|---|--|--|-------------------------------------|
| 221-T | T Plant/Equipment Decontamination | A.5 | Contributing Property Recommended for Individual Documentation | HAER |
| 221-TA | Fan House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 231-Z | Plutonium Isolation Building/Plutonium Metallurgical Laboratory | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 232-Z | Incinerator Facility | A.5 | Contributing Property Recommended for Individual Documentation | HAER |
| 234-5Z | Plutonium Finishing Plant | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 234-5ZA | 234-5Z South Annex | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 236-Z | Plutonium Reclamation Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 241-T | Waste Disposal Tank Farm (Single Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 241-TX | Waste Disposal Tank Farm (Single Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 241-TY | Waste Disposal Tank Farm (Single Shell) | A.5 | Contributing Property Recommended for | HPIF |

| | | | Individual Documentation | |
|--------------------|--|-----|---|--------|
| 242-T | Waste Evaporator | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 242-Z | Waste Treatment Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 244-UR | Liquid Waste Disposal Vault | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2701-ZA | Central Alarm Station | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2704-Z | Office Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 271-T | Office Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2736-Z | Primary Plutonium Storage Building | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 2736-ZA | Primary Plutonium Storage Annex | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2736-ZB | Primary Plutonium Storage Support | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 291-Z | Air Filter and Exhaust Stack | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2706-T/ 2706-TA | Equipment Decontamination Building/Annex | A.6 | Contributing Property w/ no additional documentation requirements | |
| 270-Z | PFP Operations and Support Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 277-T | Blow Down Building | A.6 | Contributing Property w/ no additional documentation requirements | |

- T Plant (221-T) is located within 500 meters of the CP-LS-12, 200-W Burial Grounds EU. This building has been selected for preservation, and HAER level documentation has been completed. Additionally, T Plant (221-T) has been identified as part of the Manhattan Project National Historic Park by the National Park Service.

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-LS-12, 200-W Burial Grounds EU.

Historic Map and Aerial Photograph Indicators

Historic United State Geological Survey (USGS) topographic maps (USGS 1916) show a historic/ethnohistoric trail/road corridor running through the EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps indicates that the lands within the EU were owned by Benton County, Washington State, the United States, Elbert W. Frazier et al. and Perle C. Frazier in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs are not available for the entire EU. Available 1943 imagery indicates that the most of the CP-LS-12, 200-W Burial Grounds EU was unused sand dunes in 1943, and that the historic/ethnohistoric trail/road corridor skirts the northeastern edge of the EU. This information suggests a high potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within portions of the EU.

Geomorphology Indicators

The geomorphology within the CP-LS-12, 200-W Burial Grounds EU consists of Pleistocene outburst flood deposits and Holocene dune sands suggesting a moderate potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface subsurface component of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that EU—especially the eastern two-thirds—has been heavily disturbed by Hanford Site facilities, buried utilities, surface grading, roads and waste sites. This disturbance suggests very low potential for intact archaeological resources to be present. It is possible but unlikely that pockets of undisturbed soils exist. Resources, if present, would likely be limited to areas of intact or undisturbed soils (particularly in the northeast and northwest portions of the EU).

Summary of Cultural Resources Review

Portions of the CP-LS-12, 200-W Burial Grounds EU have been inventoried for archaeological resources by eight previous cultural resources reviews. It is unknown if an NHPA Section 106 review has been completed specifically for remediation of the CP-LS-12, 200-W Burial Grounds EU. It is unlikely that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), because the soils in the EU are extensively disturbed.

Two archaeological resources have been documented within the EU boundary. Non-contributing portions of a National Register eligible historic/ethnohistoric trail/road corridor run through the EU. In addition, segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)* (DOE-RL 1998), all documentation requirements have been completed for this property.

Five archaeological isolates have been documented within 500 meters of the EU. These isolates have not been formally evaluated for listing in the National Register of Historic Places, however, it should be noted that isolates are typically considered not eligible. In addition, two archaeological sites (one associated with the Native American Precontact and Ethnographic Landscape and one associated with the Pre-Hanford Early Settlers/Farming Landscape) have also been documented within 500 meters of the EU. Neither of these sites have been evaluated for the National Register. Twenty-three National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the EU (all 23 are contributing to the Manhattan Project and Cold War Era Historic District, 20 with individual documentation required, 3 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)* (DOE-RL 1998), all documentation requirements have been completed for the applicable properties. Additionally, it should be noted that T Plant (221-T) is located within 500 meters of the CP-LS-12, 200-W Burial Grounds EU. This building has been selected for preservation, and HAER level documentation has been completed. Additionally, T Plant (221-T) has been identified as part of the Manhattan Project National Historic Park by the National Park Service.

Historic maps and imagery do not indicate cultural use of the area, with the exception of the historic/ethnohistoric trail/road which runs through portions of the EU. This suggests a high potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU in these areas. Geomorphology indicates a moderate potential for the presence of Native American Precontact and Ethnographic cultural resources to be present within the CP-LS-12, 200-W Burial Grounds EU. However, extensive ground disturbance throughout much of the EU suggests a low potential for intact cultural resources at or below ground surface. Resources, if present, would likely be limited to areas of intact or undisturbed soils (particularly in the northeast and northwest portions of the EU).

Because of the potential for buried archaeological deposits within portions of the CP-LS-12, 200-W Burial Ground EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and the B-Reactor Museum Association) may be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References³⁰

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Nickens, PR, LL Hale, NA Cadoret, MK Wright, and DW Harvey 1996. *Cultural Resources Report Annual Summary Report – Fiscal Year 1996*. Pacific Northwest Laboratory, Richland, Washington.**

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USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

³⁰ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: 200-W Miscellaneous Waste Sites
 ID: CP-LS-13
 Group: Legacy Source
 Operable Unit Cross-Walk: 200-QA-1, 200-WA-1, 200-IS-1
 Related EU: CP-LS-7
 Sites & Facilities: Waste sites, buildings, and structures associated with maintenance operations, laundry, and coal power plant in the west/central portion of 200-W.

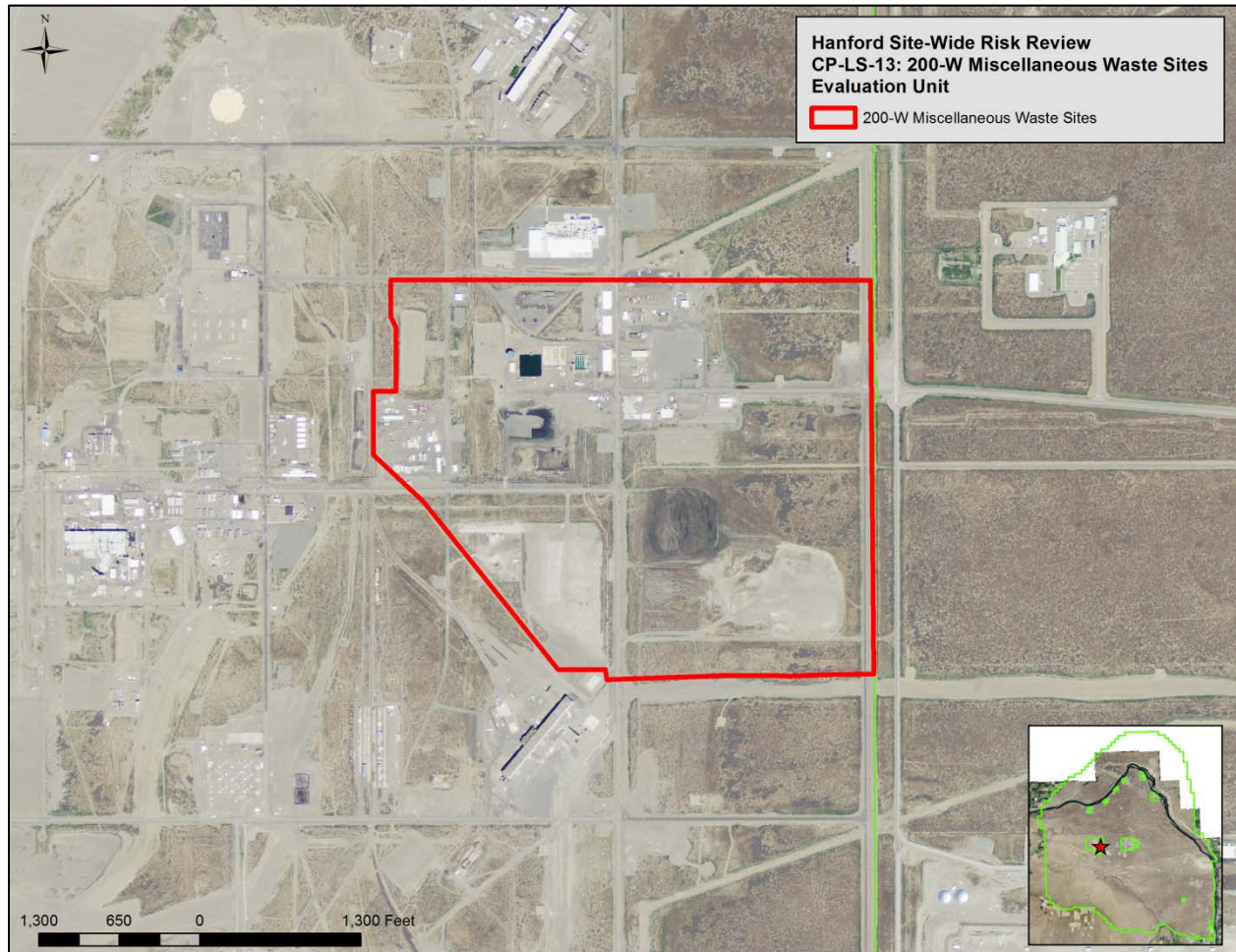


Figure K.16. CP-LS-13 (200-W Miscellaneous Waste Sites) Site Location Map

CP-LS-13 200-W Miscellaneous Waste Sites

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-LS-13 200-W Miscellaneous Waste Sites EU is located within the 200-West Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of*

the 200 East and 200 West Areas, Hanford Site (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

Small portions of the EU have been surveyed for cultural resources under four reviews: HCRC#96-200-058 (Nickens et al. 1996), HCRC#2002-200-015 (Prendergast Kennedy 2002), HCRC#2011-200-032 (Mendez 2011), and HCRC#2011-200-052 (Clark and Mendez 2012). HCRC#96-200-058 resulted in the identification of one cultural resource, a site likely associated with the Pre-Hanford Early Settlers/Farming Landscapes, within the EU. It is unknown if an NHPA Section 106 review has been completed specifically for remediation of CP-LS-13, 200-W Miscellaneous Waste Sites EU. It is possible, but unlikely that intact previously undocumented archaeological material is present in the EU, both on the surface and in subsurface areas, because the soils in the CP-LS-13, 200-W Miscellaneous Waste Sites EU appear to have been extensively disturbed by Hanford Site activities.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU³¹

- There is one archaeological site, likely associated with the Pre-Hanford Early Settlers/Farming Landscapes, which has been identified within the EU. This site has not been evaluated for listing in the National Register of Historic Places.
- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within the CP-LS-13, 200-W Miscellaneous Waste Sites EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.
- There are 6 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District that are located within CP-LS-13, 200-W Miscellaneous Waste Sites EU (all 6 are contributing properties within the Manhattan Project and Cold War Era Historic District, 1 with individual documentation required, and 5 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.

³¹ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

Table K.16. National Register-eligible Manhattan Project and Cold War Era buildings located within CP-LS-13, 200-W Miscellaneous Waste Sites EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|--|--|---|-------------------------------------|
| 275-W | Heavy Equipment Shop | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2713-W | Office and Service Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2713-WB | Regulated Vehicle Maintenance Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 282-W | Reservoir Pump House | A.6 | Contributing Property w/ no additional documentation requirements | |
| 283-W | Water Filtration Plant | A.6 | Contributing Property w/ no additional documentation requirements | |
| 284-W | Power House and Steam Plant | A.6 | Contributing Property w/ no additional documentation requirements | |

Archaeological sites, buildings, and TCPs located within 500 meters of the EU

- A non-contributing segment of a National Register Eligible historic/ethnohistoric trail/road is located within 500 meters of the EU.
- A National Register eligible archaeological site associated with the Manhattan Project/Cold War Era Landscape is located within 500 meters of the EU.
- There are 16 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District that are located within 500 meters of the CP-LS-13 200-W Miscellaneous Waste Sites EU (8 with individual documentation required, 8 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for these properties.

Table K.17. National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-LS-13 200-W Miscellaneous Waste Sites EU

| | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|--------|--|--|---|-------------------------------------|
| 221-T | T Plant/Equipment Decontamination | A.5 | Contributing Property Recommended for Individual Documentation | HAER |
| 221-TA | Fan House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 222-T | Process Control Laboratory/Office Building | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 241-T | Waste Disposal Tank Farm (Single Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 241-TX | Waste Disposal Tank Farm (Single Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 241-TY | Waste Disposal Tank Farm (Single Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 241-WR | Thorium Storage Vault U Area | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 242-T | Waste Evaporator | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 221-U | U Plant Canyon | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2220-W | Telephone Exchange | A.6 | Contributing Property w/ no additional documentation requirements | |
| 224-T | Transuranic Storage And Assay Facility | A.6 | Contributing Property w/ no additional documentation requirements | |

| | | | |
|---------|-----------------------------|-----|---|
| 271-U | Office and Service Building | A.6 | Contributing Property w/ no additional documentation requirements |
| 2727-WA | Sodium Storage Building | A.6 | Contributing Property w/ no additional documentation requirements |
| 291-U | Exhaust Fans and Stack | A.6 | Contributing Property w/ no additional documentation requirements |
| 292-U | Gas Sampling Building | A.6 | Contributing Property w/ no additional documentation requirements |
| W-19 | Pipefitters Shop | A.6 | Contributing Property w/ no additional documentation requirements |

- T Plant (221-T) is located within 500 meters of the CP-LS-13, 200-W Miscellaneous Waste Sites EU. This building has been selected for preservation, and HAER level documentation has been completed. Additionally, T Plant (221-T) has been identified as part of the Manhattan Project National Historic Park by the National Park Service.

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-LS-13, 200-W Miscellaneous Waste Sites EU.

Historic Map and Aerial Photograph Indicators

Historic United States Geological Survey (USGS) maps (USGS 1916) do not show any manmade or otherwise cultural features within or in the vicinity of the EU with the exception of portions of the historic/ethnohistoric trail/road. 1943 ownership information indicates that Benton County and the United States owned the lands within the EU in 1943 (The 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department, 1943). 1943 aerial photographs are available for all but the northwestern edge of the EU. The imagery indicates that this area was not culturally used, but consisted of vegetated dunes in 1943. This information suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU boundary.

Geomorphology Indicators

The geomorphology within the CP-LS-13, 200-W Miscellaneous Waste Sites EU consists of Pleistocene outburst flood deposits and Holocene dune sands, suggesting a low to moderate potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface subsurface component of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the area indicates that the EU has been almost entirely disturbed by building construction, Hanford site facilities, buried utilities, surface grading, roads, railroads, waste sites, etc. This disturbance suggests a low potential for intact archaeological resources on or below the ground surface within the EU. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Summary of Cultural Resources Review

Portions of the CP-LS-13, 200-W Miscellaneous Waste Sites EU have been inventoried for cultural resources under four previous reviews. It is unknown if an NHPA Section 106 review has been completed specifically for the remediation of the CP-LS-13, 200-W Miscellaneous Waste Sites EU. It is unlikely that intact archaeological materials are present in the EU, both on the surface and in the subsurface, because the soils in the EU have been extensively disturbed.

One archaeological resource likely associated with the Pre-Hanford Early Settlers/Farming Landscape has been documented within the CP-LS-13, 200-W Miscellaneous Waste Sites EU. This archaeological site has not been evaluated for listing in the National Register of Historic Places. Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required have also been documented within the EU. Additionally, 6 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District have been recorded within the EU boundary (all 6 are contributing properties within the Manhattan Project and Cold War Era Historic District, 1 with individual documentation required, and 5 with no documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)*, all applicable documentation requirements have been met for these properties.

Table K.18. National Register-eligible Manhattan Project and Cold War Era buildings located within the CP-LS-13, 200-W Miscellaneous Waste Sites EU

| Building # | Building Name |
|------------|--|
| 275-W | Heavy Equipment Shop |
| 2713-W | Office and Service Building |
| 2713-WB | Regulated Vehicle Maintenance Building |
| 282-W | Reservoir Pump House |
| 283-W | Water Filtration Plant |
| 284-W | Power House and Steam Plant |

A non-contributing segment of a National Register eligible historic/ethnohistoric trail/road has been recorded within 500 meters of the CP-LS-13, 200-W Miscellaneous Waste Sites EU. One National Register eligible archaeological site associated with the Manhattan Project and Cold War Era Landscape has been recorded within 500 meters of the EU. In addition, 16 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District that are located within 500 meters of the CP-LS-13 200-W Miscellaneous Waste Sites EU (8 with individual documentation required, 8 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these properties. Additionally, it should be noted that T Plant (221-T) is located within 500 meters of the EU. This building has been selected for preservation, and HAER level documentation has been completed. Additionally, T Plant (221-T) has been identified as part of the Manhattan Project National Historic Park by the National Park Service.

Historic maps and aerial imagery for this area do not indicate any cultural features within or in the vicinity of the EU. This suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU. Geomorphology indicates a moderate potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the CP-LS-13, 200-W Miscellaneous Waste Sites EU. Given the presence of one archaeological site associated with the Pre-Hanford Early Settlers/Farming Landscape and the extensive ground disturbance within the entire EU, there is moderate potential for additional resources, to be present in areas of intact or undisturbed soils.

Because only small portions of the EU have been previously inventoried for cultural resources, and because of the potential for buried archaeological deposits within the CP-LS-13, 200-W Miscellaneous Waste Sites EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and the B-Reactor Museum Association) may be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References³²

Chatters JC and NA Cadoret. 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington.**

³² **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Clark, C and K Mendez. 2012. *Revision: Borrow Pit 34 Expansion in the 200 West Area of the Hanford Site, Benton County, Washington (HCRC# 2011-200-052)*. CH2M HILL, Inc., Richland, Washington. **

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Mendez, K. 2011. *Cultural Resources Review for Expanded Staging Area and Haul Roads for the Grout Batch Plant in the 200-West Area (HCRC#2011-200-032)*, CH2M HILL, Inc., Richland, Washington. **

Nickens, PR, LL Hale, NA Cadoret, MK Wright, and DW Harvey. 1996. *Cultural Resources Report Annual Summary Report – Fiscal Year 1996*. Pacific Northwest Laboratory, Richland, Washington. **

Parker, P and T King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

Prendergast-Kennedy, E. 2002. *Letter to C. Grando Regarding Cultural Resources Review for L-388 Sanitary Drainfield in the 200 West Area (HCRC#2002-200-015)*, Pacific Northwest National Laboratory, Richland, Washington. **

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

Evaluation Unit: 200-E Burial Grounds
 ID: CP-LS-14
 Group: Legacy Source
 Operable Unit Cross-Walk: 200-SW-2
 Related EU: NA
 Sites & Facilities: Past practice radioactive waste burial grounds.

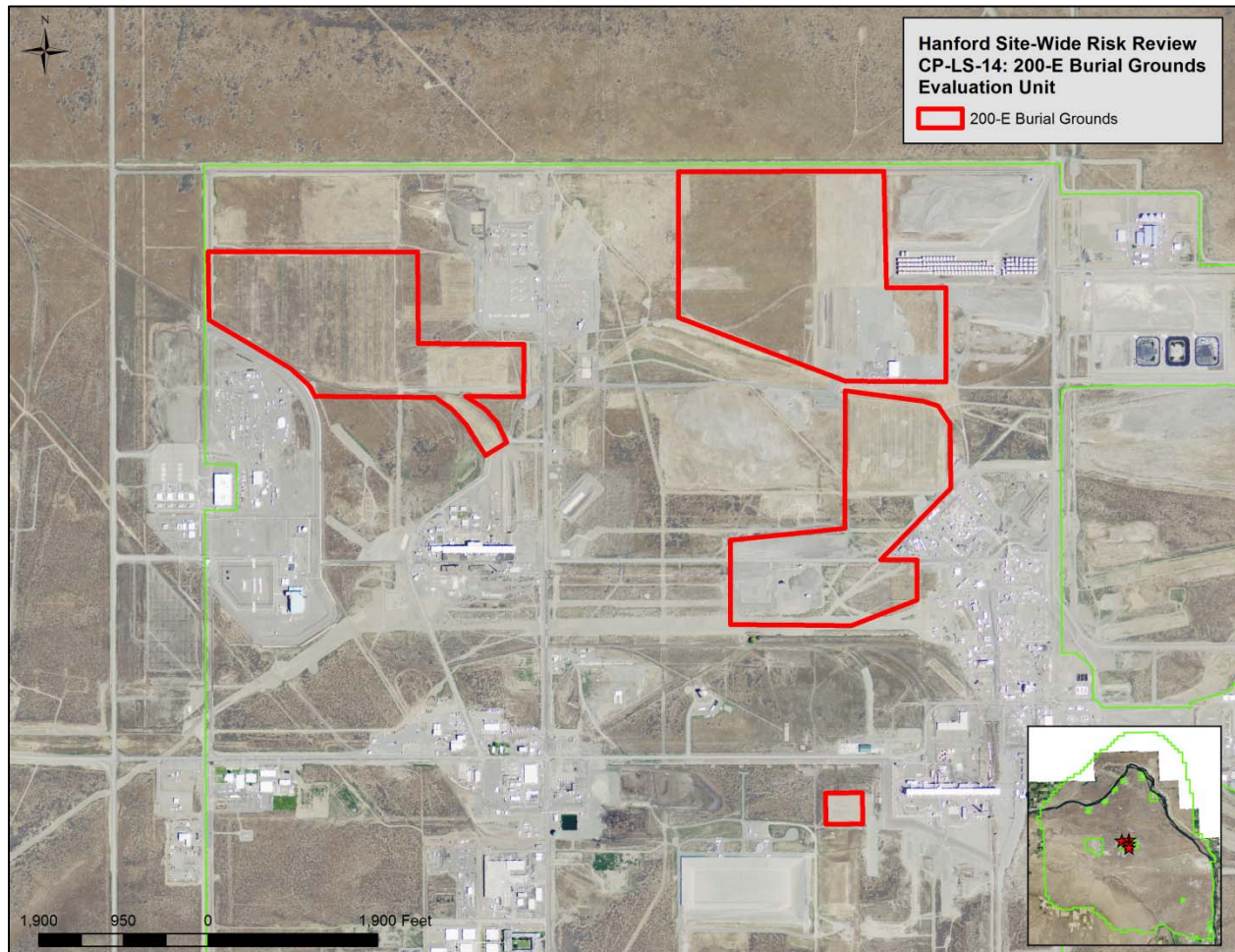


Figure K.17. CP-LS-14 (200-E Burial Grounds) Site Location Map

CP-LS-14 200-E Burial Grounds

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-LS-14, 200-E Burial Grounds EU is located within the 200-East Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-

West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

Small portions of the EU have been inventoried for archaeological resources under five cultural resource reviews: HCRC#87-200-001 (Chatters 1987a), HCRC#87-200-004 (Chatters 1987b), HCRC#88-300-038b (Chatters and Cadoret 1990), HCRC#94-600-054 (Nickens 1994), and HCRC#2013-600-012a (Sheldon et al 2014). None of these cultural resource reviews resulted in the identification of any cultural resources within the CP-LS-14, 200-E Burial Grounds EU. It is unknown if an NHPA Section 106 review has been completed specifically for remediation of the CP-LS-14, 200-E Burial Grounds EU. It is unlikely that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), because soils in the entire EU appear to have been extensively disturbed by Hanford Site activities.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU³³

- Two National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within the CP-LS-14, 200-E Burial Grounds EU (both are considered contributing properties within the Manhattan Project and Cold War Era Historic District, 1 with individual documentation required, and 1 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these properties.

Table K.19. National Register-eligible Manhattan Project and Cold War Era buildings located within the CP-LS-14, 200-E Burial Grounds EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|--------------------------|--|---|-------------------------------------|
| 209-E | Critical Mass Laboratory | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 215-C | Gas Preparation Building | A.6 | Contributing Property w/ no additional documentation requirements | |

³³ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- There are three archaeological sites (one associated with the Native American and Ethnographic Landscape, one with the Pre-Hanford Early Settlers/Farming Landscapes and one associated with the Manhattan Project and Cold War Era Historic District) located within 500 meters of the CP-LS-14, 200-E Burial Grounds EU. The archaeological site associated with the Manhattan Project and Cold War Era Historic District is National Register-eligible. The remaining archaeological sites remain unevaluated for listing in the National Register of Historic Places.
- Five archaeological isolates have been documented within 500 meters of the EU (one associated with the Native American Precontact and Ethnographic Landscape and four with the Pre-Hanford Early Settlers/Farming Landscape). None of these isolates have been formally evaluated for listing in the National Register of Historic Places, however, it should be noted that isolates are typically considered not eligible.
- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500-meters of the CP-LS-14 200-E Burial Grounds EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for this property.
- There are 25 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District that are located within 500-meters of the CP-LS-14 200-E Burial Grounds EU (all 25 are contributing properties within the Manhattan Project and Cold War Era Historic District, 9 with individual documentation required, and 16 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for these properties. These include:

Table K.20. National Register-eligible Manhattan Project and Cold War Era buildings located within 500-meters of the CP-LS-14 200-E Burial Grounds EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|---|---|--|------------------------------|
| 202-A | Plutonium-Uranium Extraction Facility (PUREX) | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 212-B | Fission Product Load Out Station | A.5 | Contributing Property Recommended for Individual | HPIF |

| | | | Documentation | |
|---------|---|-----|---|--------|
| 225-B | Waste Encapsulation And Storage Facility (WESF) | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 241-AW | Waste Storage Tank Farm (Double Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2701-AB | PUREX Badge House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2707-AR | Change House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 276-B | Organic Make Up/Solvent Storage | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 293-A | Dissolver Off -Gas Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 294-A | Exhaust Air Filter Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 212-A | Fission Product Loadout Station | A.6 | Contributing Property w/ no additional documentation requirements | |
| 221-B | B Plant Canyon/Separations Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 221-BC | SWP Change House | A.6 | Contributing Property w/ no additional documentation requirements | |
| 222-B | Process Control Laboratory/Office Building | A.6 | Contributing Property w/ no additional documentation | |

| | | | |
|---------|--|-----|--|
| | | | requirements |
| 224-B | Concentration Facility | A.6 | Contributing Property w/ no additional documentation requirements |
| 242A/AB | Evaporator Building/Evaporator Control | A.6 | Contributing Property w/ no additional documentation requirements |
| 242-B | Waste Evaporator/Particle Research Lab | A.6 | Contributing Property w/ no additional documentation requirements |
| 244-AR | Sludge Storage Vault | A.6 | Contributing Property w/ no additional documentation requirements |
| 271-B | Office & Service Building | A.6 | Contributing Property w/ no additional documentation requirements |
| 271-CR | Aqueous Make-up and Control House | A.6 | Contributing Property w/ no additional documentation requirements |
| 272-B | Service Building | A.6 | Contributing Property w/ no additional documentation requirements |
| 275-EA | Carpenter Shop Storage Building | A.6 | Contributing Property w/ no additional documentation requirements |
| 282-B | Pumphouse | A.6 | Contributing Property w/ no additional documentation requirements |
| 291-A | PUREX Exhaust Stack | A.6 | Contributing Property w/ no additional documentation requirements |
| 291-B | Exhaust Air Control Building/Stack | A.6 | Contributing Property w/ no additional documentation |

| | | | |
|-------|---------------------------|-----|--|
| 292-B | Stack Monitoring Building | A.6 | requirements Contributing Property w/ no additional documentation requirements |
|-------|---------------------------|-----|--|

- The 216-B-5 Reverse Well has been documented within 500 meters of the EU as a contributing component of the Manhattan Project and Cold War Era Historic District.

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-LS-14, 200-E Burial Grounds EU.

Historic Map and Aerial Photograph Indicators

Historic United States Geological Survey (USGS) topographic maps (USGS 1916) do not show any manmade or otherwise cultural features within or in the vicinity of the EU. 1943 land ownership data indicates that the Northern Pacific Railway Co., Benton County, and the United States owned lands within the EU prior to the Manhattan Project in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial imagery is only available for a small part of the northeast portion of the EU. This imagery indicates a north-south road within the EU in 1943. This information suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be located within the EU boundary.

Geomorphology Indicators

The geomorphology within the CP-LS-14, 200-E Burial Grounds EU is primarily Pleistocene outburst flood deposits with pockets of Holocene dune sands present intermittently within EU, suggesting an overall low potential for Native American Precontact landscape associated archaeological resources to be present within the surface and subsurface components of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that the EU has undergone significant ground disturbances by Hanford Site activities. This disturbance suggests a low potential for intact archaeological resources to be present in the EU. Undisturbed areas do appear to exist within the northern portion of the EU. Resources, if present, would likely be limited to areas of intact and undisturbed soils.

Summary of Cultural Resources Review

Portions of the CP-LS-14, 200-E Burial Grounds EU have been inventoried for cultural resources as part of five previous inventory surveys efforts, each with negative results within the EU. It is unknown if an NHPA Section 106 review has been completed specifically for the remediation of the CP-LS-14, 200-E Burial Grounds EU. Not all of the EU appears to have been inventoried for

cultural resources. It is highly unlikely that intact archaeological material is present in the EU, which has been extensively disturbed by Hanford Site activities with the exception of undisturbed areas located in the northern portion of the EU.

Two National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within the CP-LS-14, 200-E Burial Grounds EU (both are considered contributing properties within the Manhattan Project and Cold War Era Historic District, 1 with individual documentation required, and 1 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these properties. These properties are the Critical Mass Laboratory (building 209-E) and the Gas Preparation Building (building 215-C).

There are two archaeological sites (one associated with the Pre-Hanford Early Settlers/Farming Landscapes and one associated with the Manhattan Project and Cold War Era Historic District) located within 500 meters of the CP-LS-14, 200-E Burial Grounds EU. The archaeological site associated with the Manhattan Project and Cold War Era Historic District is National Register-eligible. The remaining archaeological site remains unevaluated for listing in the National Register of Historic Places. Five archaeological isolates (1 associated with the Native American Precontact and Ethnographic Landscape, and 4 with the Pre-Hanford Early Settlers/Farming Landscape) have been recorded within 500 meters of the EU. In addition, segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500-meters of the CP-LS-14, 200-E Burial Grounds EU. There are 25 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District that are located within 500-meters of the CP-LS-14 200-E Burial Grounds EU (all 25 are contributing properties within the Manhattan Project and Cold War Era Historic District, 9 with individual documentation required, and 16 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these contributing properties.

Historic maps and aerial imagery indicate little development within or in the vicinity of the EU, suggesting a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the boundary of the EU. Geomorphology suggests a low potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the CP-LS-14, 200-E Burial Grounds EU. Extensive ground disturbance within the EU suggests a low potential for intact cultural resources at or below ground surface. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Because large portions of the EU have not been inventoried, and because of the potential for buried archaeological deposits within the CP-LS-14, 200-E Burial Grounds EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated

Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and the B-Reactor Museum Association) may be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References³⁴

Chatters, JC. 1987a. *Cultural Resources Survey of the Proposed PFM Construction Site, Hanford Reservation, Washington, HCRC#87-200-001*. Pacific Northwest Laboratory, Richland, Washington.**

Chatters, JC. 1987b. *Cultural Resources Survey of the Proposed Hanford Waste Vitrification Plant, HCRC#87-200-004*. Pacific Northwest Laboratory, Richland, Washington.**

Chatters, JC and NA Cadoret. 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington.**

DOE-RL (Department of Energy Richland Operations Office). 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)*. Richland, Washington.

Nickens, PR. 1994. *Cultural Resources Review of the Tank Waste Remediation Systems Complex – Site C. HCRC# 94-600-054*. Pacific Northwest Laboratory, Richland, Washington.**

Parker, P and T King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

Sheldon, D, H Hay, K Mendez, S Sexton, C Dage and K Clark. 2014. *Cultural Resources Review for Operation, Maintenance, and Repair of 22 Meteorological Towers, Associated Infrastructure, and Access Roads in Benton, Franklin, and Grant Counties (HCRC#2013-600-012a)*, CH2M HILL, Inc., Richland, Washington.**

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department, 1943, *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

³⁴ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: 200-E Miscellaneous Waste Sites
 ID: CP-LS-15
 Group: Legacy Source
 Operable Unit Cross-Walk: 200-OA-1, 200-EA-1
 Related EU: NA
 Sites & Facilities: Waste sites, buildings, and structures associated with maintenance operations and coal power plant in the southern portion of 200-E.

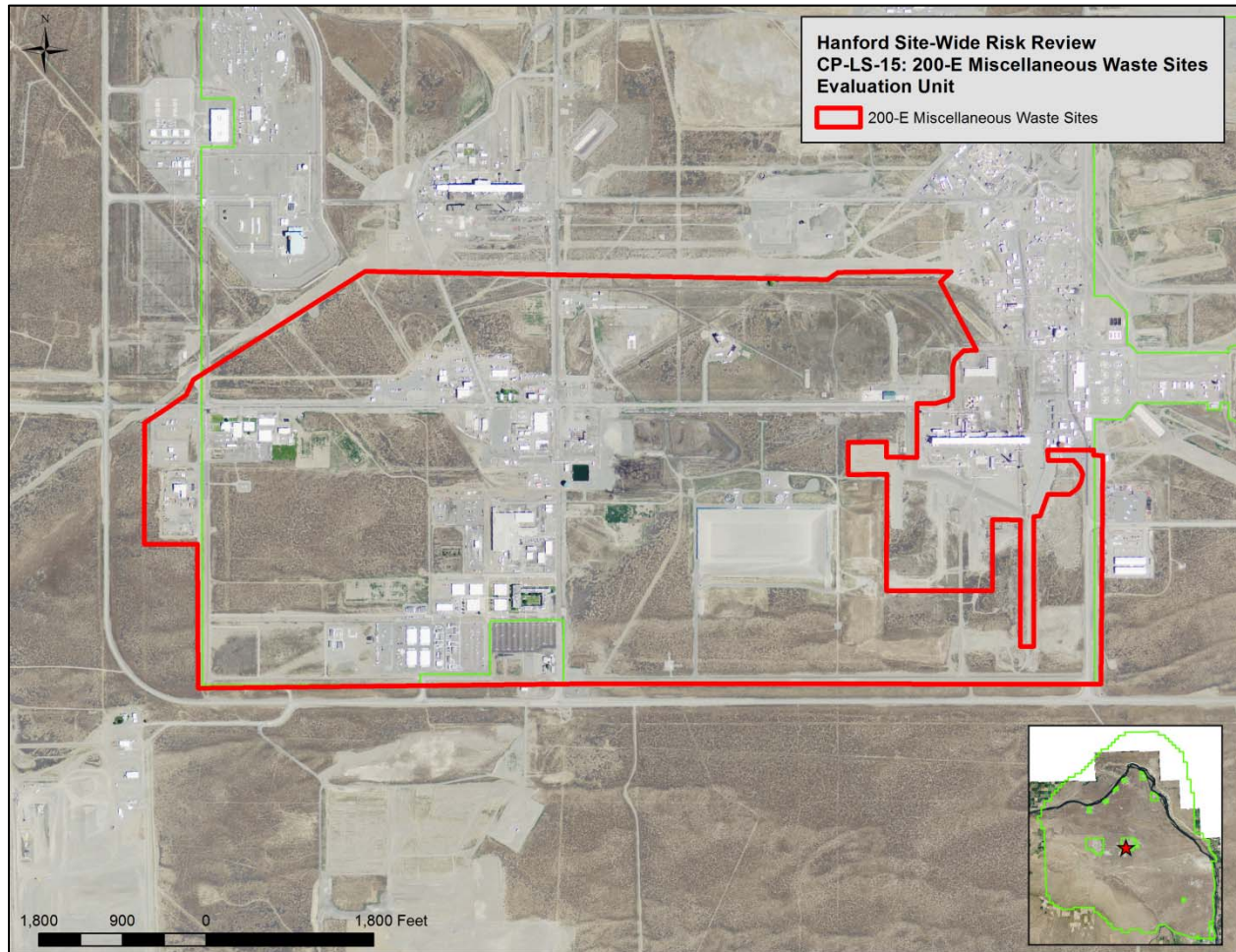


Figure K.18. CP-LS-15 (200-E Miscellaneous Waste Sites) Site Location Map

CP-LS-15 200-E Miscellaneous Waste Sites

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-LS-15, 200-E Miscellaneous Waste Sites EU is located within the 200-East Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of*

the 200 East and 200 West Areas, Hanford Site (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

About half of the CP-LS-15 200-E Miscellaneous Waste Sites EU has been inventoried for archaeological resources as part of fifteen archaeological surveys: HCRC#87-200-001 (Chatters 1987a), HCRC#87-200-003 (Chatters 1987b), HCRC#87-200-004 (Chatters 1987c), HCRC#87-200-012 (Chatters and Cadoret 1987), HCRC#87-200-036 (Hoover and Chatters 1988), HCRC#87-200-046 (Chatters 1988), HCRC#88-200-034 (Cadoret 1988), HCRC#89-600-010 (Minthorn 1990), HCRC#92-200-007 (Cadoret 1992), HCRC#93-600-005A (Reference), HCRC#96-200-058 (Myers and McIntire 1993), HCRC#2011-200-035a (Hay, Hughes and White 2011), HCRC#2012-200-021 (Hay, Mendez and Clark 2012), HCRC#2012-600-031a (Gilmour, Solimano and Daniels 2013), and HCRC#2013-600-012a (Sheldon et al 2014). It is unknown if an NHPA Section 106 review has been completed specifically for remediation of CP-LS-15, 200-E Miscellaneous Waste Sites EU. It is possible, but unlikely, that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), because most soils in the CP-LS-15, 200-E Miscellaneous Waste Sites EU appear to be heavily disturbed by Hanford Site activities.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU³⁵

- Two archaeological isolates have been documented within the EU, both associated with the Pre-Hanford Early Settler/Farming Landscape. None of these isolates have been formally evaluated for listing in the National Register of Historic Places, however, it should be noted that isolates are typically considered not eligible.
- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within the CP-LS-15, 200-E Miscellaneous Waste Sites EU. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for this property.
- There are 13 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District that are located within CP-LS-15, 200-E Miscellaneous Waste Sites EU (all 13 are contributing properties within the Manhattan Project and Cold War Era Historic District, 5 with individual documentation required, and 8 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan*

³⁵ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

(DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these properties.

Table K.21. National Register-eligible Manhattan Project and Cold War Era buildings located within CP-LS-15, 200-E Miscellaneous Waste Sites EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|---------------------------------------|--|---|-------------------------------------|
| 2101-M | Machine Shop/Office/Training Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2721-E | Patrol Headquarters | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2750-E | Office Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 282-E | Pumphouse and Reservoir | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 283-E | Water Filtration Plant | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2220-E | Telephone Exchange | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2703-E | Chemical Engineering Laboratory | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2719-EA | Medical Aid Station | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2727-E | Safeguards and Security Offices | A.6 | Contributing Property w/ no additional | |

| | | | |
|--------|----------------------------------|-----|---|
| | | | documentation requirements |
| 274-E | Maintenance Shop/Office Building | A.6 | Contributing Property w/ no additional documentation requirements |
| 2751-E | Office Building | A.6 | Contributing Property w/ no additional documentation requirements |
| 2752-E | Office Building | A.6 | Contributing Property w/ no additional documentation requirements |
| 2753-E | Office Building | A.6 | Contributing Property w/ no additional documentation requirements |

Archaeological sites, buildings, and TCPs located within 500 meters of the EU

- One National Register eligible archaeological site associated with the Manhattan Project and Cold War Era Landscape is located within 500 meters of the EU. Two additional archaeological sites (1 associated with the Native American Precontact and Ethnographic Landscape and 1 with the Pre-Hanford Early Settlers/Farming Landscape) have been recorded within 500 meters of the EU. Neither of these sites have been evaluated for listing in the National Register of Historic Places.
- There are 26 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District located within 500 meters of the CP-LS-15 200-E Miscellaneous Waste Sites EU (all 26 are contributing properties within the Manhattan Project and Cold War Era Historic District, 10 with individual documentation required, and 16 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)* (DOE-RL 1998), all documentation requirements have been completed for these properties.

Table K.22. National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-LS-15 200-E Miscellaneous Waste Sites EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|---|--|--|-------------------------------------|
| 202-A | Plutonium-Uranium Extraction Facility (PUREX) | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 209-E | Critical Mass Laboratory | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 212-B | Fission Product Loadout Station | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 225-B | Waste Encapsulation And Storage Facility (WESF) | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 241-AW | Waste Storage Tank Farm (Double Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2701-AB | PUREX Badge House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2707-AR | Change House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 276-B | Organic Make Up/Solvent Storage | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 293-A | Dissolver Off-Gas Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 294-A | Exhaust Air Filter | A.5 | Contributing Property | HPIF |

| | Building | | Recommended for Individual Documentation |
|---------|--|-----|---|
| 212-A | Fission Product Loadout Station | A.6 | Contributing Property w/ no additional documentation requirements |
| 215-C | Gas Preparation Building | A.6 | Contributing Property w/ no additional documentation requirements |
| 221-B | B Plant Canyon/Separations Building | A.6 | Contributing Property w/ no additional documentation requirements |
| 221-BC | SWP Change House | A.6 | Contributing Property w/ no additional documentation requirements |
| 222-B | Process Control Laboratory/Office Building | A.6 | Contributing Property w/ no additional documentation requirements |
| 224-B | Concentration Facility | A.6 | Contributing Property w/ no additional documentation requirements |
| 242A/AB | Evaporator Building/Evaporator Control | A.6 | Contributing Property w/ no additional documentation requirements |
| 244-AR | Sludge Storage Vault | A.6 | Contributing Property w/ no additional documentation requirements |
| 271-B | Office & Service Building | A.6 | Contributing Property w/ no additional documentation requirements |
| 271-CR | Aqueous Make-up and Control House | A.6 | Contributing Property w/ no additional documentation requirements |
| 272-B | Service Building | A.6 | Contributing Property w/ |

| | | | |
|--------|------------------------------------|-----|---|
| | | | no additional documentation requirements |
| 275-EA | Carpenter Shop Storage Building | A.6 | Contributing Property w/ no additional documentation requirements |
| 282-B | Pumphouse | A.6 | Contributing Property w/ no additional documentation requirements |
| 291-A | PUREX Exhaust Stack | A.6 | Contributing Property w/ no additional documentation requirements |
| 291-B | Exhaust Air Control Building/Stack | A.6 | Contributing Property w/ no additional documentation requirements |
| 292-B | Stack Monitoring Building | A.6 | Contributing Property w/ no additional documentation requirements |

- The 216-B-5 Reverse Well has been documented within 500 meters of the EU as a contributing component of the Manhattan Project and Cold War Era Historic District.

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-LS-15, 200-E Miscellaneous Waste Sites EU.

Historic Map and Aerial Photograph Indicators

Historic United State Geological Survey (USGS) topographic maps (USGS 1916) do not show any manmade or otherwise cultural features within or in the vicinity of the EU. Land ownership information provided on 1943 Hanford Engineer Works Real Estate maps indicates that lands within the EU were owned by the United States, Benton County, and the J.M. Coleman Co. in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs are only available for the southwestern edge of the EU. This imagery indicates that a historic road, trending roughly north-south, was present in this area. 1943 imagery is not available for the remainder of the CP-LS-15, 200-E Miscellaneous Waste Sites EU. This information suggests a low potential for the presence of archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU boundary.

Geomorphology Indicators

The geomorphology within the CP-LS-15, 200-E Miscellaneous Waste Sites EU consists of Pleistocene outburst flood deposits with perhaps some pockets of Holocene dune sands overlaying Pleistocene deposits along the north side of the EU. This geomorphology suggests a low potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface subsurface component of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that most of the EU has been heavily disturbed by building construction, Hanford site facilities, wells and borings, buried utilities, surface grading, roads and waste sites. This disturbance suggests low potential for intact archaeological resources to be present. However, it is possible that isolated pockets of undisturbed soils exist. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Summary of Cultural Resources Review

Much of the CP-LS-15 200-E Miscellaneous Waste Sites EU has not been inventoried for archaeological resources. At least 15 cultural resource surveys have taken place within portions of the EU. It is unknown if an NHPA Section 106 review has been completed specifically for remediation of the CP-LS-15, 200-E Miscellaneous Waste Sites EU. It is possible, but unlikely, that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), because the soils in the EU have been extensively disturbed by Hanford Site activities.

Two archaeological isolates associated with the Pre-Hanford Early Settler/Farming Landscape have been recorded within the CP LS 15 200 E Miscellaneous Waste Sites EU. These isolates have not been evaluated for listing in the National Register of Historic Places, however, it should be noted that isolates are typically considered not eligible. Segments of the National Register-eligible Hanford Site Plant Railroad are also located within the boundary of the EU. In addition, 13 National Register-eligible buildings associated with the Manhattan Project/Cold War Era Landscape are located within the EU (all 13 are contributing properties within the Manhattan Project and Cold War Era Historic District, 5 with documentation required, and 8 with no additional documentation required). All National-Register-eligible Manhattan Project and Cold War Era properties that are contributing components of the Manhattan Project and Cold War Era Historic District have been documented as described in the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998).

Table K.23. National Register-eligible Manhattan Project and Cold War Era buildings located within the CP-LS-15 200-E Miscellaneous Waste Sites EU

| Building # | Building Name |
|-------------------|---------------------------------------|
| 2101-M | Machine Shop/Office/Training Building |
| 2721-E | Patrol Headquarters |
| 2750-E | Office Building |
| 282-E | Pumphouse and Reservoir |
| 283-E | Water Filtration Plant |
| 2220-E | Telephone Exchange |
| 2703-E | Chemical Engineering Laboratory |
| 2719-EA | Medical Aid Station |
| 2727-E | Safeguards and Security Offices |
| 274-E | Maintenance Shop/Office Building |
| 2751-E | Office Building |
| 2752-E | Office Building |
| 2753-E | Office Building |

Within 500-meters of the CP-LS-15, 200-E Miscellaneous Waste Sites EU, one National Register eligible archaeological site, associated with the Manhattan Project and Cold War Era Landscape has been recorded within 500 meters of the CP-LS-15, 200-E Miscellaneous Waste Sites EU. Two additional archaeological sites (1 associated with the Native American Precontact and Ethnographic Landscape and 1 with the Pre-Hanford Early Settlers/Farming Landscape) have been recorded within 500 meters of the EU. Neither of these sites have been evaluated for listing in the National Register of Historic Places. Additionally, 26 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the CP-LS-15 200-E Miscellaneous Waste Sites EU (all 26 are contributing properties within the Manhattan Project and Cold War Era Historic District, 10 with individual documentation required, and 16 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for these properties. The 216-B-5 Reverse Well has been documented within 500 meters of the EU as a contributing component of the Manhattan Project and Cold War Era Historic District.

Historic maps and aerial imagery for this area do not indicate any cultural features within or near the EU, suggesting a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be located within the EU boundary. Geomorphology indicates a low to moderate potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the CP-LS-15, 200-E Miscellaneous Waste Sites EU. Review of recent aerial imagery indicate extensive ground disturbance within the EU suggesting a low potential for

intact cultural resources at or below ground surface. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Because large portions of the EU have not been inventoried for cultural resources, and because of the potential for intact archaeological deposits, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and the B-Reactor Museum Association) may be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References³⁶

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³⁶ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

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Evaluation Unit: Grout Vaults
 ID: CP-LS-16
 Group: Legacy Source
 Operable Unit Cross-Walk: NA
 Related EU: NA
 Sites & Facilities: Grout vaults located west of WTP.

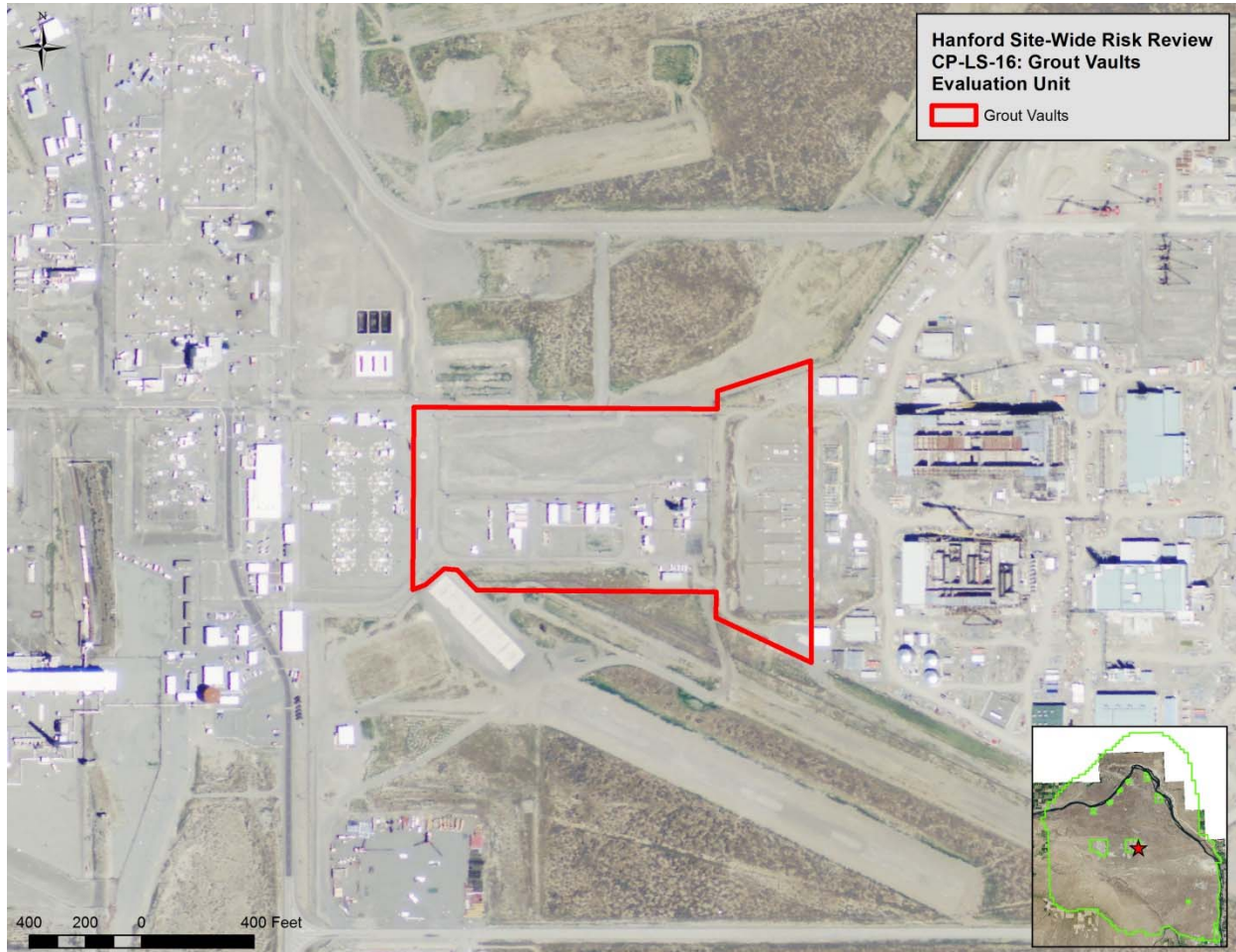


Figure K.19. CP-LS-16 (Grout Vaults) Site Location Map

CP-LS-16 Grout Vaults

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-LS-16, Grout Vaults EU is located within the 200-East Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-

West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

It appears that a NHPA Section 106 review was completed for the CP-LS-16, Grout Vaults EU under HCRC#88-200-055 (Cadoret 1988). This review did not find cultural resources within the EU, and concluded that it is unlikely that intact archaeological materials could be present (both on the surface and in the subsurface), because the soils in the CP-LS-16, Grout Vaults EU have been extensively disturbed by Hanford Site activities. Additional portions of the CP-LS-16, Grout Vaults EU have been inventoried for archaeological resources under five cultural resource reviews: HCRC#87-200-002 (Chatters 1987a), HCRC#87-200-046 (Chatters 1987b), HCRC#92-600-007 (Chatters et al. 1993), HCRC#96-200-109 (Cadoret 1996), and HCRC#2008-200-017 (Kennedy 2008). None of these cultural resource reviews resulted in the identification of any cultural resources within the EU.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU³⁷

- There are no known archaeological sites, inventoried historic buildings, or TCPs located within the CP-LS-16, Grout Vaults EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500 meters of the CP-LS-16, Grout Vaults EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.
- There are 10 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District within 500-meters of the CP-LS-16 Grout Vaults EU (all 10 are contributing properties within the Manhattan Project and Cold War Era Historic District, 5 with individual documentation required, and 5 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these properties.

³⁷ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

Table K.24. National Register-eligible Manhattan Project and Cold War Era buildings located within 500-meters of the CP-LS-16 Grout Vaults EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|--|--|---|-------------------------------------|
| 202-A | Plutonium-Uranium Extraction Facility (PUREX) | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 241-AW | Waste Storage Tank Farm (Double Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2707-AR | Change House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 293-A | Dissolver Off-Gas Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 294-A | Exhaust Air Filter Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 212-A | Fission Product Load Out Station | A.6 | Contributing Property w/ no additional documentation requirements | |
| 242A/AB | Evaporator Building/Evaporator Control | A.6 | Contributing Property w/ no additional documentation requirements | |
| 244-AR | Sludge Storage Vault | A.6 | Contributing Property w/ no additional documentation requirements | |
| 275-EA | Carpenter Shop Storage Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 291-A | PUREX Exhaust Stack | A.6 | Contributing Property w/ no additional documentation requirements | |

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-LS-16, Grout Vaults EU.

Historic Map and Aerial Photograph Indicators

Historic United State Geological Survey (USGS) topographic maps (USGS 1916) do not show any manmade or otherwise cultural features within or in the vicinity of the EU. Ownership information provided on 1943 *Hanford Engineer Works Real Estate maps* indicates that lands within the EU were owned by Benton County in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial imagery is not available for this EU. This information suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU boundary.

Geomorphology Indicators

The geomorphology within the CP-LS-16, Grout Vaults EU is primarily Pleistocene outburst flood deposits suggesting a low potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface components of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the area indicates that the EU has been entirely disturbed by Hanford Site activities. This disturbance suggests a low potential for intact archaeological resources to be present in the EU.

Summary of Cultural Resources Review

An NHPA Section 106 review was completed for the installation of the facilities and infrastructure associated with CP-LS-16, Grout Vaults EU under HCRC#88-200-055 (Cadoret 1988). Five additional cultural resource inventory surveys have been conducted in portions of the EU, all with negative results. No cultural resources have been documented within the CP-LS-16, Grout Vaults EU. It is unlikely that intact archaeological material is present in the EU, which has been extensively disturbed by building and utilities construction.

Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District with documentation required are located within 500 meters of the EU. Additionally, 10 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the EU (all 10 are contributing properties within the Manhattan Project and Cold War Era Historic District, 5 with individual documentation required, and 5 with no additional documentation required). All National-Register-eligible Manhattan Project and Cold War Era buildings have been documented as described in the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998).

Historic maps for this area do not indicate any cultural features within or near the EU. This suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU. Geomorphology indicates a very potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the CP-LS-16, Grout Vaults EU. Further, extensive ground disturbance within the EU suggests little to no potential for intact cultural resources at or below ground surface.

Because portions of the EU have not been inventoried for cultural resources, it may be appropriate to conduct surface archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and the B-Reactor Museum Association) may be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References³⁸

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³⁸ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

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Evaluation Unit: BC Control Zone
 ID: CP-LS-17
 Group: Legacy Source
 Operable Unit Cross-Walk: 200-OA-1
 Related EU: CP-LS-1
 Sites & Facilities: Surface contamination area to the south of 200-E (excluding the BC Cribs and Trenches).

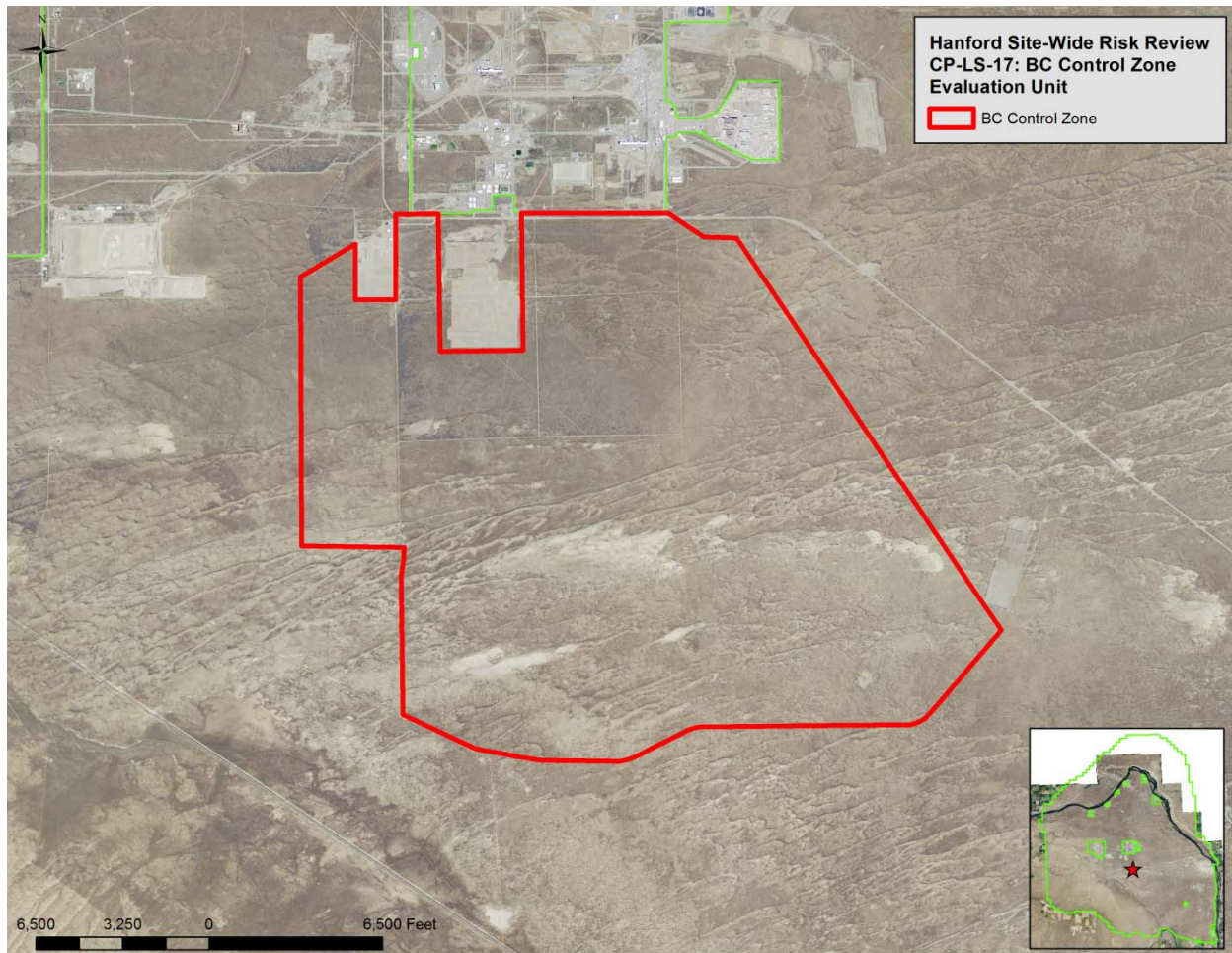


Figure K.20. CP-LS-17 (BC Control Zone) Site Location Map

CP-LS-17: BC Control Zone

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The BC Control Zone EU is located in the 600 Area of the Hanford Site, just south of the 200 East Area. Most of the EU has been inventoried for cultural resources under, Plot 707SD (Unknown 1987), HCRC# 89-600-010 (Minthorn and Chatters 1990b), HCRC# 89-600-002 (Cadoret and Chatters 1989), HCRC# 90-200-017 (Gard and Chatters 1990), HCRC# 90-600-016 (Minthorn and Chatters 1990a), HCRC# 93-200-001 (Crist and Wright 1993), HCRC# 93-600-016 (Dawson 1993),

HCRC# 93-600-005A (Myers and McIntree 1993), HCRC# 94-600-034 (Simmons 1994), HCRC# 95-600-012 (Crist & Nickens 1995), HCRC# 2008-600-006 (Kennedy 2008a), HCRC# 2008-600-006a (Kennedy 2008b), HCRC# 2008-600-006b (Sharpe 2009), HCRC# 2010-200-012 (Sharpe 2010a), HCRC# 2010-600-018 (Gutzeit et al. 2010), HCRC# 2010-600-020 (Sharpe 2010b), HCRC# 2012-600-031a (Gilmour et al.), HCRC# 2012-600-035c (Hay et al. 2013), HCRC# 2013-600-012a (Sheldon et al. 2014), HCRC# 2013-600-018 (Sexton et al. 2013), HCRC# 2014-600-017 (Fergusson 2014) and HCRC# 2014-600-019 (Mendez 2014), with a total of twenty-three archaeological resources identified. Remediation of the BC Control Zone has been addressed in several NHPA Section 106 Reviews, including: *Cultural Resources Review for Remediation of Zone A of the BC Control Area Waste Site UPR-200-E-83, Operable Unit 200-UR-1, at the 600 Area, Hanford Site (HCRC# 2008-600-006a)* (Kennedy 2008b), *Cultural Resource Review and Inventory for the BC Controlled Area Northern Zone on the U.S. Department of Energy, Hanford Site, Benton County, Washington (HCRC# 2008-600-006b)* (Sharpe 2009), and *Cultural Resource Review for the BC Controlled Area Southern Zone on the U.S. Department of Energy Hanford Site, Benton County, Washington (HCRC# 2010-600-020)* (Sharpe 2010b). Much of the EU remains relatively undisturbed, suggesting a high potential for intact surface and subsurface archaeological resources. In addition, surface inventories of the CP-LS-17, BC Control Zone EU have shown a high potential for the presence of archaeological resources, with 22 archaeological sites/isolates identified and recorded within the EU boundary.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU³⁹

- Twenty-two archaeological sites/isolates have been recorded within the CP-LS-17, BC Control Zone EU. Three of these resources are associated with the Native American Precontact and Ethnographic Landscape (2 isolates and 1 site), 4 are associated with the Pre-Hanford Early Settlers/Farming landscape (4 sites), and 15 are associated with the Manhattan Project/Cold War Era Landscape (8 sites, 6 isolates and 1 historic road). Only 2 of these resources have been evaluated for listing to the National Register of Historic places. One of the Manhattan Project/Cold War Era Landscape period sites has been determined eligible for inclusion in the National Register of Historic Places and the 1 historic road associated with this same landscape has been determined not eligible. All of the remaining sites/isolates within the EU remain unevaluated. It should be noted that while none of the isolates have been evaluated for listing in the National Register of Historic Places, these resources are typically assumed not eligible.
- No buildings and/or Traditional Cultural Properties (TCPs) are currently known to exist within the EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- Eight archaeological sites/isolates have been recorded within 500 meters of the CP-LS-

³⁹ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (a) rooted in the history of a community, and (b) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

17, BC Control Zone EU. Four of these resources are associated with the Native American Precontact and Ethnographic Landscape (2 isolates and 2 sites), 2 are associated with the Pre-Hanford Early Settlers/Farming landscape (1 isolate and 1 site), and 2 are associated with the Manhattan Project/Cold War Era Landscape (1 site). The two Manhattan Project/Cold War Era Landscape era sites are the only resources that have been evaluated for listing on the National Register of Historic place. One has been determined eligible for listing in the National Register of Historic places, and the other has been determined eligible as a contributing property within the Manhattan Project and Cold War Era Historic District. This resource has been mitigated in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998).

- There are 5 National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the EU (all 5 are contributing within the Manhattan Project and Cold War Era Historic District, 2 recommended for individual documentation and 3 with no additional documentation required). Mitigation for contributing buildings/structures has been completed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998) and buildings demolition is ongoing.

Table K.25. National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-LS-17, BC Control Zone EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|---------------------------------------|---|---|------------------------------|
| 2101-M | Machine Shop/Office/Training Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2750-E | Office Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2751-E | Office Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2752-E | Office Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2753-E | Office Building | A.6 | Contributing Property w/ no additional | |

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|---------------|---|-------------------------------|------------------------------|
| | | | documentation requirements | |

Closest Recorded TCP

There are 2 recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-LS-17, BC Control Zone EU.

Historic Map and Aerial Photograph Indicators

Review of historic United States Geological Survey (USGS) topographic map (USGS 1917, 1924) does not show any development in the area of the EU. Ownership information provided on the 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the BC Control Zone EU were owned by the United States of America, Washington State, The Northern Pacific Railroad and the H.M. Coleman Company (The 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs confirm that this area was largely undeveloped. The only feature visible is a small roadway which runs through the southwestern portion of the EU. This information suggests that there is a low potential for archaeological resources associated with the Pre-Hanford Early-Settlers/Farming Landscape to be present within the EU boundary.

Geomorphology Indicators

The geomorphology within the CP-LS-17, BC Control Zone EU is comprised of Pleistocene outburst flood deposits overlaid by pockets of both stabilized and active Holocene dune sands, suggesting a moderate potential for Native American Precontact landscape associated archaeological resources to be present within the surface and subsurface component of this EU. Resources, if present, would likely be limited to areas of intact or undisturbed soils (which includes a majority of the land within the EU boundary).

Ground Disturbance Indicators

Examination of 2012 aerial imagery indicates that a majority of the EU remains relatively undisturbed. Disturbances appear to be limited to several roadways constructed throughout the EU and several instances of Manhattan Project/Cold War Era land use (mostly associated with the military occupation of the site). The undisturbed nature of the EU suggests a high degree of potential for intact archaeological resources to exist within these isolated undisturbed areas.

Summary of Cultural Resources Review

Most of the CP-LS-17, BC Control Zone EU has been inventoried for archaeological resources, with 22 archaeological sites/isolates identified and recorded within the EU boundary. While most of these resources are associated with the Manhattan Project/Cold War Era Landscape, the Native American Precontact and Ethnographic Landscape as well as the Pre-Hanford Early Settlers/Farming landscape are also represented. Only one of these resources has been evaluated for listing to the National Register of Historic place (1 historic road was determined not eligible). Remediation of the BC Control Zone has been addressed in several NHPA Section 106 Reviews, including: *Cultural Resources Review for Remediation of Zone A of the BC Control Area Waste Site UPR-200-E-83, Operable Unit 200-UR-1, at the 600 Area, Hanford Site (HCRC# 2008-600-006a)* (Kennedy 2008b), *Cultural Resource Review and Inventory for the BC Controlled Area Northern Zone on the U.S. Department of Energy, Hanford Site, Benton County, Washington (HCRC# 2008-600-006b)* (Sharpe 2009), and *Cultural Resource Review for the BC Controlled Area Southern Zone on the U.S. Department of Energy Hanford Site, Benton County, Washington (HCRC# 2010-600-020)* (Sharpe 2010b).

There are 8 archaeological sites/isolates recorded within 500 meters of the EU. All three landscapes are represented, with the Native American Precontact and Ethnographic Landscape accounting for 4 of these recorded resources. Of the 8 archaeological sites/isolates, two have been evaluated for listing on the National Register of Historic Places. Both date to the Manhattan Project/Cold War Era Landscape, with one determined eligible for listing in the National Register of Historic Places, and the other determined eligible as a contributing property within the Manhattan Project and Cold War Era Historic District. Mitigation for contributing resources has been completed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998). In addition there are 5 National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the EU (2 recommended for individual documentation and 3 with no additional documentation required).

Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998).

Historic Maps and aerial imagery indicate that the area was largely undeveloped, with most of the land owned by public entities. This suggests a low potential for the presence of archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape. Geomorphology indicates a moderate potential for the presence of Native American Precontact and Ethnographic cultural resources to be present within the EU boundary, primarily in areas with Holocene deposits (which extend over large portions of the EU). These resources, if present, would likely be limited to areas of intact, undisturbed Holocene dune sand deposits. A review of recent aerial imagery of the area suggests that large portions of the EU remain relatively undisturbed. Aside from area roadways constructed for Hanford Site operations, surface disturbances within the EU appear to be related to historic land use associated with the Manhattan project/Cold War Era landscape. This suggests a high potential for resources associated with this landscape to be present within the EU as evidenced by the archaeological resources currently both within and adjacent to the EU boundary.

Because of the potential for intact archaeological deposits within large portions of the BC Control Zone EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups who may have an interest in the areas (e.g. East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

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| | |
|---------------------------|--|
| Evaluation Unit: | Outer Area Sites |
| ID: | CP-LS-18 |
| Group: | Legacy Source |
| Operable Unit Cross-Walk: | 200-CW-1, 200-CW-3, 200-OA-1, 200-SW-1 |
| Related EU: | NA |
| Sites & Facilities: | Outer Area solid waste disposal sites (e.g. NRDWL, SWL, etc.) and other Outer Area waste sites, miscellaneous buildings, and structures. |



Figure K.21. CP-LS-18 (Outer Area Sites) Site Location Map

CP-LS-18: Outer Area Sites

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-LS-18, Outer Area Sites EU is located in the 600 Area of the Hanford Site and is comprised of the Nonradioactive Dangerous Waste Landfill/Solid Waste Landfill (NRDWL/SWL). The NRDWL/SWL adjoin each other and started receiving waste in the 1970s. The NRDWL accepted waste from Hanford Site operations associated with laboratory work, process

operations, maintenance and transportation functions throughout the Hanford Site (Washington State Department of Ecology 2015). The NRDWL/SWL have been inactive (i.e. not receiving waste) since 1988 and 1996, respectively. Most of the EU has been inventoried for cultural resources under HCRC# 87-600-006 (Hoover & Chatters 1988), HCRC# 89-600-002 (Cadoret 1989), HCRC# 92-600-022 (Wright 1992), HCRC# 99-600-005b (Wright 1999), HCRC# 2010-600-018 (Gutzeit et al.), HCRC# 2010-600-020 (Sharpe 2010), HCRC# 2013-600-018, (Sexton et al. 2013), HCRC# 2014-600-017 (Fergusson 2014), with only one archaeological resource identified (a historic roadway associated with the Manhattan Project/Cold War Era Landscape). Closure of the NRDWL/SWL has been addressed in an NHPA Section 106 Review, *Cultural Resources Review for Closure of the Nonradioactive Dangerous Waste Landfill and Solid Waste Landfill, 600 Area, Hanford Site, Benton County, Washington, HCRC# 2010-600-018* (Gutzeit et al. 2010) and associated *Environmental Assessment for the Closure of Nonradioactive Dangerous Waste Landfill (NRDWL) and Solid Waste Landfill (SWL), Hanford Site, Richland, Washington* (DOE/EA-1707D) (DOE-RL 2011). Much of the land within the EU is extensively disturbed from the installation and use of the landfill area, well drilling and installation and use of area roadways. While surface archaeological inventories of the EU have shown a low potential for archaeological resources, there is the potential to encounter subsurface archaeological resources, especially in isolated pockets of undisturbed soils (such as those surrounding the fenced landfill area).

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁴¹

- One historic road associated with the Manhattan Project/Cold War Era Landscape has been recorded within the CP-LS-18, Outer Area Sites EU. This road has been determined not eligible for inclusion in the National Register of Historic Places.
- No additional archaeological sites, buildings, and/or TCPs are known to be located within the EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- There is one archaeological site, associated with the Native American Precontact and Ethnographic Landscape, located within 500 meters of the CP-LS-18, Outer Area Sites EU. This archaeological resource has not been evaluated for listing in the National Register of Historic Places.

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-LS-18, Outer Area Sites EU.

Historic Map and Aerial Photograph Indicators

⁴¹ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (a) rooted in the history of a community, and (b) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

A review of historic United States Geological Survey (USGS) topographic maps (USGS 1916) does not show any development within the CP-LS-18, Outer Area Sites EU. Some historic and ethnohistoric trails/roads are located within the vicinity of the EU suggesting moderate historic use associated with travel in the area. Ownership information provided on the 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the EU were owned by both public and private entities. The northern portion of the EU was owned by the United States of America while the southern portion of the EU was owned by Mary Alice Hill & John C. Wenner (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs confirm that this area was undeveloped. This information suggests that there is a low potential for archaeological resources associated with the Pre-Hanford Early-Settlers/Farming landscape to be present within the EU boundary.

Geomorphology Indicators

The geomorphology within the CP-LS-18, Outer Area Sites EU is comprised of Pleistocene outburst flood deposits overlaid by Holocene dune sands, suggesting a moderate potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface component of this EU. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Ground Disturbance Indicators

Examination of 2012 aerial imagery indicates that the central portion of the EU has been heavily disturbed by the installation of the SWL/NRDWL in addition to the installation of several monitoring wells, associated pads and access roads. Pockets of undisturbed soil do appear to exist in areas surrounding the landfill, suggesting a moderate potential for the presence of intact archaeological resources on the surface or within the subsurface of these isolated undisturbed areas.

Summary of Cultural Resources Review

Most of the CP-LS-18, Outer Area Sites EU has been inventoried for archaeological resources, with one resource identified and recorded within the EU boundary; a historic road associated with the Manhattan Project/Cold War Era landscape, which has been determined not eligible for listing in the National Register of Historic Places. Closure of the NRDWL/SWL has been addressed in an NHPA Section 106 Review, *Cultural Resources Review for Closure of the Nonradioactive Dangerous Waste Landfill and Solid Waste Landfill, 600 Area, Hanford Site, Benton County, Washington, HCRC# 2010-600-018* (Gutzeit et al. 2010) and associated *Environmental Assessment for the Closure of Nonradioactive Dangerous Waste Landfill (NRDWL) and Solid Waste Landfill (SWL), Hanford Site, Richland, Washington (DOE/EA-1707D) (DOE-RL 2011)*. No additional archaeological sites and/or TCPs are known to be located within the boundary of the EU. The land within the central portion of the EU is heavily disturbed from the installation of the NRDWL/SWL. Additional disturbances within the EU are noted from the installation of monitoring wells, well pads and associated access roads. There is a low degree of potential for the existence of intact archaeological resources within these disturbed areas;

however, a moderate degree of potential for subsurface archaeological resources does exist within the isolated pockets of undisturbed deposits surrounding the landfill and in areas that have not been previously inventoried.

There is one archaeological site, associated with the Native American Precontact and Ethnographic Landscape, located within 500 meters of the EU. This archaeological resource has not been evaluated for listing in the National Register of Historic Places.

Historic maps and aerial imagery indicate that the area was relatively undeveloped with the exception of some historic use as evidenced by the presence of trails/roads in the general vicinity of the EU. This suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU. Geomorphology indicates a moderate potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the intact, undisturbed Holocene dune sand deposits located within the EU boundary. Extensive ground disturbance within the central portion of the EU, however, may negate this moderate potential.

Because of the potential for intact archaeological deposits within the CP-LS-18, Outer Area Sites EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating a remediation activity. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups who may have an interest in the areas (e.g. East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

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CP-TF-1: T Tank Farm

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-TF-1, T Tank Farm EU is located in the 200-West Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric Trail/Road corridor which runs through the T Tank Farm EU. A non-contributing and un-intact segment of this trail/Road runs through the T Tank Farm EU.

None of the T Tank Farm EU has been inventoried for archaeological resources (surface or subsurface). Closure and remediation of the tank farms located within the T Tank Farm EU has been addressed in an NHPA Section 106 review completed under HCRC#2003-200-044 (Prendergast-Kennedy and Harvey 2003). Given the extensive disturbance within the T-Tank Farm EU, this is unlikely, but there is a possibility that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly if undisturbed soil deposits exist within the T Tank Farm EU and given the fact that an historic/ethnohistoric Trail/Road corridor runs through the T Tank Farm EU.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁴³

- Segment C, a non-contributing un-intact segment of the National Register-eligible historic/ethnohistoric Road/Trail which is associated with both the Native American Precontact and Ethnographic and the Pre-Hanford Early Settlers/Farming Landscapes, passes through the T Tank Farm EU.
- The 241-T Tank Farm a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, that is located within the T Tank Farm EU. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for this property.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

⁴³ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500 meters of the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.
- Nine National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the CP-TF-1, T Tank Farms EU (all 9 are considered contributing properties within the Manhattan Project and Cold War Era Historic District, 7 with individual documentation required, and 2 with no additional documentation required. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these properties.

Table K.X. National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-TF-1, Tank Farms EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|--|---|--|------------------------------|
| 221-T | T Plant/Equipment Decontamination | A.5 | Contributing Property Recommended for Individual Documentation | HAER |
| 221-TA | Fan House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 222-T | Process Control Laboratory/Office Building | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 241-TX | Waste Disposal Tank Farm (Single Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 241-TY | Waste Disposal Tank Farm (Single Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 242-T | Waste Evaporator | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 271-T | Office Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 224-T | Transuranic Storage and | A.6 | Contributing Property w/ no additional | |

| | | | |
|--------------------|---|-----|--|
| | Assay Facility | | documentation requirements |
| 2706-T/ 2706-TA | Equipment Decontamination Building/Annex | A.6 | Contributing Property w/ no additional documentation requirements |

- T Plant (221-T) is located within 500 meters of the CP-TF-1, T Tank Farms EU. This building has been selected for preservation, and HAER level documentation has been completed. Additionally, T Plant (221-T) has been identified as part of the Manhattan Project National Historic Park by the National Park Service.

Closest Recorded TCP

There two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the T Tank Farm EU.

Historic Map and Aerial Photograph Indicators

A review of 1916 United States Geological Survey (USGS) topographic maps (USGS 1916) depicts an historic/ethnohistoric Trail/Road running through the T Tank Farm EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the T Tank Farm EU were owned by Benton County in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs further confirm the presence of historic/ethnohistoric Trail/Road. This information indicates a moderate potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic and Pre-Hanford Early Settlers/Farming Landscapes within the T Tank Farm EU.

Geomorphology Indicators

The geomorphology within the T Tank Farm EU consists of Pleistocene outburst flood deposits suggesting a low potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape within undisturbed portions of the subsurface component of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the T Tank Farm EU depicts tank farms, buildings, roads as well as grubbed and cleared areas. It is also known that the T Tank Farm EU contains buried pipelines, sewer lines, tanks and miscellaneous waste sites. This extensive disturbance to both surface and subsurface soils suggests low potential for intact archaeological resources to be present within the T Tank Farm EU. Although unlikely, it is still possible however, for pockets of undisturbed soils to exist within the T Tank Farm EU.

Summary of Cultural Resources Review

None of the T Tank Farm EU has been inventoried for archaeological resources and closure and remediation of the tank farms located within the T Tank Farm EU has been addressed in an NHPA Section 106 review. There is a possibility that intact archaeological material is present in the T Tank Farm EU because it has not have not been inventoried for archaeological resources (both on the surface and in the subsurface) and particularly if undisturbed soil deposits exist within the T Tank Farm EU. Given the extensive disturbance this is unlikely.

Cultural resources known to be recorded within the T Tank Farm EU are limited to the National Register-eligible 241-T Tank Farm associated with the Manhattan Project and Cold War Era Historic District, with documentation required. All National-Register-eligible Manhattan Project and Cold War Era buildings been documented as described in the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Additionally, the non-contributing/ineligible portion of the National Register-eligible Trail/Road which is associated with both the Native American Precontact and Ethnographic and the Pre-Hanford Early Settlers/Farming Landscapes, passes through the T Tank Farm EU.

The National Register-eligible Hanford Site Plant Railroad, associated with the Manhattan Project/Cold War era Historic District with documentation required is the closest recorded cultural resource located within 500 meters of the T Tank Farm EU. Nine National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the CP-TF-1, T Tank Farms EU (all 9 are considered contributing properties within the Manhattan Project and Cold War Era Historic District, 7 with individual documentation required, and 2 with no additional documentation required. In accordance ith the *Hanford Site Manhattan Project and Cold War Era Historic Distrct Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these properties. It should be noted that T Plant (221-T) is located within 500 meters of the CP-TF-1, T Tank Farms EU. This building has been selected for preservation, and HAER level documentation has been completed. Additionally, T Plant (221-T) has been identified as part of the Manhattan Project National Historic Park by the National Park Service.

Despite there being no physical evidence of an historic/ethnohistoric trail/road within the T Tank Farm EU, historic maps reveal that this trail existed prior to excavation for the T-Tank Farm. Given the extensive ground disturbance within the entire EU and the geomorphology in the area, overall the potential for the presence of intact archaeological resources to be present subsurface within the T Tank Farm EU is unlikely.

Because of the potential (although unlikely) for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU, it may be appropriate to conduct surface archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach and B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may

also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References⁴⁴

Department of Energy. 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Richland, Washington.

Chatters JC and NA Cadoret 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington.**

Parker, P. and T. King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

Prendergast-Kennedy, E. and DW Harvey. 2003. *Cultural Resources Review of Retrieval, Treatment and Disposal of Tank Waste and Closure of Single Shell Tanks (Tank Closure) Environmental Impact Statement (EIS) (HCRC# 2003-200-044)*. Letter to Charlotte Johnson Science Applications International Corporation. Pacific Northwest National Laboratory, Richland, Washington.**

USGS (United States Geological Survey). 1916. Coyote Rapid Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

⁴⁴ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: S-SX Tank Farms
 ID: CP-TF-2
 Group: Tank Farm
 Operable Unit Cross-Walk: WMA S/SX
 200-DV-1
 200-WA-1
 Related EU: CP-LS-7
 CP-TF-9
 CP-GW-2
 Sites & Facilities: S-SX Tank Farms, ancillary structures, associated liquid waste sites, and soils contamination, includes 242-S Evaporator
 Key Data Sources Docs: RPP-13033
 RPP-40545
 RPP-PLAN-40145
 RPP-10435



Figure K.22. Site Map with Evaluation Unit Boundaries and Tank Locations

CP-TF-2: S-SX Tank Farms

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The S-SX Tank Farms EU is located within the 200-West Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200*

West Areas, Hanford Site (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric Trail/Road corridor which runs through the 200-West Area not far from the S-SX Tank Farms EU. Much of the S-SX Tank Farms EU has not been inventoried for archaeological resources. A very small area of the within the S-SX Tank Farms EU has been inventoried under HCRC#95-200-013 with negative findings (Stapp and Woodruff 1995). Although unlikely given the extensive disturbance in the S-SX Tank Farms EU, there is a possibility that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly if undisturbed soil deposits exist within the S-SX Tank Farms EU. Closure and remediation of the tank farms located within the S-SX Tank Farms EU has been addressed in an NHPA Section 106 review completed under HCRC#2003-200-044 (Prendergast-Kennedy and Harvey 2003).

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁴⁵

- There are no archaeological sites known to be located within the S-SX Tank Farms EU.
- The 242-S Evaporator Facility a contributing property within the Manhattan Project and Cold War Era Historic District, with no documentation required is located within the S-SX Tank Farms EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500 meters of the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.
- An historic isolate likely associated with the Pre-Hanford Early Settlers/Farming Landscape is located in the vicinity of the S-SX Tank Farms EU. This isolate remains unevaluated for listing in the National Register of Historic Places, however, it should be noted that isolates are typically considered not eligible.
- Three National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of

⁴⁵ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

the S-SX Tank Farms EU (all 3 are contributing properties within the Manhattan Project and Cold War Era Historic District, 1 with individual documentation required, and 2 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)* (DOE-RL 1998), all documentation requirements have been completed for these properties.

Table K.X. National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-TF-2, S-SX Tank Farms EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|-----------------------|--|---|-------------------------------------|
| 202-S | REDOX Canyon Building | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 272-S | Maintenance Shop | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2704-S | Office Building | A.6 | Contributing Property w/ no additional documentation requirements | |

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the S-SX Tank Farms EU.

Historic Map and Aerial Photograph Indicators

A review of 1916 historic United States Geological Survey (USGS) topographic maps (USGS 1916) depicts no structures, roads, or any other indication of historic settlement. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the SX Tank Farms EU were owned by the U.S. Government in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the U.S. Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs further confirm the absence of historic settlement in the area. This information suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the S-SX Tank Farms EU.

Geomorphology Indicators

The geomorphology within the S-SX Tank Farms EU is all Pleistocene outburst flood deposits suggesting a low potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape within the subsurface component of the S-SX Tank Farms EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the S-SX Tank Farms EU indicates that the S-SX Tank Farms EU is heavily disturbed by tank farm construction, buildings, buried pipelines, surface grading, roads and waste sites. This disturbance indicates that there is a very low potential for intact archaeological resources to be present. It is still possible however, for pockets of undisturbed soils to exist within the S-SX Tank Farms EU.

Summary of Cultural Resources Review

Much of the S-SX Tank Farms EU has not been inventoried for archaeological resources with the exception of a very small area with negative findings. Closure and remediation of the tank farms located within the S-SX Tank Farms EU has been addressed in an NHPA Section 106 review completed. There are no archaeological sites or TCPs known to have been recorded or identified within the S-SX Tank Farms EU. Although unlikely given the presence of heavy disturbance, there is a possibility that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly if undisturbed soil deposits exist within the S-SX Tank Farms EU.

Cultural resources known to be recorded within the S-SX Tank Farms EU are limited to one National Register-eligible building; the 242-S Evaporator Facility, associated with the Manhattan Project/Cold War Era Landscape with no documentation required. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.

One isolated archaeological find associated with the Pre-Hanford Early Settlers/Farming Landscape has been identified within 500 meters of the S-SX Tank Farms EU. This isolate remains unevaluated for listing in the National Register of Historic Places, however, it should be noted that isolates are typically considered not eligible. Additionally, segments of the National Register-eligible Hanford Site Plant Railroad are located within 500 meters of the S-SX Tank Farms EU. Lastly, 3 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the S-SX Tank Farms EU (all 3 are contributing properties within the Manhattan Project and Cold War Era Historic District, 1 with individual documentation required, and 2 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these properties.

Historic maps indicate that there is no evidence of historic settlement in or near the S-SX Tank Farms EU. Geomorphology and extensive ground disturbance further indicates a low potential for the presence of intact archaeological resources associated with all three landscapes to be present within the subsurface of the S-SX Tank Farms EU.

Because none of the S-SX Tank Farms EU has been investigated for archaeological sites and because of the potential for pockets of undisturbed soil to exist within the EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating a remediation activity. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society, Prosser Cemetery Association, the Reach and B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References⁴⁶

Department of Energy. 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Richland, Washington.

Chatters JC and NA Cadoret 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington.**

Parker, P. and T. King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

Prendergast-Kennedy, E. and DW Harvey. 2003. *Cultural Resources Review of Retrieval, Treatment and Disposal of Tank Waste and Closure of Single Shell Tanks (Tank Closure) Environmental Impact Statement (EIS) (HCRC# 2003-200-044)*. Letter to Charlotte Johnson Science Applications International Corporation. Pacific Northwest National Laboratory, Richland, Washington.**

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USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

⁴⁶ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: TX-TY Tank Farms
 ID: CP-TF-3
 Group: Tank Farm
 Operable Unit Cross-Walk: WMA TX/TY
 200-DV-1
 200-WA-1
 Related EU: CP-LS-7
 CP-GW-2
 Sites & Facilities: TX-TY tank farms, ancillary structures, associated liquid waste sites, and soils contamination, includes 242-T Evaporator
 Key Data Sources Docs: RPP-13033
 RPP-23405
 RPP-23752
 RPP-40545
 RPP-PLAN-40145

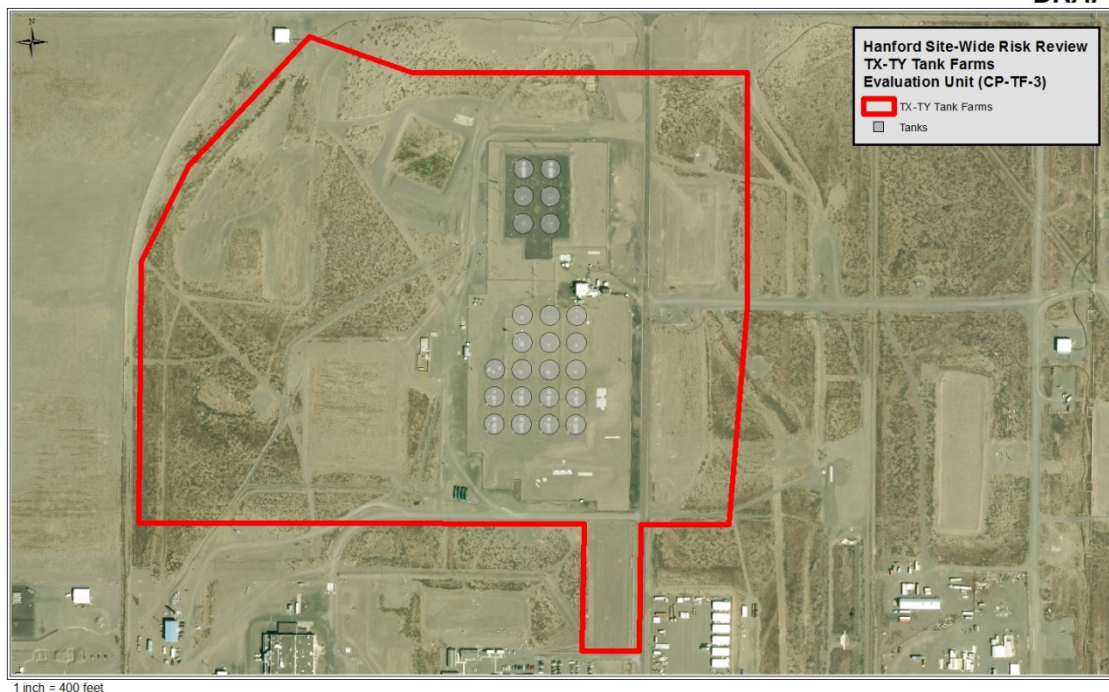
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Figure K.23. Site Map with Evaluation Unit Boundaries and Tank Locations

CP-TF-3: TX-TY Tank Farms

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The TX-TY Tank Farms Sites EU is located within the 200-West Area of the Hanford Site, an area known to have low potential to contain Native American pre-contact and ethnographic archaeological resources and Pre-Hanford Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200*

West Areas, Hanford Site (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/Road corridor which runs through the 200-West Area through the TX-TY Tank Farms EU. A non-contributing/un-intact segment of this historic/ethnohistoric Trail/Road corridor runs through the TX-TY Tank Farms EU. Much of the TX-TY Tank Farms EU has not been inventoried (surface or subsurface) for archaeological resources with the exception of only a very small portion under HCRC#2013-600-010 with negative findings (Mendez et. al. 2013). Closure and remediation of the TX-TY tank farms however, has been addressed in an NHPA Section 106 review completed under HCRC#2003-200-044 (Prendergast-Kennedy and Harvey 2003). Although it is unlikely given the extensive disturbance in the TX-TY Tank Farms EU, there is a possibility that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly if undisturbed soil deposits exist within the TX-TY Tank Farms EU.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁴⁷

- Segment C, a non-contributing portion of a National Register-eligible historic/ethnohistoric Trail/Road, associated with the Pre-Hanford Early Settler/Farming Landscape and the Native American Prehistoric and Ethnographic Landscape, passes through the TX-TY Tank Farms EU.
- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.
- Three National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within the CP-TF-3, TX-TY Tank Farms EU (all 3 are contributing to the Manhattan Project and Cold War Era Historic District, and all three with individual documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these properties.

⁴⁷ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

Table K.X. National Register-eligible Manhattan Project and Cold War Era buildings located within the CP-TF-3, TX-TY Tank Farms EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|---|---|--|------------------------------|
| 241-TX | Waste Disposal Tank Farm (Single Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 241-TY | Waste Disposal Tank Farm (Single Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 242-T | Waste Evaporator | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- One isolated find and one site associated with the Pre-Hanford Farming Landscape and one isolated find associated with the Native American Precontact and Ethnohistoric Landscape are located within 500 meters of the TX-TY Tank Farms EU. None of these items are considered to be eligible to the National Register of Historic Places.
- Fourteen National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the CP-TF-3, TX-TY Tank Farms EU (all 14 are contributing to the Manhattan Project and Cold War Era Historic District, 11 with individual documentation required and 3 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)* (DOE-RL 1998), all documentation requirements have been completed for these properties.

Table K.X. National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-TF-3, TX-TY Tank Farms EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|---|---|--|------------------------------|
| 231-Z | Plutonium Isolation Building/Plutonium Metallurgical Laboratory | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 234-5Z | Plutonium Finishing | A.5 | Contributing Property | ExHPIF |

| Plant | | | Recommended for Individual Documentation | |
|---------|---|-----|--|--------|
| 234-5ZA | 234-5Z South Annex | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 236-Z | Plutonium Reclamation Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 241-T | Waste Disposal Tank Farm (Single Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 242-Z | Waste Treatment Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 2704-Z | Office Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2736-Z | Primary Plutonium Storage Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 2736-ZA | Primary Plutonium Storage Facility | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2736-ZB | Primary Plutonium Storage Support | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 291-Z | Exhaust Stack | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 270-Z | PFP Operations and Support Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2713-WB | Regulated Vehicle Maintenance Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2220-W | Telephone Exchange | A.6 | Contributing Property w/ no additional documentation requirements | |

Closest Recorded TCP

There are two TCPs that have been recorded that are associated with the Native American Precontact and Ethnohistoric Landscape that are visible from the TX-TY Tank Farms EU.

Historic Map and Aerial Photograph Indicators

A review of 1916 historic United States Geological Survey (USGS) topographic maps (USGS 1916) depicts an historic/ethnohistoric Trail/Road running through the TX-TY Tank Farms EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the TX-TY Tank Farms EU were owned by Benton County (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs further confirm the presence of an historic/ethnohistoric Trail/Road. This information indicates a moderate potential for archaeological resources associated with the Native American Precontact and Ethnographic and Pre-Hanford Early Settlers Farming landscape to be present within the TX-TY Tank Farms EU.

Geomorphology Indicators

The geomorphology within the TX-TY Tank Farms EU is all Pleistocene outburst flood deposits suggesting a low potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the subsurface component of the TX-TY Tank Farms EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the TX/TY Tank Farms EU indicates that the EU is heavily disturbed by tank farm construction, buried pipelines, surface grading, roads and waste sites. This disturbance indicates that it is unlikely that intact archaeological resources to be present. It is still possible however, for pockets of undisturbed soils to exist within the TX-TY Tank Farms EU.

Summary of Cultural Resources Review

Much of the TX-TY Tank Farms EU has not been inventoried for archaeological resources with the exception of a very small portion with negative findings. Closure and remediation of the tank farms located within TX/TY Tank Farms EU has been addressed in an NHPA Section 106 review completed under HCRC#2003-200-044 (Prendergast-Kennedy and Harvey 2003). Given the extensive disturbance, it is unlikely but there is a possibility that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly where the undisturbed soil deposits exist within the TX-TY Tank Farms EU.

Cultural resources known to be recorded within the TX/TY Tank Farms EU are limited to 4 Manhattan Project/Cold War Era Landscape National Register-eligible properties with documentation required; three National Register-eligible buildings and one railroad (the Hanford Site Plant Railroad). All have been documented as described in the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56).

| Building # | Building Name |
|-------------------|----------------------|
|-------------------|----------------------|

| | |
|--------|---|
| 241-TX | Waste Disposal Tank Farm (Single Shell) |
| 241-TY | Waste Disposal Tank Farm (Single Shell) |
| 242-T | Waste Evaporator |

Additionally, a non-contributing/ineligible portion of a National Register-eligible historic/ethnohistoric Trail/Road which is associated with both the Native American Precontact and Ethnographic and the Pre-Hanford Early Settlers/Farming Landscapes, passes through the TX-TY Tank Farms EU.

One isolated find and one site associated with the Pre-Hanford Farming Landscape and one isolated find associated with the Native American Precontact and Ethnohistoric Landscape are located within 500 meters of the TX-TY Tank Farms EU. None of these items are considered to be eligible to the National Register of Historic Places. Additionally, 14 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the CP-TF-3, TX-TY Tank Farms EU (all 14 are contributing to the Manhattan Project and Cold War Era Historic District, 11 with individual documentation required and 3 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)* (DOE-RL 1998), all documentation requirements have been completed for these properties.

Historic maps reveal that an historic/ethnohistoric/Trail Road ran through the TX-TY Tank Farms EU suggesting a high potential for the presence of archaeological resources associated with transportation and travel through the area from both the Native American and Pre-Hanford Farming Landscapes. Given the extensive ground disturbance within the entire EU and the geomorphology in the area however, overall it is unlikely that intact archaeological resources are present on the surface or in the subsurface within the TX-TY Tank Farms EU.

Because of the potential for pockets of undisturbed soil to exist within the EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating a remediation activity. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References⁴⁸

⁴⁸ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

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Chatters JC and NA Cadoret 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington.**

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Prendergast-Kennedy, E. and DW Harvey. 2003. *Cultural Resources Review of Retrieval, Treatment and Disposal of Tank Waste and Closure of Single Shell Tanks (Tank Closure) Environmental Impact Statement (EIS)* (HCRC# 2003-200-044). Letter to Charlotte Johnson Science Applications International Corporation. Pacific Northwest National Laboratory, Richland, Washington.**

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

Evaluation Unit: U Tank Farm
 ID: CP-TF-4
 Group: Tank Farm
 Operable Unit Cross-Walk: WMA U
 200-WA-1
 Related EU: CP-LS-7
 CP-GW-2
 Sites & Facilities: U tank farm, ancillary structures, associated liquid waste sites,
 and soils contamination
 Key Data Sources Docs: RPP-13033
 RPP-23405
 RPP-40545
 RPP-PLAN-40145
 RPP-10435

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Figure K.24. Site Map with Evaluation Unit Boundaries and Tank Locations

CP-TF-4: U Tank Farm

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The U Tank Farms EU is located within the 200-West Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this archaeological survey

was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric Road/Trail corridor which runs through the 200-West Area located over in the vicinity of the U Tank Farms. None of the U Tank Farms EU has been inventoried for archaeological resources. Closure and remediation of the tank farms located within the U Tank Farms EU has been addressed in an NHPA Section 106 review completed under HCRC#2003-200-044 (Prendergast-Kennedy and Harvey 2003). Although it is unlikely given the extensive disturbance within the U Tank Farms EU, there is a possibility that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly if undisturbed soil deposits exist within U Tank Farms EU.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁴⁹

- There are no known recorded archaeological sites or TCPs located within the U Tank Farms EU.
- The 244-UR Waste Disposal Vault, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within the U Tank Farms EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500 meters of the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.
- Thirteen National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the U Tank Farm EU (all 13 are contributing within the Manhattan Project and Cold War Era Historic District, 8 recommended for individual documentation, and 5 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these properties.

⁴⁹ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

Table K.X. National Register-eligible Manhattan Project and Cold War Era buildings located within 500-meters of the CP-TF-4, U Tank Farm EU.

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|------------------------------------|--|---|-------------------------------------|
| 234-5Z | Plutonium Finishing Plant | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 234-5ZA | 234-5Z South Annex | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 236-Z | Plutonium Reclamation Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 242-Z | Waste Treatment Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 291-Z | Air Filter and Exhaust Stack | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2736-Z | Primary Plutonium Storage Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 2736-ZA | Primary Plutonium Storage Annex | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2736-ZB | Primary Plutonium Storage Support | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 242-S | Evaporator Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 272-S | Maintenance Shop | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2220-W | Telephone Exchange | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2727-W | Sodium Storage Building | A.6 | Contributing Property w/ no additional | |

| | | | |
|---------|-------------------------|-----|---|
| | | | documentation requirements |
| 2727-WA | Sodium Storage Building | A.6 | Contributing Property w/ no additional documentation requirements |

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the U Tank Farms EU.

Historic Map and Aerial Photograph Indicators

A review of 1916 historic United States Geological Survey (USGS) maps depicts no structures, roads, or any other indication of historic settlement. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the U Tank Farms EU were owned by the U.S. Government in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs further confirm the absence of the historic settlement in the area. This information indicates a low potential for archaeological resources associated with the Native American Precontact and Ethnographic and Pre-Hanford Early Settlers/Farming landscape to be present within U Tank Farms EU.

Geomorphology Indicators

The geomorphology within the U Tank Farms EU is all Pleistocene outburst flood deposits suggesting a low potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the subsurface component of the U Tank Farms EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that the EU is heavily disturbed by tank farm construction, buried pipelines, surface grading, roads and waste sites. There are some areas that appear to be only surface graded. This disturbance indicates that there is a very low potential for intact archaeological resources to be present. It is still possible however, for pockets of undisturbed soils to exist within the U Tank Farms EU.

Summary of Cultural Resources Review

None of the U Tank Farms EU has been inventoried for archaeological resources. Closure and remediation of the tank farms located within the 200-West DSTs has been addressed in one previous NHPA Section 106 review (Prendergast-Kennedy and Harvey 2003). There is a possibility that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly if undisturbed soil deposits exist within U Tank Farms EU.

Cultural resources that are located within the U Tank Farms EU are limited to the National Register-eligible 244-UR, Waste Disposal Vault, a contributing property within the Manhattan Project and Cold War Era, with documentation required. All documentation has been addressed as described in the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56).

Thirteen National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the U Tank Farm EU (all 13 are contributing within the Manhattan Project and Cold War Era Historic District, 8 recommended for individual documentation, and 5 with no additional documentation required). Additionally, portions of the Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required is located in the vicinity of the U-Tanks Farms Evaluation Unit. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these properties.

Historic maps and aerial photographs indicate that there is no evidence of historic settlement in the U Tank Farms EU. Geomorphology and extensive ground disturbance further indicates a low potential for the presence of intact archaeological sites associated with all three landscapes within the subsurface within the U Tank Farms EU.

Because none of the U Tank Farms EU has been investigated for archaeological sites and because of the potential for pockets of undisturbed soil to exist within the EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating a remediation activity. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society, Prosser Cemetery Association, the Reach and B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References⁵⁰

Department of Energy. 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Richland, Washington.

Chatters JC and NA Cadoret 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington.**

Parker, P. and T. King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

⁵⁰ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Prendergast-Kennedy, E. and DW Harvey. 2003. *Cultural Resources Review of Retrieval, Treatment and Disposal of Tank Waste and Closure of Single Shell Tanks (Tank Closure) Environmental Impact Statement (EIS) (HCRC# 2003-200-044)*. Letter to Charlotte Johnson Science Applications International Corporation. Pacific Northwest National Laboratory, Richland, Washington.**

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA .

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

Evaluation Unit: A-AX Tank Farms
 ID: CP-TF-5
 Group: Tank Farm
 Operable Unit Cross-Walk: WMA A/AX
 200-EA-1
 200-PW-3
 Related EU: CP-LS-7
 CP-TF-8
 CP-GW-1
 Sites & Facilities: A-AX tank farm, ancillary structures, associated liquid waste sites,
 and soils contamination
 Key Data Sources Docs: RPP-13033
 RPP-23405
 RPP-40545
 RPP-PLAN-40145
 RPP-10435

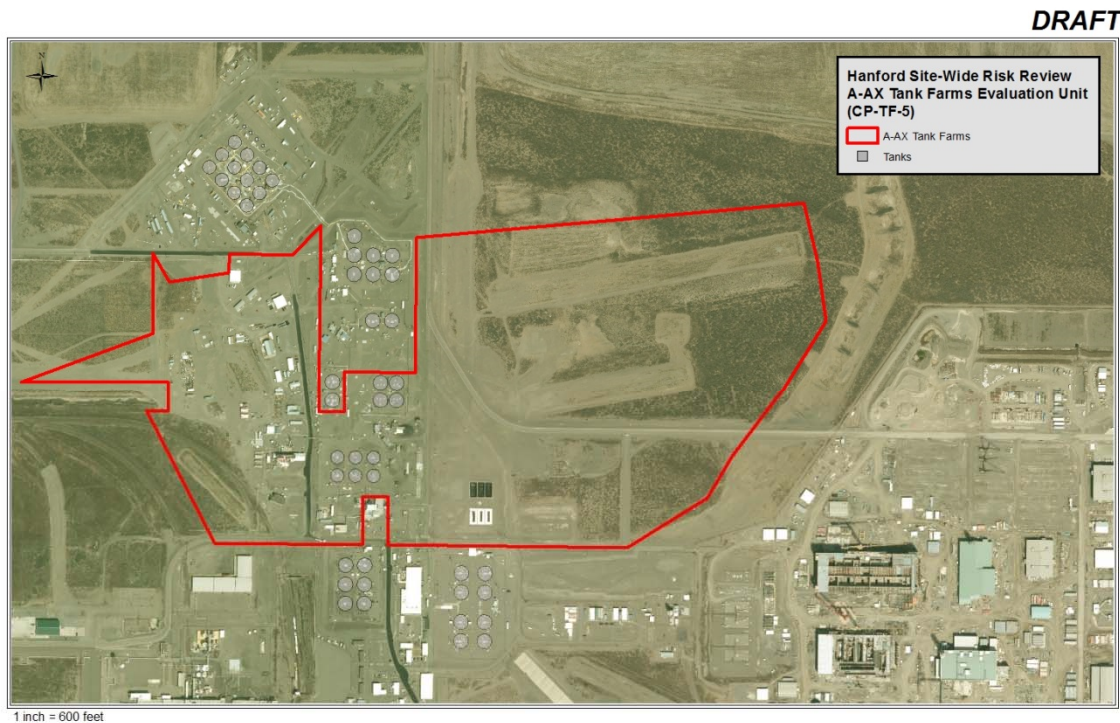


Figure K.25. Site Map with Evaluation Unit Boundaries and Tank Locations

CP-TF-5: A-AX Tank Farms

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The A-AX Tank Farms EU is located within the 200-East Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early/Settlers Farming archaeological resources. Much of the 200

Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area located over 5 kilometers from the A-AX Tank Farms EU.

Portions of the A-AX Tank Farms Evaluation Unit has been inventoried for cultural resources under HRC# 87-200-002 (Chatters, 1987), HCRC# 96-200-109 (Cadoret and Nickens 1996), 2003-200-044 (Prendergast-Kennedy and Harvey 2003), HCRC# 88-200-015 (Hoover and Chatters 1988) and HCRC# 2008-200-017 (Kennedy 2008). No archaeological sites were located by these surveys. There is a possibility that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly if undisturbed soil deposits exist within the A-AX Tank Farms EU. Closure and remediation of the tank farms located within the A-AX Tank Farms EU has been addressed in an NHPA Section 106 review completed under HCRC#2003-200-044 (Prendergast-Kennedy and Harvey 2003).

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁵¹

- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.
- There are no archaeological sites or TCPs known to be located within the A-AX Tank Farms Evaluation Unit.
- Three National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within the A-AX Tank Farms EU (all 3 are contributing within the Manhattan Project and Cold War Era Historic District, 1 with individual documentation required, and 2 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these properties.

⁵¹Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

Table K.X. National Register-eligible Manhattan Project and Cold War Era buildings located within the CP-TF-5, A-AX Tank Farms EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|--|--|---|-------------------------------------|
| 2707-AR | Change House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 242-A/AB | Evaporator Building/Evaporator Control | A.6 | Contributing Property w/ no additional documentation requirements | |
| 244-AR | Sludge Storage Vault | A.6 | Contributing Property w/ no additional documentation requirements | |

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- Eleven National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the A-AX Tank Farms EU (all 11 are contributing within the Manhattan Project and Cold War Era Historic District, 6 with individual documentation required, and 5 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)* (DOE-RL 1998), all documentation requirements have been completed for these properties.

Table K.X. National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-TF-5, A-AX Tank Farms EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|---|--|--|-------------------------------------|
| 202-A | Plutonium-Uranium Extraction Facility (PUREX) | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 209-E | Critical Mass Laboratory | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 241-AW | Waste Storage Tank | A.5 | Contributing Property | HPIF |

| Farm (Double Shell) | | | Recommended for Individual Documentation |
|---------------------|-----------------------------------|-----|---|
| 2701-AB | PUREX Badge House | A.5 | Contributing Property Recommended for Individual Documentation |
| 293-A | Dissolver Off-Gas Building | A.5 | Contributing Property Recommended for Individual Documentation |
| 294-A | Exhaust Air Filter Building | A.5 | Contributing Property Recommended for Individual Documentation |
| 212-A | Fission Product Loadout Station | A.6 | Contributing Property w/ no additional documentation requirements |
| 215-C | Gas Preparation Building | A.6 | Contributing Property w/ no additional documentation requirements |
| 271-CR | Aqueous Make-up and Control House | A.6 | Contributing Property w/ no additional documentation requirements |
| 275-EA | Carpenter Shop Storage Building | A.6 | Contributing Property w/ no additional documentation requirements |
| 291-A | PUREX Exhaust Stack | A.6 | Contributing Property w/ no additional documentation requirements |

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the A-AX Tank Farms EU.

Historic Map and Aerial Photograph Indicators

A review of 1916 historic United States Geological Survey (USGS) topographic maps (USGS 1916) depicts no structures, roads, or any other indication of historic settlement. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the A-AX Tank Farms EU were owned by the U.S. Government and Benton County in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for

the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs further confirm the absence of the historic settlement in the area. This information indicates a low potential for archaeological resources associated with the Native American Precontact and Ethnographic to be present within the A-AX Tank Farms EU.

Geomorphology Indicators

The geomorphology within the A-AX Tank Farms EU is comprised mostly of Pleistocene outburst flood deposits suggesting a low potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape within the subsurface component of the A-AX Tank Farms EU. There is a large pocket of Holocene Dune sand along the eastern edge of the A-AX Tank Farms EU indicating there is a higher potential for archaeological resources to be present within these deposits.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that most of the A-AX Tank Farms EU is heavily disturbed by tank farm construction, buried pipelines, surface grading, roads and waste sites. This disturbance indicates that there is a very low potential for intact archaeological resources to be present in these areas. However the area to the east appears to have had only surface disturbance. Because this correlates with the Holocene deposits, the potential of archaeological resources to be present where these areas of surface disturbance overlap with the Holocene deposits exists. It is still possible also, but unlikely for additional pockets of undisturbed soils to exist within the more disturbed areas in the A-AX Tank Farms EU.

Summary of Cultural Resources Review

Portions of the A-AX Tank Farms Evaluation Unit have been inventoried for archaeological resources. No archaeological sites were located by these surveys. There is a possibility that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly where pockets of undisturbed soil deposits exist within the A-AX Tank Farms EU. Closure and remediation of the tank farms located within the A-AX Tank Farms EU has been addressed in an NHPA Section 106 review completed under HCRC#2003-200-044 (Prendergast-Kennedy and Harvey 2003).

Cultural resources known to be located within the A-AX Tank Farms EU are limited to portions of the National Register-eligible Hanford Site Plant Railroad and three National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within the A-AX Tank Farms EU (all 3 are contributing within the Manhattan Project and Cold War Era Historic District, 1 with individual documentation required, and 2 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these properties.

| Building # | Building Name |
|------------|--|
| 2707-AR | Change House |
| 242-A/AB | Evaporator Building/Evaporator Control |

| | |
|--------|----------------------|
| 244-AR | Sludge Storage Vault |
|--------|----------------------|

Eleven National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the A-AX Tank Farms EU (all 11 are contributing within the Manhattan Project and Cold War Era Historic District, 6 with individual documentation required, and 5 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these properties.

Historic maps and aerial photographs indicate that there is no evidence of historic-era settlement in or near the A-AX Tank Farms EU. The eastern most portion of the A-AX Tank Farms EU where Holocene deposits overlap with areas that have only surface disturbance present a moderate potential for the presence of intact archaeological resources associated with all three landscapes to be present subsurface within these areas within A-AX Tank Farms EU. Geomorphology throughout the rest of the A-AX Tank Farms EU and extensive ground disturbance suggest a low potential for the presence of intact archaeological subsurface within these areas within the A-AX Tank Farms EU.

Because pockets of undisturbed soil may exist throughout portions of the EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating a remediation activity. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society, Prosser Cemetery Association, the Reach and B-Reactor Museum) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References⁵²

Cadoret, NA and PR Nickens. 1996. *Cultural Resources Review of the TWRS Privatization Phase I Site Development Project HCRC #96-200-109*. Letter to Mr. P.C. Miller, Westinghouse. Pacific Northwest National Laboratory, Richland, Washington.**

Chatters JC. 1987. *Cultural Resources Project: Report of Cultural Resources Site Review 87-200-002*.

Near-Surface Disposal Site. Pacific Northwest National Laboratory, Richland, Washington.**

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⁵² **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Department of Energy. 1998. Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56). Richland, Washington.**

Hoover, KA and JC Chatters. 1988. *Cultural Resources Review of the Proposed 216-A -8 Crib Topsoil Borrow Pit HCRC# 88-200-015*. Letter to Mr. D.B. Herb, Westinghouse. Pacific Northwest National Laboratory, Richland, Washington.**

Kennedy, EP. 2008. *Cultural Resources Review and Inventory for Interim Pretreatment System Facility to Support Treatment of Hanford Tank Waste and the Waste Treatment Plant. 200 East Area of the Hanford Site (HCRC#2008-200-017)*. Pacific Northwest National Laboratory. Richland, Washington.**

Parker, P. and T. King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

Prendergast-Kennedy, E. and DW Harvey. 2003. *Cultural Resources Review of Retrieval, Treatment and Disposal of Tank Waste and Closure of Single Shell Tanks (Tank Closure) Environmental Impact Statement (EIS) (HCRC# 2003-200-044)*. Letter to Charlotte Johnson Science Applications International Corporation. Pacific Northwest National Laboratory, Richland, Washington.**

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

| | |
|---------------------------|--|
| Evaluation Unit: | B-BX-BY Tank Farms |
| ID: | CP-TF-6 |
| Group: | Tank Farm |
| Operable Unit Cross-Walk: | WMA B/BX/BY 200-DV-1 200-EA-1 |
| Related EU: | CP-LS-7 CP-GW-1 |
| Sites & Facilities: | B-BX-BY tank farms, ancillary structures, associated liquid waste sites, and associated soils contamination. |
| Key Data Sources Docs: | RPP-13033 RPP-23405 RPP-40545 RPP-PLAN-40145 RPP-10435 |

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Figure K.26. Site Map with Evaluation Unit Boundaries and Tank Locations

CP-TF-6: B-BX-BY Tank Farms

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The B-BX-BY Tank Farms EU is located in the north central part of the 200-East Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of*

the 200 East and 200 West Areas, Hanford Site (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric Trail/Road corridor which runs through the 200-West Area located over 5km from the 200-East Area

None of the B-BX-BY Tank Farms EU has been inventoried for archaeological resources (surface or subsurface). Closure and remediation of the tank farms located within the B-BX-BY Tank Farms EU has been addressed in an NHPA Section 106 review completed under HCRC#2003-200-044 (Prendergast-Kennedy and Harvey 2003). There is a possibility that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly if undisturbed soil deposits exist within the B-BX-BY Tank Farms EU.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁵³

- There are no known recorded archaeological sites or TCPs located within the EU.
- The 242-B Building, Radioactive Particle Research Laboratory, a National Register-eligible Manhattan Project and Cold War Era building is located within the CP-TF-6, B-BX-BY Tank Farm EU. This building is a contributing property within the Manhattan Project and Cold War Era Historic District, with no documentation required. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for this property.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- Two isolated finds and one small site which may be associated with the Pre-Hanford Landscape are located within 500 meters of the B-BX-BY Tank Farms EU. All three have been evaluated and determined not eligible for listing in the National Register of Historic Places.
- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500 meters of the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.

Closest Recorded TCP

⁵³ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the BX-BY Tank Farms EU.

Historic Map and Aerial Photograph Indicators

A review of 1916 United States Geological Survey (USGS) topographic maps (USGS 1916) shows no indications of historic land use such as roads or buildings within the B-BX-BY Tank Farms EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the B-BX-BY Tank Farms EU were owned by the United States and the Northern Pacific Railroad Company in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943)(U.S. War Department 1943). 1943 aerials further confirm a lack of land use or development in this area. This information further suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming landscape to be present within the BX-BY Tank Farms EU

Geomorphology Indicators

The geomorphology within the BX-BY Tank Farms EU consists of Pleistocene outburst flood deposits suggesting a low potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within undisturbed portions of the subsurface component of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the BX-BY Tank Farms EU depicts tank farms, buildings, roads as well as grubbed and cleared areas. It is also known that the BX-BY Tank Farms EU contains buried pipelines, sewer lines, tanks and miscellaneous waste sites. This extensive disturbance to both surface and subsurface soils suggests low potential for intact archaeological resources to be present within the BX-BY Tank Farms EU. It is still possible however, for pockets of undisturbed soils to exist within the BX-BY Tank Farms EU particularly to the west where the ground appears have been minimally disturbed.

Summary of Cultural Resources Review

None of the BX-BY Tank Farms EU has been inventoried for archaeological resources and closure and remediation of the tank farms located within the B-BX-BY Tank Farms EU has been addressed in a previously completed NHPA Section 106 review (Prendergast-Kennedy and Harvey 2003). There is a possibility that intact archaeological material is present in the BX-BY Tank Farms EU because it has not have not been inventoried for archaeological resources (both on the surface and in the subsurface) and particularly where undisturbed soil deposits exist within the BX-BY Tank Farms EU to the west. Within the other extensively disturbed areas, this is unlikely.

Cultural resources known to be recorded within the BX-BY Tank Farms EU are limited to the National Register-eligible 242-B Building, Radioactive Particle Research Laboratory, associated with the Manhattan Project/Cold War Era Historic District, with no documentation required. All National-Register-eligible Manhattan Project and Cold War Era buildings been documented as

described in the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56).

The closest recorded archaeological site, located within 500 meters of the BX-BY Tank Farms EU consists of two historic-era isolated finds and one historic-era sites likely associated with the Pre-Hanford Early Settlers/Farming Landscape. These resources have been evaluated and determined not eligible for listing in the National Register of Historic Places. Additionally, the Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required is located within 500 meters of the B-BX-BY Tank Farms EU. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for these properties

Geomorphology, ground disturbance, historic maps and aerials, and the lack of cultural resources located within and in the vicinity of BX-BY Tank Farms EU all suggest that the potential for archaeological resources associated with all three landscapes to be present on the surface or within the subsurface within the EU is very low.

Because none of the BX-BY Tank Farms EU has been investigated for archaeological sites and because of the potential for pockets of undisturbed soil to exist within the EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating a remediation activity. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society, Prosser Cemetery Association, the Reach and B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References⁵⁴

Department of Energy. 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Richland, Washington.

Chatters JC and NA Cadoret 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington.**

Parker, P. and T. King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

Prendergast-Kennedy, E. and DW Harvey. 2003. *Cultural Resources Review of Retrieval, Treatment and Disposal of Tank Waste and Closure of Single Shell Tanks (Tank Closure) Environmental Impact Statement (EIS) (HCRC# 2003-200-044)*. Letter to Charlotte Johnson

⁵⁴ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Science Applications International Corporation. Pacific Northwest National Laboratory, Richland, Washington.**

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

Evaluation Unit: C Tank Farm
 ID: CP-TF-7
 Group: Tank Farm
 Operable Unit Cross-Walk: WMA C
 Related EU: CP-LS-7
 CP-GW-1
 Sites & Facilities: C tank farm, ancillary structures, associated liquid waste sites, and soils contamination
 Key Data Sources Docs: RPP-13033
 RPP-23405
 RPP-40545
 RPP-PLAN-40145
 RPP-10435

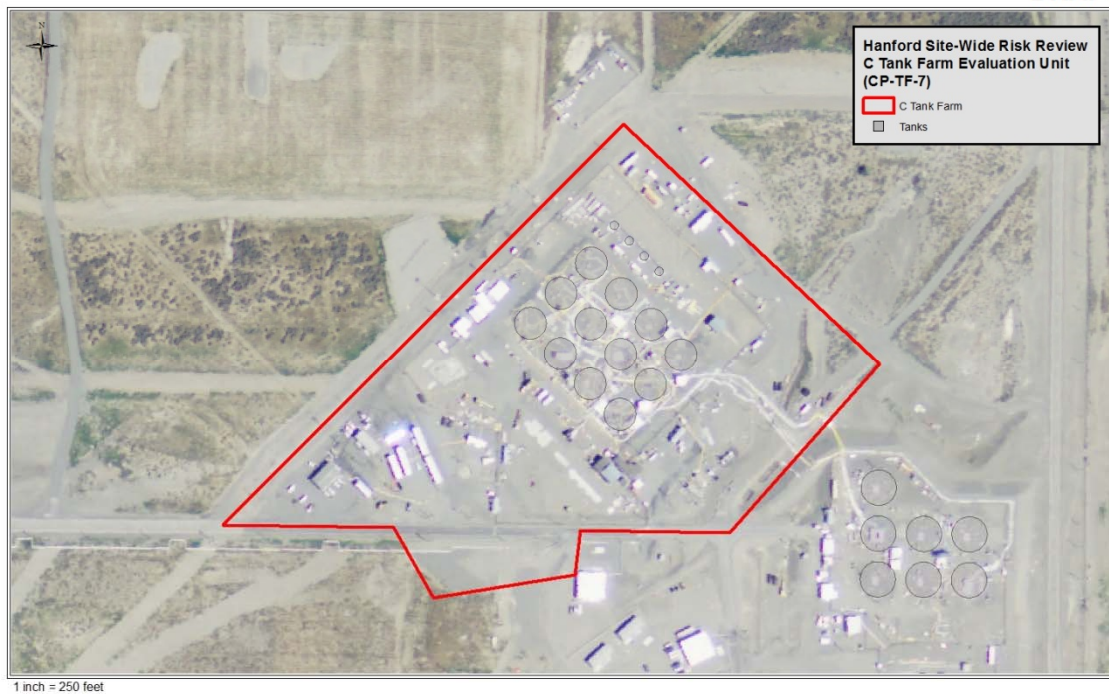
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Figure K.27. Site Map with Evaluation Unit Boundaries and Tank Locations

CP-TF-7: C Tank Farm

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The C Tank Farm EU is located within the 200-East Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report

concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area located over 5 kilometers from the C Tank Farm EU.

None of the C Tank Farm EU has been inventoried for archaeological resources. Closure and remediation of the tank farms located within the C Tank Farm EU has been addressed in an NHPA Section 106 review completed under HCRC#2003-200-044 (Prendergast-Kennedy and Harvey 2003). Given the extensive ground disturbance in the C Tank Farm EU, it is unlikely but there is a possibility that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly if undisturbed soil deposits exist within the C Tank Farm EU.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁵⁵

- The 271-CR, Service and Office Building, a National Register-eligible Manhattan Project and Cold War Era Building is located within the CP-TF-7, C Tank Farm EU. This building is a contributing property within the Manhattan Project/Cold War Era Historic District with no documentation required. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for this property.
- There are no archaeological sites or TCPs known to be located or recorded within the C Tank Farm EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- An isolated find associated with the Native American Precontact and Ethnographic Landscape consisting has been located within close proximity to the C-Tank Farm Evaluation Unit.
- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500 meters of the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.
- Six National Register-eligible Manhattan Project and Cold War Era buildings are located within 500 meters of the CP-TF-7, C Tank Farm EU (all 6 are contributing within the Manhattan Project and Cold War Era Historic District, 2 with individual documentation required and 4 with no additional documentation required). In accordance with the

⁵⁵ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for these properties.

Table K.X. National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-TF-7, C Tank Farm EU.

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|--|--|---|-------------------------------------|
| 209-E | Critical Mass Laboratory | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 2707-AR | Change House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 215-C | Gas Preparation Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 242-A/AB | Evaporator Building/Evaporator Control | A.6 | Contributing Property w/ no additional documentation requirements | |
| 244-AR | Sludge Storage Vault | A.6 | Contributing Property w/ no additional documentation requirements | |
| 275-EA | Carpenter Shop Storage Building | A.6 | Contributing Property w/ no additional documentation requirements | |

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the BX-BY Tank Farms EU.

Historic Map and Aerial Photograph Indicators

A review of 1916 historic United States Geological Survey (USGS) topographic maps (USGS 1916) depicts no structures, roads, or any other indication of historic settlement within the C-Tank Farms EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate

maps state that the lands contained within the C-Tank Farms EU were owned by the U.S. Government in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs further confirm the absence of the historic settlement in the area. This information indicates a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming landscape to be present within the C-Tank Farms EU.

Geomorphology Indicators

The geomorphology within the C-Tank Farms EU is all Pleistocene outburst flood deposits suggesting a low potential for archaeological resources to be present within the subsurface component of the C Tank Farm EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that the EU is heavily disturbed by tank farm construction, buried pipelines, surface grading, roads and waste sites. This disturbance indicates that there is a very low potential for intact archaeological resources to be present. It is still possible however, although unlikely, for pockets of undisturbed soils to exist within the C Tank Farm EU.

Summary of Cultural Resources Review

None of the C Tank Farm EU has been inventoried for archaeological resources. Closure and remediation of the tank farms located within the C Tank Farm EU has been addressed in a previously completed NHPA Section 106 review (Prendergast-Kennedy and Harvey 2003). Given the extensive ground disturbance within the C- Tank Farm EU, it is unlikely but there is a possibility that intact archaeological material is present in the C Tank Farms EU because it has not have not been inventoried for archaeological resources (both on the surface and in the subsurface) and particularly if undisturbed soil deposits exist within the C Tank Farms EU.

Cultural resources known to be located within the C Tank Farms EU are limited to the 271-CR, Service and Office Building, a National Register-eligible building and contributing property within the Manhattan Project/Cold War Era Historic District, with no documentation required. All documentation has been addressed as described in the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE RL-97-56).

The Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within 500 meters of the C-Tank Farms EU. In addition, 6 National Register-eligible Manhattan Project and Cold War Era buildings are located within 500 meters of the CP-TF-7, C Tank Farm EU (all 6 are contributing within the Manhattan Project and Cold War Era Historic District, 2 with individual documentation required and 4 with no additional documentation required). All Manhattan Project and Cold War Era properties have been documented as described in the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Additionally one isolated find associated with the Native American Precontact and

Ethnographic Landscape has been located within 500 meters of the C Tank Farms EU. This isolated find is not considered to be eligible for the National Register of Historic Places.

Historic maps and aerial photographs indicate that there is no evidence of historic settlement in or near the C Tank Farms EU. Geomorphology and extensive ground disturbance further indicates a low potential for the presence of intact archaeological resources associated with all three landscapes to be present subsurface within the C Tank Farms EU.

Because none of the C Tank Farms EU has been investigated for archaeological sites and because of the potential (but unlikely) for pockets of undisturbed soil to exist, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating a remediation activity. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society, Prosser Cemetery Association, the Reach and B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References⁵⁶

Department of Energy. 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Richland, Washington.

Chatters JC and NA Cadoret 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington.**

Parker, P. and T. King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

Prendergast-Kennedy, E. and DW Harvey. 2003. *Cultural Resources Review of Retrieval, Treatment and Disposal of Tank Waste and Closure of Single Shell Tanks (Tank Closure) Environmental Impact Statement (EIS) (HCRC# 2003-200-044)*. Letter to Charlotte Johnson Science Applications International Corporation. Pacific Northwest National Laboratory, Richland, Washington.**

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

⁵⁶ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

| | |
|---------------------------|---|
| Evaluation Unit: | 200-East DSTs |
| ID: | CP-TF-8 |
| Group: | Tank Farm |
| Operable Unit Cross-Walk: | NA |
| Related EU: | CP-LS-7 CP-TF-5 |
| Sites & Facilities: | AN, AP, AW, AY, AZ tank farms, ancillary structures, associated liquid waste sites, and soils contamination |
| Key Data Sources Docs: | RPP-13033 RPP-23405 |

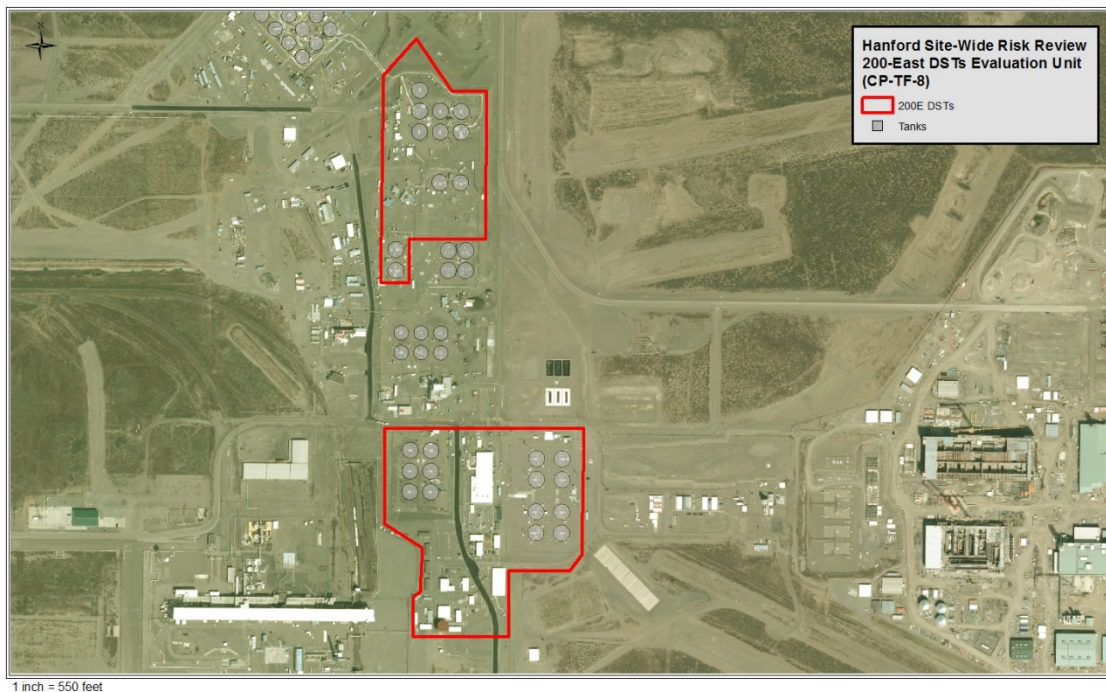
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Figure K.28. Site Map with Evaluation Unit Boundaries and Tank Locations

CP-TF-8: 200-East Double Shell Tanks

Cultural Resource Reviews, Inventories and Potential for Cultural Resources

The 200-East Double Shell Tanks EU is located within the 200-East Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area located over 5

kilometers from the 200-East DSTs EU. A very small portion of the 200-East DSTs EU has been inventoried for archaeological resources under HCRC# 87-200-002 (Chatters 1987).

Closure and remediation of the tank farms located within the 200-East Double Shell Tanks EU has been addressed in an NHPA Section 106 review completed under HCRC#2003-200-044 (Prendergast-Kennedy and Harvey 2003). Given the extensive disturbance within the 200-East Double Shell Tanks EU, it is unlikely, but there is a possibility that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly if undisturbed soil deposits exist within the 200-East DSTs EU.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁵⁷

- The 241-AW, Underground Liquid Waste Tanks Farm, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within the 200-East Double Shell Tanks EU. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for these properties.
- There are no archaeological sites or TCPs known to be located within the 200-East Double Shell Tanks EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- An isolated find associated with the Native American Precontact and Ethnographic Landscape has been located within 500 meters of the 200-East Double Shell Tanks EU.
- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500 meters of the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.
- Eleven National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the EU (all 11 are contributing within the Manhattan Project and Cold War Era Historic District, 5 with individual documentation required and 6 with no additional documentation required). In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for these properties.

⁵⁷ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

Table K.X. National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-TF-8, 200-East Double Shell Tanks EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|---|--|---|-------------------------------------|
| 202-A | Plutonium-Uranium Extraction Facility (PUREX) | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 293-A | Dissolver Off-Gas Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 294-A | Exhaust Air Filter Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2701-AB | PUREX Badge House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2707-AR | Change House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 212-A | Fission Product Loadout Station | A.6 | Contributing Property w/ no additional documentation requirements | |
| 242-A/AB | Evaporator Building/Evaporator Control | A.6 | Contributing Property w/ no additional documentation requirements | |
| 244-AR | Sludge Storage Vault | A.6 | Contributing Property w/ no additional documentation requirements | |
| 271-CR | Aqueous Make-up and Control House | A.6 | Contributing Property w/ no additional documentation requirements | |
| 275-EA | Carpenter Shop Storage Building | A.6 | Contributing Property w/ no additional | |

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|----------------------|--|---|-------------------------------------|
| 291-A | PUREX Exhaust Stack | A.6 | Contributing Property w/ no additional documentation requirements | documentation requirements |

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from 200-East DST EU.

Historic Map and Aerial Photograph Indicators

A review of 1916 historic United States Geological Survey (USGS) topographic maps (USGS 1916) depicts no structures, roads, or any other indication of historic settlement within the 200-East Double Shell Tanks EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the 200-East Double Shell Tanks EU were owned by the U.S. Government and Benton County in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs further confirm the absence of the historic settlement in the area. This information suggests a low potential for archaeological resources associated with Pre-Hanford Early Settlers/Farming landscape to be present within the 200-East Double Shell Tanks EU.

Geomorphology Indicators

The geomorphology within the 200-East Double Shell Tanks EU is comprised mostly of Pleistocene outburst flood deposits suggesting a low potential for Native American Precontact and Ethnographic associated archaeological resources to be present within the subsurface component of the 200-East Double Shell Tanks EU. There is a small pocket of Holocene Dune sand along the southeastern corner of the southern-most 200-East Double Shell Tanks EU indicating there is a higher potential for archaeological resources to be present within the subsurface component in the southeastern portion of the southern-most 200-East Double Shell Tanks EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that the EU is heavily disturbed by tank farm construction, buried pipelines, surface grading, roads and waste sites. This disturbance indicates that there is a very low potential for intact archaeological resources to be present.

Summary of Cultural Resources Review

None of the 200-East Double Shell Tanks EU has been inventoried for archaeological resources with the exception of a very small portion. No archeological resources were located by this inventory in the 200-East Double Shell Tanks EU. There is a possibility, but unlikely given the extensive disturbance in the 200-East Double Shell Tanks EU, that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly if undisturbed soil deposits exist within the 200-East Double Shell Tanks EU. Closure and remediation of the tank farms located within the 200-East DST EU has been addressed in a previously completed NHPA Section 106 review (Prendergast-Kennedy and Harvey 2003).

Cultural resources known to be located within the 200-East Double Shell Tanks EU are limited to the 241-AW, Underground Liquid Waste Tank Farm, a National Register-eligible building and contributing property within the Manhattan Project/Cold War Era Historic District, with no documentation required. All documentation has been addressed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE RL-97-56).

An isolated find associated with the Native American Precontact and Ethnographic Landscape has been located within 500 meters of the 200-East Double Shell Tanks EU. The Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District is located within 500 meters of the 200-East Double Shell Tanks EU. In addition, 11 National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the EU (all 11 are contributing within the Manhattan Project and Cold War Era Historic District, 5 with individual documentation required and 6 with no additional documentation required). In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for these Manhattan Project/Cold War Era properties.

Historic maps and aerial photographs indicate that there is no evidence of historic settlement in or near the 200-East Double Shell Tanks EU. Geomorphology throughout most of the EU (with the exception of the eastern portion of the southern-most area of the EU) and extensive ground disturbance further suggest a low potential for intact archaeological resources associated with all three landscapes to be present subsurface within the 200-East Double Shell Tanks EU.

Because pockets of undisturbed soil may exist within the EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating a remediation activity. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society, Prosser Cemetery Association, the Reach, and B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References⁵⁸

Department of Energy. 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Richland, Washington.

Chatters, JC. 1987. *Cultural Resources Survey of the Proposed Near-Surface Disposal Site at Hanford, Washington HCRC# 87-200-002*. Pacific Northwest Laboratory. Richland, Washington.**

Chatters JC and NA Cadoret 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington.**

Parker, P. and T. King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

Prendergast-Kennedy, E. and DW Harvey. 2003. *Cultural Resources Review of Retrieval, Treatment and Disposal of Tank Waste and Closure of Single Shell Tanks (Tank Closure) Environmental Impact Statement (EIS) (HCRC# 2003-200-044)*. Letter to Charlotte Johnson Science Applications International Corporation. Pacific Northwest National Laboratory, Richland, Washington.**

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

⁵⁸ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

| | |
|---------------------------|---|
| Evaluation Unit: | 200-West DSTs |
| ID: | CP-TF-9 |
| Group: | Tank Farm |
| Operable Unit Cross-Walk: | WMA S/SX |
| Related EU: | CP-LS-7 CP-TF-2 |
| Sites & Facilities: | SY tank farm, ancillary structures, associated liquid waste sites, and soils contamination |
| Key Data Sources Docs: | RPP-13033 RPP-23405 |

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Figure K.29. Site Map with Evaluation Unit Boundaries and Tank Locations

CP-TF-9: 200-West Double Shell Tanks

Cultural Resource Reviews, Inventories and Potential for Cultural Resources

The 200-West Double Shell Tanks EU is located within the 200-West Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic and Pre-Hanford Early Settlers/Farming archaeological resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of than historic/ethnohistoric

Trail/Rad corridor which runs through the 200-West Area located over 1 kilometer from the 200-West Double Shell Tanks EU.

None of the 200-West Double Shell Tanks EU has been inventoried for archaeological resources. Given the extensive disturbance in the 200-West Double Shell Tanks EU, it is unlikely but there is a possibility that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly if undisturbed soil deposits exist within the 200-West Double Shell Tanks EU. Closure and remediation of the tank farms located within the 200-West Double Shell Tanks has been addressed in an NHPA Section 106 review completed under HCRC#2003-200-044 (Prendergast-Kennedy and Harvey 2003).

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁵⁹

- There are no cultural resources known to be located within the 200-West Double Shell Tanks EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500 meters of the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.
- Three National Register-eligible Manhattan Project and Cold War Era buildings are located within 500 meters of the EU (all 3 are contributing within the Manhattan Project and Cold War Era Historic District with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these properties.

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the 200-West Double Shell Tanks EU.

Historic Map and Aerial Photograph Indicators

A review of 1916 historic United States Geological Survey (USGS) topographic maps (USGS 1916) depicts no structures, roads, or any other indication of historic settlement within the 200-West Double Shell Tanks EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the EU were owned by the U.S.

⁵⁹ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

Government in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs further confirm the absence of the historic settlement in the area. This information suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the 200-West Double Shell Tanks EU.

Geomorphology Indicators

The geomorphology within the 200-West Double Shell Tanks EU is all Pleistocene outburst flood deposits suggesting a low potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the subsurface component of the EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that the EU is heavily disturbed by tank farm construction, buried pipelines, surface grading, roads and waste sites. This disturbance indicates that there is a very low potential for intact archaeological resources to be present. It is still possible however, for pockets of undisturbed soils to exist within the 200-West Double Shell Tanks EU.

Summary of Cultural Resources Review

None of the 200-West Double Shell Tanks EU has been inventoried for archaeological resources. Given the extensive disturbance within the 200-West Double Shell Tanks EU, it is unlikely, but there is a possibility that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly if undisturbed soil deposits exist within the 200-West Double Shell Tanks EU. Closure and remediation of the tank farms located within the 200-West Double Shell Tanks has been addressed in a previously completed NHPA Section 106 review (Prendergast-Kennedy and Harvey 2003). There are no known archaeological sites, buildings or TCPs known to be recorded within the 200-West Double Shell Tanks EU.

Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500 meters of the EU. Additionally, 3 National Register-eligible Manhattan Project and Cold War Era buildings are located within 500 meters of the EU (all 3 are contributing within the Manhattan Project and Cold War Era Historic District with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these Manhattan Project/Cold War Era properties.

Historic maps and aerial photographs indicate that there is no evidence of historic-era settlement in or near the 200-West Double Shell Tanks EU. Geomorphology and extensive ground disturbance further suggests a low potential for the presence of intact archaeological

resources associated with all three landscape to be present subsurface within the 200-West Double Shell Tanks EU.

Because pockets of undisturbed soil may exist within the EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating a remediation activity. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society, Prosser Cemetery Association, the Reach and B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References⁶⁰

Department of Energy. 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Richland, Washington.

Chatters JC and NA Cadoret 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington.**

Parker, P. and T. King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

Prendergast-Kennedy, E. and DW Harvey. 2003. *Cultural Resources Review of Retrieval, Treatment and Disposal of Tank Waste and Closure of Single Shell Tanks (Tank Closure) Environmental Impact Statement (EIS) (HCRC# 2003-200-044)*. Letter to Charlotte Johnson Science Applications International Corporation. Pacific Northwest National Laboratory, Richland, Washington.**

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

⁶⁰ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: 300 Area Groundwater Plumes
 ID: RC-GW-1
 Group: Groundwater
 Operable Unit Cross-Walk: 300-FF-5
 Related EU: RC-DD-1
 Sites & Facilities: 300 Area uranium and associated contaminant plumes
 Key Data Sources Docs: N/A

NOTE: Due to time constraints, a full literature review was not possible. Given more time, a more in depth analysis with an added level of detail for these areas is possible.

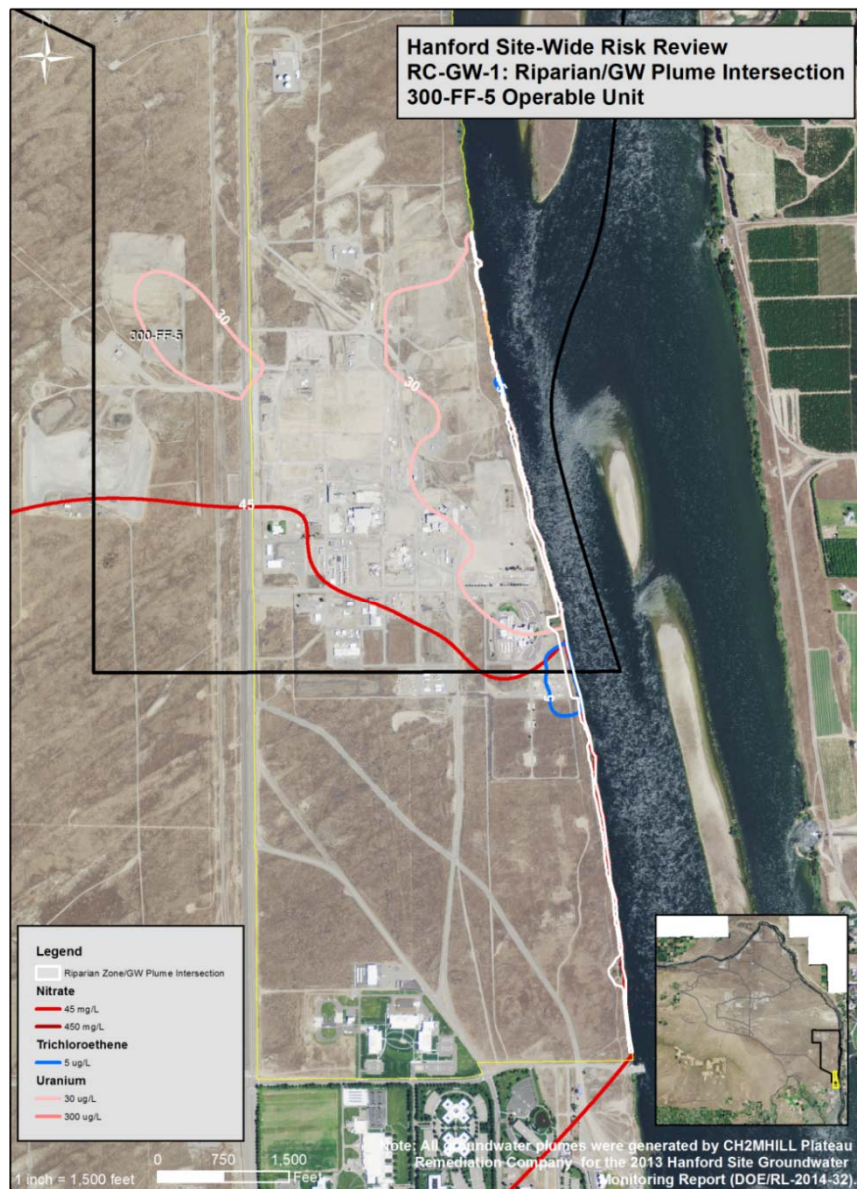


Figure K.30. Site Map with Evaluation Unit Boundaries

RC-GW-1: 300 Area Groundwater Plumes

This literature review is limited to the region of the evaluation unit where groundwater intercepts the riparian vegetation. The approach developed to assess potential impacts to cultural resources within the individual groundwater evaluation units aligns with the evaluation of ecological resources. The potential for ecological receptors to interact directly with any of the groundwater plumes is expected to be limited to those areas where the depth to groundwater is very shallow (<15 ft from the soil surface). Along the shoreline adjacent to where groundwater plumes intercept and enter the river, the groundwater may not be as deep below the surface. In such areas, there could be mixing of river bank storage and groundwater at shallower depths accessible to biota, and plant roots and burrowing animals could potentially interact with portions of the groundwater plume. The shoreline of the Columbia River is very important to people in the region, and the focus of this review is on the shoreline where the groundwater intercepts the rooting zone for the riparian vegetation. Figure K.30 shows the riparian area for RC-GW-1, and Table K.26 includes the contaminants of concern exceeding accepted reference values and the area of the riparian vegetation intercepting the contaminated groundwater.

There are characterization, monitoring and remediation activities for the groundwater evaluation unit. These activities lead to soil disturbances that might impact cultural resources. Such activities are not evaluated here. Each activity has been reviewed in accordance with the cultural resources review process for DOE's Richland Operations Offices and the Office of River Protection. Impacts to Cultural Resources as a result of proposed future cleanup activities will be evaluated in depth under Section 106 of the National Historic Preservation Act (16 USC 470, et. seq.) during the planning for remedial action.

Table K.26. Areal Extent (Acres) of Riparian Zone Intersected by 2013 Groundwater Plumes Within Each Groundwater Operable Unit

| Evaluation Unit Groundwater Operable Unit COPC | Reference Value | RC-GW- 3 100-BC- 5 | RC-GW- 3 100-KR- 4 | RC-GW- 2 100-NR- 2 | RC-GW- 3 100-HR- 3 | CP-GW- 1 200-PO- 1 | RC-GW- 1 300-FF-5 | Total Area |
|---|------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------|---------------|
| Carbon-14 | 2,000 pCi/L ^a | - | - | - | - | - | - | - |
| Cyanide | 200 µg/L ^a | - | - | - | - | - | - | - |
| Chromium | 10 µg/L ^b | 7.61 | 2.78 | 0.04 | 29.90 | - | - | 40.32 |
| Carbon Tetrachloride | 5 µg/L ^a | - | - | - | - | - | - | - |
| Iodine-129 | 1 pCi/L ^a | - | - | - | - | - | - | - |
| Nitrate | 45 mg/L ^a | - | - | 0.38 | - | - | 0.61 | 0.99 |
| Strontium-90 | 8 pCi/L ^a | 2.00 | - | 1.14 | 0.14 | - | - | 3.28 |
| Technetium-99 | 900 pCi/L ^a | - | - | - | - | - | - | - |
| Trichloroethylene | 5 µg/L ^a | - | 0.73 | - | - | - | 0.66 | 1.39 |
| TPH-D | 200 µg/L ^c | - | - | 0.10 | - | - | - | 0.10 |
| Tritium | 20,000 pCi/L ^a | - | - | 0.11 | - | 52.84 | - | 52.94 |
| Uranium | 30 µg/L ^a | - | - | - | - | - | 3.21 | 3.21 |
| Total Extent of Plumes^d | - | 7.61 | 3.55 | 1.54 | 30.51 | 52.84 | 4.20 | 100.25 |
| Total Riparian Area^e | - | 491.52 | 78.04 | 11.38 | 792.84 | 357.37 | 208.42 | 2660.78 |

(a) EPA and/or DOH Drinking Water Standard

(b) Criteria for chronic exposure in fresh water, WAC 173-201A-240. "Water Quality Standards for Surface Waters of the State of Washington," "Toxic Substances," Table 240(3).

(c) EPA and/or DOH Secondary Drinking Water Standard for Total Dissolved Solids. Secondary drinking water standards are not associated with health effects, but associated with taste, odor, staining, or other aesthetic qualities.

(d) The Total Extent of Plumes for a given Operable Unit is not equal the sum of individual COPC plume areas because some plumes overlap; i.e., the total represents the combined 2-dimensional extent of individual COPC plumes.

(e) The Total Riparian Area is based on the areal extent of mapped riparian vegetation along the Benton County shoreline of the Hanford Site. The total riparian area listed (2660.78 ac) includes riparian area within 100-FR-3 (721.2 ac), which is part of the Hanford Reach but is not listed in other parts of the table because there is no plume intersection with the riparian zone.

Notes:

1. All groundwater plumes were generated by CH2M HILL Plateau Remediation Company for the 2013 Hanford Site Groundwater Monitoring Report (DOE/RL-2014-32).
2. Riparian cover type was documented in the Hanford Site Environmental Report for Calendar Year 2004 (PNNL-15222).
3. The impacted riparian zone corresponds to the areal extent of the plume above the corresponding reference value listed for each COPC. Riparian cover type in 200-East Area was not included because those plants are not removing groundwater; groundwater is more than 100 ft deep in 200-East Area.

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

Surface archaeological inventories of the entire RC-GW-1, 300 Area Groundwater Plumes EU have been previously completed in conjunction with various cultural resources compliance activities dating from 1987-present. While additional information needs to be gathered on the extent of subsurface investigations in these areas, it is apparent that the riparian area falls outside of defined operation areas, and as such contains little evidence of surface disturbance. Given the limited disturbance within the area, and the proximity to the Columbia River, it is highly likely that intact archaeological material is present both on the surface and in the subsurface throughout the riparian area. This is exhibited in the known cultural resources associated with the Native American Precontact and Ethnographic Landscape as well as the historic, Pre-Hanford Early Settlers/Farming Landscape, located within these riparian areas.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁶¹

- While there are no known TCPs within the EU, a highly culturally sensitive area associated with the Native American Precontact and Ethnographic Landscape is known to exist within the EU.
- There four known archaeological sites associated with the Native American Precontact and Ethnographic Landscape located within the EU. Three of these sites are included as part of a Washington Heritage Register listed Archaeological District. Additionally, there is one site within the riparian area that has been determined eligible for listing in the National Register of Historic Places.
- There is one archaeological site associated with the Pre-Hanford Early Settlers/Farming Landscape located within the EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- No recorded TCPs are known to be located within 500 meters of the 300 Area Groundwater Pumes EU. As stated above, a highly culturally sensitive area exists within the general vicinity and within the EU.
- Numerous archaeological resources associated with the Native American Precontact and Ethnographic Landscape, as well as the historic, Pre-Hanford Early Settlers/Farming Landscape area located within 500 meters of the EU.
- Fourteen National Regsiter-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the EU (all 14 are contributing properties within the Manhattan Project and Cold War Era Historic District, 7 with individual documentation required and 7 with no additional

⁶¹ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

documentation required). In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for these properties.

- Segments of the National Register-eligible Hanford Site Plant Railroad a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500 meters of the EU. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for this property.

Closest Recorded TCP

There are 2 recorded TCPS (including the 1 mentioned above) known to be visible from the 300 Area Groundwater Plumes EU or within the immediate vicinity.

Historic Map and Aerial Photograph Indicators

A review of 1917 and 1924 historic United States Geological Survey (USGS) topographic maps (USGS 1917, 1924) depict evidence of historic land use within the EU, mostly in the form of various primary and secondary roadways associated with the developing farming communities in these areas, such as Allard in the vicinity of the 100-K Area and the town of White Bluffs on the eastern side of the Columbia River horn. Information provided on 1943 Hanford Engineer Works Real Estate maps in conjunction with 1943 aerial imagery similarly show historic roadways running through and in close proximity to the riparian areas (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). In addition, aerial imagery shows some agricultural development within and adjacent to the riparian areas, along with water control features, such as irrigation canals. Land ownership information indicates that areas within the riparian zone were both private and publicly owned (depending on the specific location). The information collected from historic maps and aerial imagery (in conjunction with known and recorded resources) indicate a high potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming landscape to be present within these areas.

Geomorphology Indicators

The geomorphology within the riparian areas is characterized by Quaternary (Pleistocene) outburst flood deposits (gravels and sands) and Quaternary alluvial deposits, consisting of clays, silts, sands and gravels/cobbles. The geomorphology of the area suggests a high potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface component of these riparian areas.

Ground Disturbance Indicators

Examination of 2012 and 2013 aerial imagery of the riparian areas indicates that there has been minimal disturbance within the riparian areas with the exception of a few small pockets of disturbance associated with Hanford Site operations, remedial actions and related activities.

The general undisturbed nature of these riparian areas indicates that there is a very high potential for intact archaeological resources to be present within these riparian zones (which is evidenced by the existence of numerous cultural resources both within and in close proximity to these defined areas).

Summary of Cultural Resources Review

Most of the riparian areas have been inventoried for archaeological resources, with numerous archaeological sites/isolates recorded both within and adjacent to these areas. There are numerous archaeological resources recorded within the riparian area, representing all three of the cultural landscapes present on the Hanford Site (the Native American Precontact and Ethnographic Landscape, Pre-Hanford Early Settlers/Farming Landscape and Manhattan Project/Cold War Era Landscape). While further research is needed to understand the extent of sub-surface investigations in these areas, it is apparent that there is a high probability for intact buried archaeological materials/deposits in these areas.

There are numerous cultural resources associated with all three landscapes within 500 meters of the riparian areas. These resources include archaeological sites, isolates, districts, features and structures.

Historic maps and aerial imagery indicate past land use associated with the Pre-Hanford Early Settlers/Farming Landscape within the riparian areas. Evidence of historic land use in this area is tied to many of the developing farming/agricultural communities within the current Hanford Site boundary. This, coupled with the presence of recorded historic resources within and adjacent to the riparian areas, suggest a high potential for the presence of archaeological materials from this landscape. Geomorphology indicators, along with known cultural resources data, suggests a high potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic landscape to be present within the riparian zone. Additionally, because there is little evidence of surface disturbance, it is likely that these deposits remain intact. This is further evidenced by the sheer number of archaeological resources (sites, isolates, districts and TCPs) recorded within and adjacent to these areas.

With our understanding of these areas, archaeological monitoring may be appropriate as well as surface and subsurface archaeological investigations in these areas prior to initiating any remediation activity. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups who may have an interest in the areas (e.g. East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes would be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References

CH2MHill Plateau Remediation Company 2014, *Hanford Site groundwater monitoring report for 2013*, DOE/RL-2014-32, Rev. 0, CH2MHill, Richland, Wash.

Department of Energy. 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Richland, Washington.

Hanf RW, JR, LF Morasch, TM Poston, and RL Dirkes. 2005. *Summary of the Hanford Site Environmental Report for Calendar Year 2004*. PNNL-15222 SUM. Pacific Northwest National Laboratory, Richland, WA.

Parker, P. and T. King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

USGS (United States Geological Survey). 1917. Pasco Quadrangle, 1:125,000 Topographic Map. Reston, VA.

USGS (United States Geological Survey). 1924. Hanford Quadrangle, 1:62500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

Evaluation Unit: 100-N GW Plume
 ID: RC-GW-2
 Group: Groundwater
 Operable Unit Cross-Walk: 100-NR-2
 Related EU: NA
 Sites & Facilities: 100-N strontium and associated contaminant plumes
 Key Data Sources Docs: NA

NOTE: Due to time constraints, a full literature review was not possible. Given more time, a more in depth analysis with an added level of detail for these areas is possible.

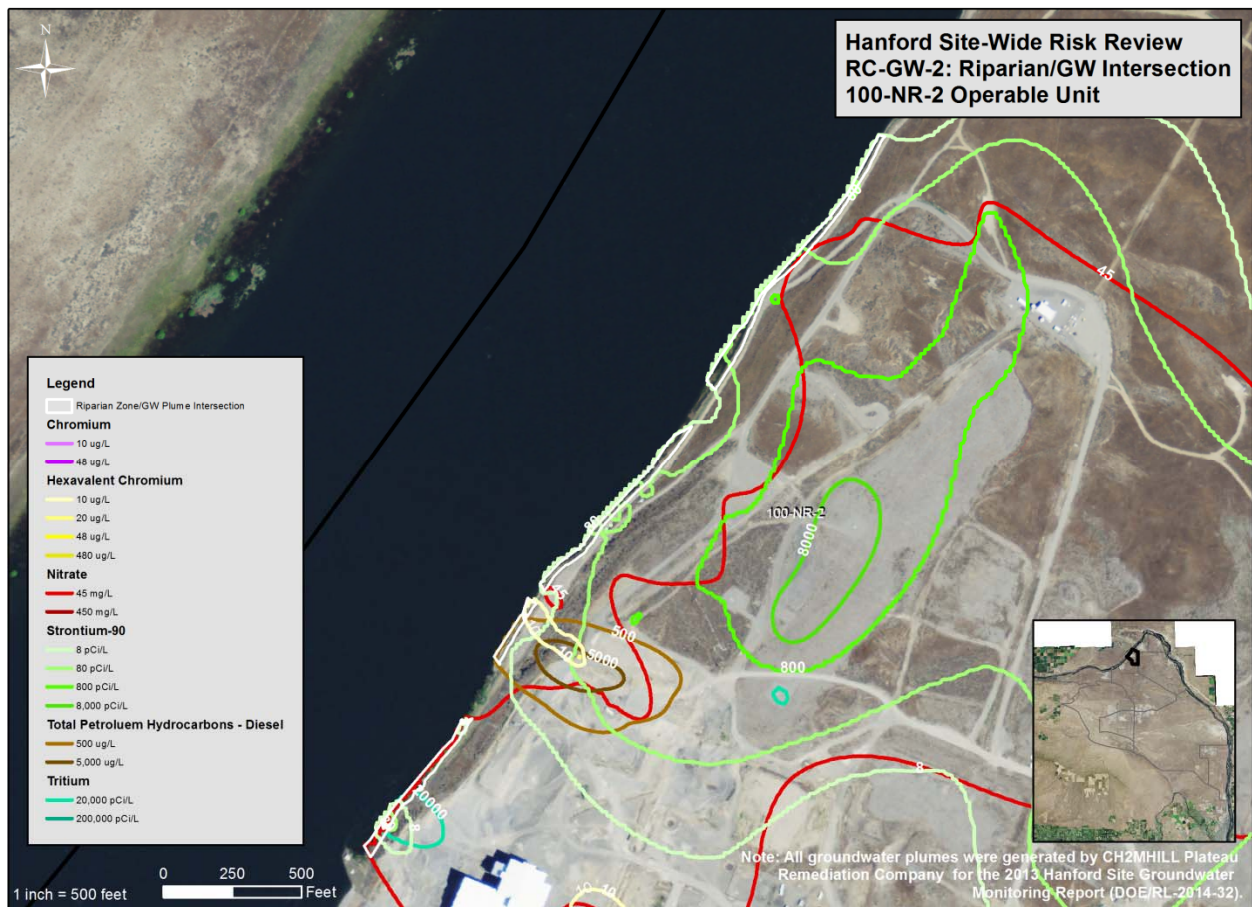


Figure K.31. Site Map with Evaluation Unit Boundaries

RC-GW-2: 100-N Groundwater Plumes

This literature review is limited to the region of the evaluation unit where groundwater intercepts the riparian vegetation. The approach developed to assess potential impacts to cultural resources within the individual groundwater evaluation units aligns with the evaluation of ecological resources. The potential for ecological receptors to interact directly with any of the groundwater plumes is expected to be limited to those areas where the depth to groundwater is very shallow (<15 ft from the soil surface). Along the shoreline adjacent to where groundwater plumes intercept and enter the river, the groundwater may not be as deep below the surface. In such areas, there could be mixing of river bank storage and groundwater at shallower depths accessible to biota, and plant roots and burrowing animals could potentially interact with portions of the groundwater plume. The shoreline of the Columbia River is very important to people in the region, and the focus of this review is on the shoreline where the groundwater intercepts the rooting zone for the riparian vegetation. Figure K.31 shows the riparian area for CP-GW-1, and Table K.27 includes the contaminants of concern exceeding accepted reference values and the area of the riparian vegetation intercepting the contaminated groundwater.

There are characterization, monitoring and remediation activities for the groundwater evaluation unit. These activities lead to soil disturbances that might impact cultural resources. Such activities are not evaluated here. Each activity has been reviewed in accordance with the cultural resources review process for DOE's Richland Operations Offices and the Office of River Protection. Impacts to Cultural Resources as a result of proposed future cleanup activities will be evaluated in depth under Section 106 of the National Historic Preservation Act (16 USC 470, et. seq.) during the planning for remedial action.

Table K.27. Areal Extent (Acres) of Riparian Zone Intersected by 2013 Groundwater Plumes Within Each Groundwater Operable Unit

| Evaluation Unit Groundwater Operable Unit COPC | Reference Value | RC-GW- 3 100-BC- 5 | RC-GW- 3 100-KR- 4 | RC-GW- 2 100-NR- 2 | RC-GW- 3 100-HR- 3 | CP-GW- 1 200-PO- 1 | RC-GW- 1 300-FF-5 | Total Area |
|---|------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------|---------------|
| Carbon-14 | 2,000 pCi/L ^a | - | - | - | - | - | - | - |
| Cyanide | 200 µg/L ^a | - | - | - | - | - | - | - |
| Chromium | 10 µg/L ^b | 7.61 | 2.78 | 0.04 | 29.90 | - | - | 40.32 |
| Carbon Tetrachloride | 5 µg/L ^a | - | - | - | - | - | - | - |
| Iodine-129 | 1 pCi/L ^a | - | - | - | - | - | - | - |
| Nitrate | 45 mg/L ^a | - | - | 0.38 | - | - | 0.61 | 0.99 |
| Strontium-90 | 8 pCi/L ^a | 2.00 | - | 1.14 | 0.14 | - | - | 3.28 |
| Technetium-99 | 900 pCi/L ^a | - | - | - | - | - | - | - |
| Trichloroethylene | 5 µg/L ^a | - | 0.73 | - | - | - | 0.66 | 1.39 |
| TPH-D | 200 µg/L ^c | - | - | 0.10 | - | - | - | 0.10 |
| Tritium | 20,000 pCi/L ^a | - | - | 0.11 | - | 52.84 | - | 52.94 |
| Uranium | 30 µg/L ^a | - | - | - | - | - | 3.21 | 3.21 |
| Total Extent of Plumes^d | - | 7.61 | 3.55 | 1.54 | 30.51 | 52.84 | 4.20 | 100.25 |
| Total Riparian Area^e | - | 491.52 | 78.04 | 11.38 | 792.84 | 357.37 | 208.42 | 2660.78 |

(a) EPA and/or DOH Drinking Water Standard

(b) Criteria for chronic exposure in fresh water, WAC 173-201A-240. "Water Quality Standards for Surface Waters of the State of Washington," "Toxic Substances," Table 240(3).

(c) EPA and/or DOH Secondary Drinking Water Standard for Total Dissolved Solids. Secondary drinking water standards are not associated with health effects, but associated with taste, odor, staining, or other aesthetic qualities.

(d) The Total Extent of Plumes for a given Operable Unit is not equal the sum of individual COPC plume areas because some plumes overlap; i.e., the total represents the combined 2-dimensional extent of individual COPC plumes.

(e) The Total Riparian Area is based on the areal extent of mapped riparian vegetation along the Benton County shoreline of the Hanford Site. The total riparian area listed (2660.78 ac) includes riparian area within 100-FR-3 (721.2 ac), which is part of the Hanford Reach but is not listed in other parts of the table because there is no plume intersection with the riparian zone.

Notes:

1. All groundwater plumes were generated by CH2M HILL Plateau Remediation Company for the 2013 Hanford Site Groundwater Monitoring Report (DOE/RL-2014-32).
2. Riparian cover type was documented in the Hanford Site Environmental Report for Calendar Year 2004 (PNNL-15222).
3. The impacted riparian zone corresponds to the areal extent of the plume above the corresponding reference value listed for each COPC. Riparian cover type in 200-East Area was not included because those plants are not removing groundwater; groundwater is more than 100 ft deep in 200-East Area.

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

Surface archaeological surveys of most of the CP-GW-2, 100-N Groundwater Plumes EU have been previously completed in conjunction with various cultural resources compliance activities dating from 1992-2002. While additional information needs to be gathered on the extent of subsurface investigations in these areas, it is apparent that the riparian zone falls outside of defined operation areas, and as such contains little evidence of surface disturbance. Given the limited disturbance within the area, and the proximity to the Columbia River, it is highly likely that intact archaeological material is present both on the surface and in the subsurface throughout the riparian area. A review of existing cultural resources data and historic records indicate a high potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape as well as the historic, Pre-Hanford Early Settlers/Farming Landscape within these riparian areas.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁶²

- One recorded/known TCP falls within the riparian area for this EU. This TCP is associated with the Native American Precontact and Ethnographic Landscape and has been determined eligible for the National Register of Historic Places.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- Aside from the TCP mentioned above, no additional recorded TCPs are located within 500 meters of the EU.
- Three archaeological sites associated with the Native American Precontact and Ethnographic Landscape are located within 500 meters of the EU. None of these recorded resources have been formerly evaluated for listing in the National Register of Historic Places.
- Five National Register-eligible Manhattan Project and Cold War Era buildings are located within 500 meters of the EU (all 5 are contributing within the Manhattan Project and Cold War Era Historic District, 4 with individual documentation required and 1 with no additional documentation required). In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for these properties.
- Segments of the National Register-eligible Hanford Site Plant Railroad a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500 meters of the riparian area. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic*

⁶² Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

District Treatment Plan (DOE/RL-97-56), all documentation requirements have been completed for this property.

Closest Recorded TCP

There is one recorded TCP known to be visible from the EU or within the immediate vicinity (the same as the one mentioned above).

Historic Map and Aerial Photograph Indicators

A review of 1916 historic United States Geological Survey (USGS) topographic maps (USGS 1916) depicts some evidence of historic land use in the general vicinity of the EU, mostly in the form of roadways with some structures present within the general area. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps state that the lands contained within riparian areas were owned by the State of Washington in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs confirm evidence of historic land use, mostly in the form of various roadways. This information suggests a moderate potential for the presence of archaeological resources associated with the Pre-Hanford Early Settlers/Farming landscape within the EU.

Geomorphology Indicators

The geomorphology within the EU is combination of Quaternary alluvium and Pleistocene outburst gravels with a thin layer of Holocene deposits, suggesting a high potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape within the surface and subsurface component of the EU.

Ground Disturbance Indicators

Examination of 2012 and 2013 aerial imagery of the EU indicates that there has been minimal disturbance within the riparian zone with the exception of a few roads. The general undisturbed nature of the riparian areas indicates that there is a very high potential for intact archaeological resources to be present within the EU. Note that the monitoring wells for the in-situ permeable reactive barrier for removal of strontium-90 in the groundwater is not within the riparian vegetation area, and not included in this EU (Figure K.32).

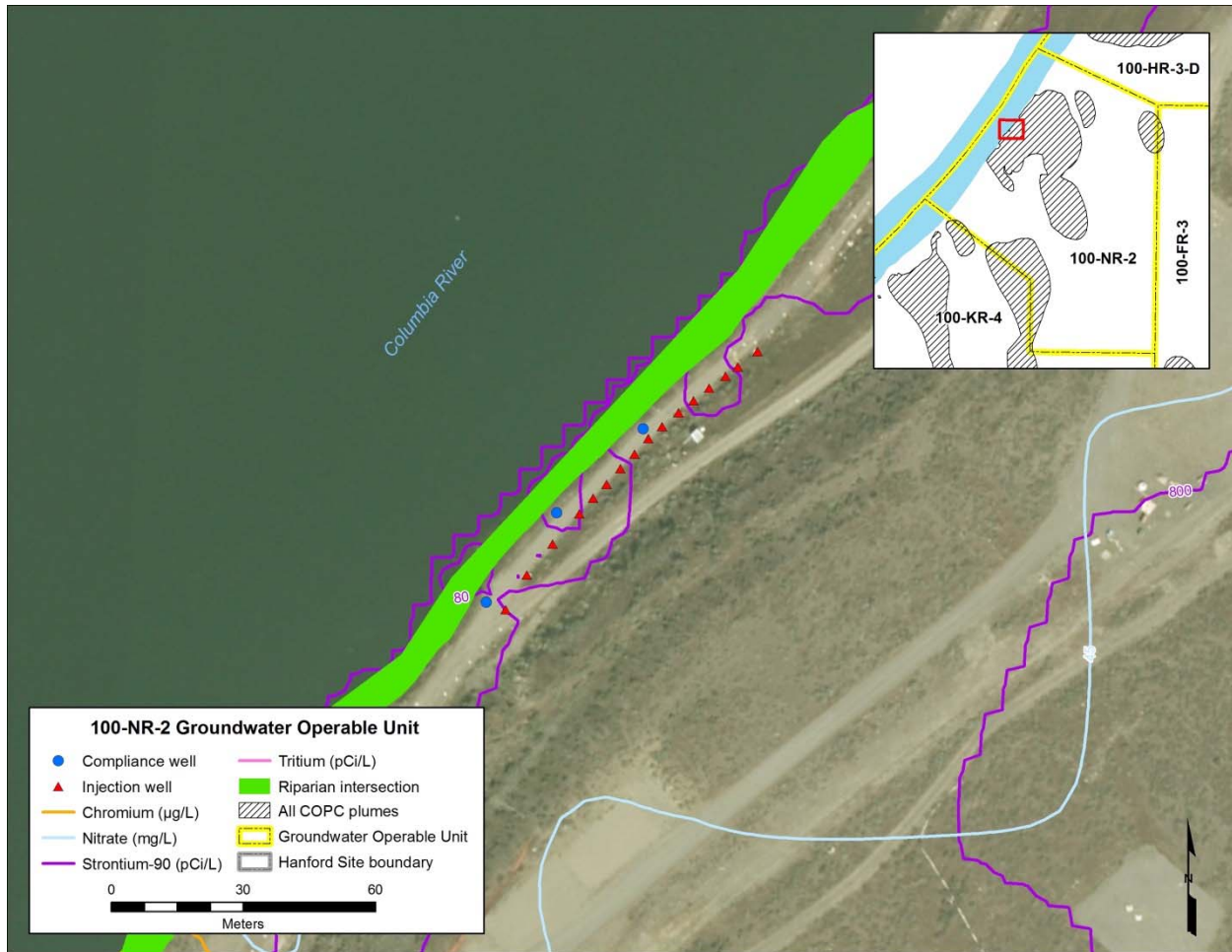


Figure K.32. In-situ Permeable Reactive Barrier Wells in Relationship to the Riparian Zone/Groundwater Plume Intersection Area

Summary of Cultural Resources Review

The entire EU has been inventoried for archaeological resources. These inventories have resulted in the recordation of archaeological resources both within, and adjacent to these areas. One TCP related to the Native American Precontact and Ethnographic landscape is currently recorded within the riparian area. This property has also been determined eligible for listing in the National Register of Historic Places. While further research is needed to understand the extent of sub-surface investigations in these areas, it is apparent that there is the potential for intact buried archaeological materials/deposits in these areas.

There are numerous cultural resources associated with the Pre Contact Native American and Ethnographic Landscape as well as the Manhattan Project/Cold War Era Landscape located within 500 meters of the riparian areas including archaeological isolates, sites, features and buildings.

Historic maps and aerial photographs indicate historic land use within and adjacent to the EU, associated with the Pre-Hanford Early Settlers/Farming and the Manhattan Project and Cold War era. This evidence of historic land use suggests the potential for resources from these two

landscapes to exist both within and adjacent to the EU. Geomorphology indicators, along with our knowledge of cultural resources in these areas also suggests the potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape within these riparian areas. Additionally, because there is little evidence of surface disturbance, it is likely that these soil deposits remain intact.

With our understanding of these areas along with our knowledge of the presence of culturally sensitive areas within and adjacent to the EU, archaeological monitoring may be appropriate as well as surface and subsurface archaeological investigations in these areas prior to initiating any remediation activity. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups who may have an interest in the areas (e.g. East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes would also be necessary to provide input on indirect effects to both recorded and potentially unrecorded TCPs in the area and other cultural resource issues of concern.

References

CH2MHill Plateau Remediation Company 2014, *Hanford Site groundwater monitoring report for 2013*, DOE/RL-2014-32, Rev. 0, CH2MHill, Richland, Wash.

Department of Energy. 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Richland, Washington.

Hanf RW, JR, LF Morasch, TM Poston, and RL Dirkes. 2005. *Summary of the Hanford Site Environmental Report for Calendar Year 2004*. PNNL-15222 SUM. Pacific Northwest National Laboratory, Richland, WA.

Parker, P. and T. King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

Evaluation Unit: 100-B/D/H/F/K Area GW Plumes
 ID: RC-GW-3
 Group: Groundwater
 Operable Unit Cross-Walk: 100-BC-5
 100-KR-4
 100-HR-3
 (100-FR-3 is not included because the groundwater plumes are not currently intercepting the riparian areas)
 Related EU: NA
 Sites & Facilities: 100-B/D/H/F/K Area Chromium and associated contaminant plumes. Includes pump and treat systems
 Key Data Sources Docs: SGW-40938, Rev 0

NOTE: Due to time constraints, a full literature review was not possible. Given more time, a more in depth analysis with an added level of detail for these areas is possible. There is no discussion of riparian areas for 100-FR-3 because the groundwater plumes in that Operable Unit are not currently intercepting the riparian areas.

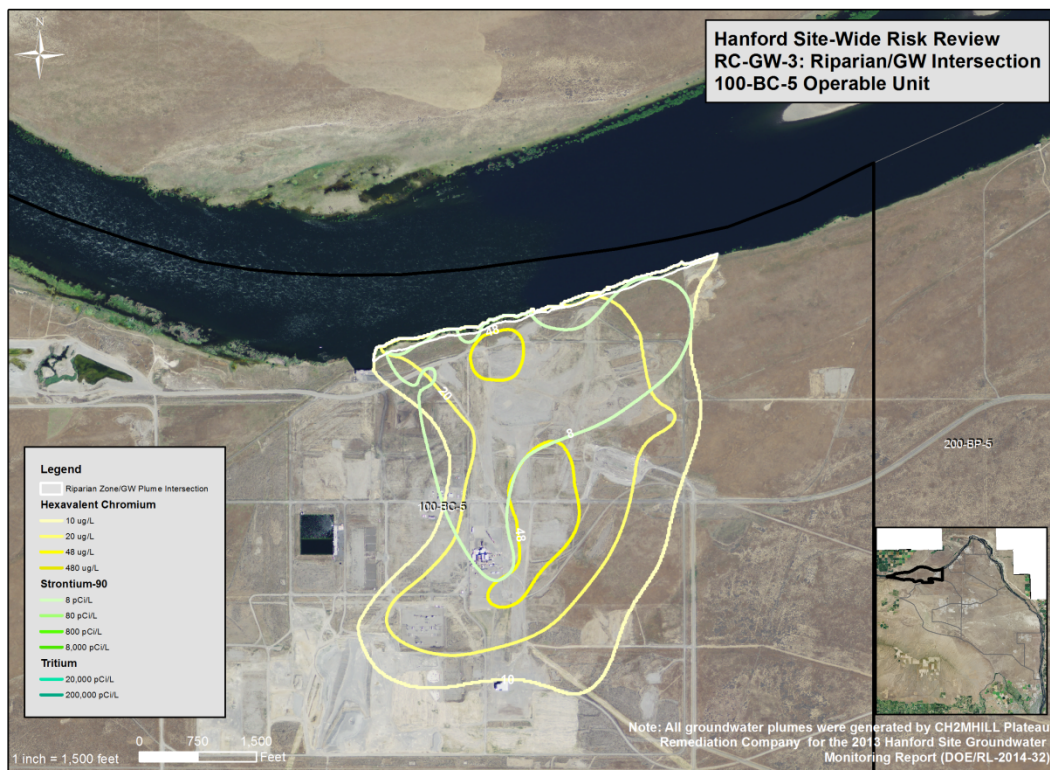


Figure K.33. Groundwater Plumes Intercepting the Riparian Areas Around 100-BC-5

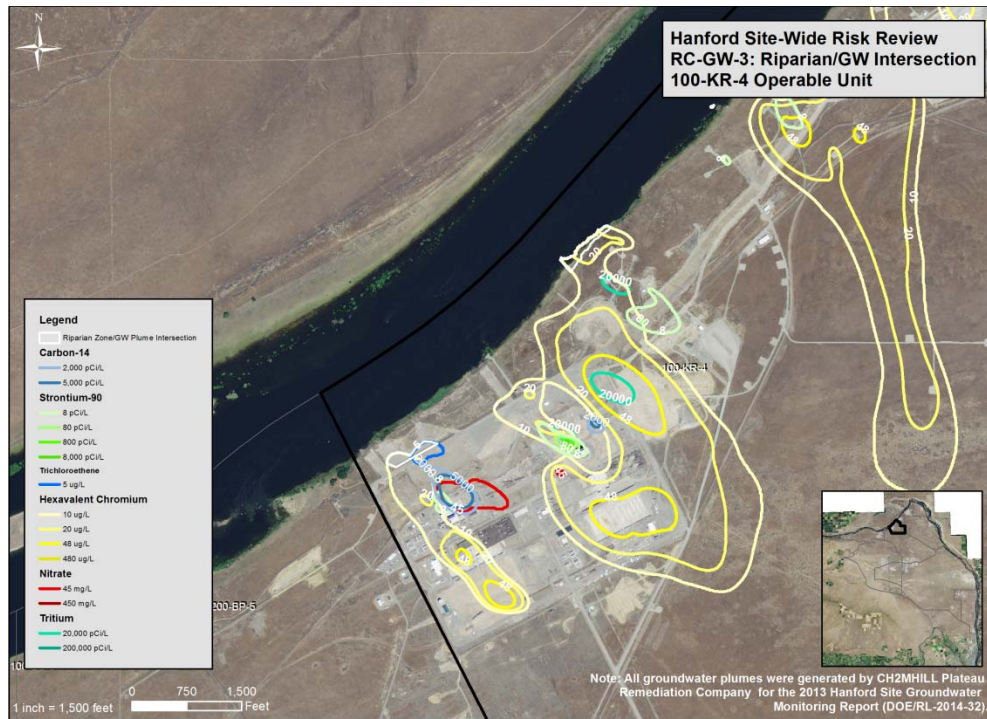


Figure K.34. Groundwater Plumes Intercepting the Riparian Areas Around 100-KR-4

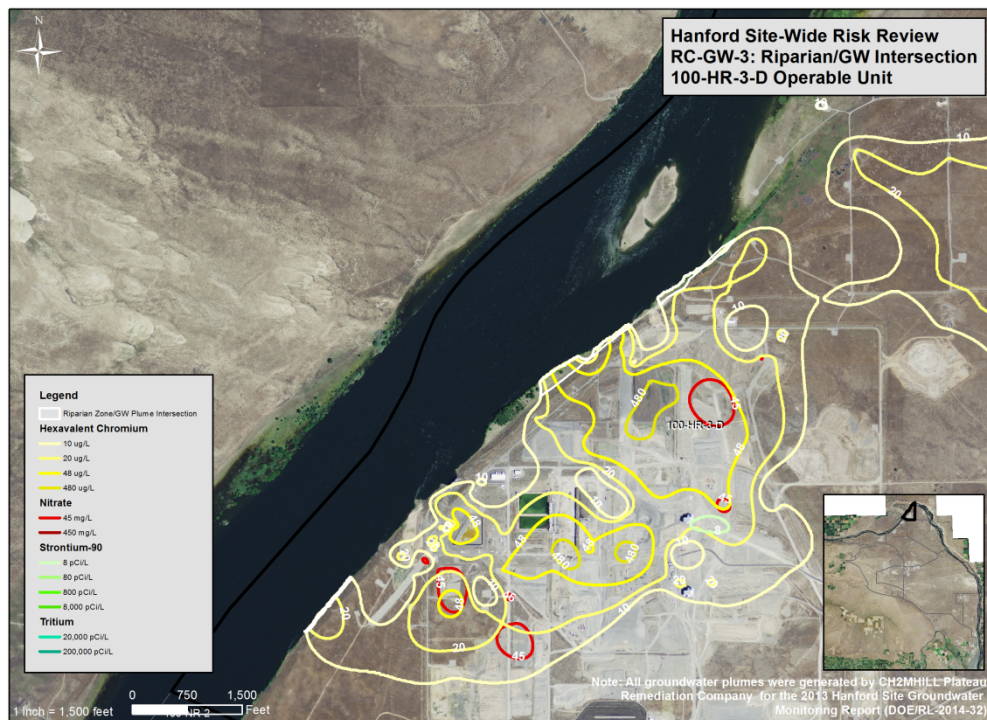


Figure K.35. Groundwater Plumes Intercepting the Riparian Areas on the Western Portion of 100-HR-3

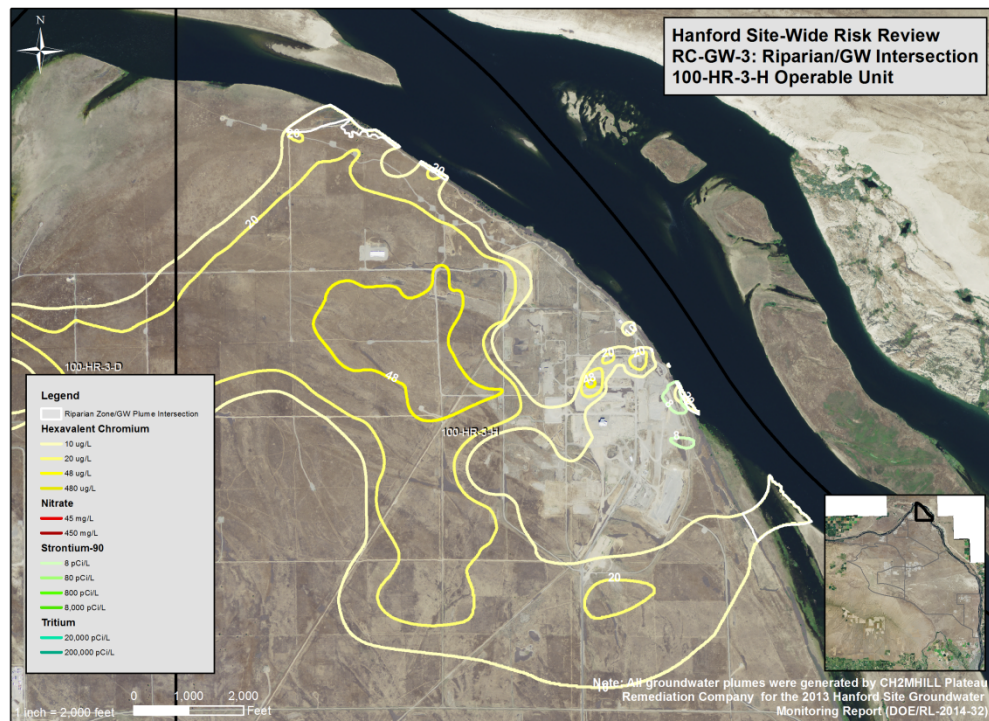


Figure K.36. Groundwater Plumes Intercepting the Riparian Areas on the Eastern Portion of 100-HR-3

RC-GW-3: 100-B/D/H/F/K Area Groundwater Plumes

This literature review is limited to the region of the evaluation unit where groundwater intercepts the riparian vegetation. The approach developed to assess potential impacts to cultural resources within the individual groundwater evaluation units aligns with the evaluation of ecological resources. The potential for ecological receptors to interact directly with any of the groundwater plumes is expected to be limited to those areas where the depth to groundwater is very shallow (<15 ft from the soil surface). Along the shoreline adjacent to where groundwater plumes intercept and enter the river, the groundwater may not be as deep below the surface. In such areas, there could be mixing of river bank storage and groundwater at shallower depths accessible to biota, and plant roots and burrowing animals could potentially interact with portions of the groundwater plume. The shoreline of the Columbia River is very important to people in the region, and the focus of this review is on the shoreline where the groundwater intercepts the rooting zone for the riparian vegetation. Figure K.33 through Figure K.36 show the riparian area for RC-GW-3, and Table K.28 includes the contaminants of concern exceeding accepted reference values and the area of the riparian vegetation intercepting the contaminated groundwater.

There are characterization, monitoring and remediation activities for the groundwater evaluation unit. These activities lead to soil disturbances that might impact cultural resources.

Such activities are not evaluated here. Each activity has been reviewed in accordance with the cultural resources review process for DOE's Richland Operations Offices and the Office of River Protection. Impacts to Cultural Resources as a result of proposed future cleanup activities will be evaluated in depth under Section 106 of the National Historic Preservation Act (16 USC 470, et. seq.) during the planning for remedial action.

Table K.28. Areal Extent (Acres) of Riparian Zone Intersected by 2013 Groundwater Plumes Within Each Groundwater Operable Unit

| Evaluation Unit Groundwater Operable Unit COPC | Reference Value | RC-GW- 3 100-BC- 5 | RC-GW- 3 100-KR- 4 | RC-GW- 2 100-NR- 2 | RC-GW- 3 100-HR- 3 | CP-GW- 1 200-PO- 1 | RC-GW- 1 300-FF-5 | Total Area |
|---|------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------|---------------|
| Carbon-14 | 2,000 pCi/L ^a | - | - | - | - | - | - | - |
| Cyanide | 200 µg/L ^a | - | - | - | - | - | - | - |
| Chromium | 10 µg/L ^b | 7.61 | 2.78 | 0.04 | 29.90 | - | - | 40.32 |
| Carbon Tetrachloride | 5 µg/L ^a | - | - | - | - | - | - | - |
| Iodine-129 | 1 pCi/L ^a | - | - | - | - | - | - | - |
| Nitrate | 45 mg/L ^a | - | - | 0.38 | - | - | 0.61 | 0.99 |
| Strontium-90 | 8 pCi/L ^a | 2.00 | - | 1.14 | 0.14 | - | - | 3.28 |
| Technetium-99 | 900 pCi/L ^a | - | - | - | - | - | - | - |
| Trichloroethylene | 5 µg/L ^a | - | 0.73 | - | - | - | 0.66 | 1.39 |
| TPH-D | 200 µg/L ^c | - | - | 0.10 | - | - | - | 0.10 |
| Tritium | 20,000 pCi/L ^a | - | - | 0.11 | - | 52.84 | - | 52.94 |
| Uranium | 30 µg/L ^a | - | - | - | - | - | 3.21 | 3.21 |
| Total Extent of Plumes^d | - | 7.61 | 3.55 | 1.54 | 30.51 | 52.84 | 4.20 | 100.25 |
| Total Riparian Area^e | - | 491.52 | 78.04 | 11.38 | 792.84 | 357.37 | 208.42 | 2660.78 |

(a) EPA and/or DOH Drinking Water Standard

(b) Criteria for chronic exposure in fresh water, WAC 173-201A-240. "Water Quality Standards for Surface Waters of the State of Washington," "Toxic Substances," Table 240(3).

(c) EPA and/or DOH Secondary Drinking Water Standard for Total Dissolved Solids. Secondary drinking water standards are not associated with health effects, but associated with taste, odor, staining, or other aesthetic qualities.

(d) The Total Extent of Plumes for a given Operable Unit is not equal the sum of individual COPC plume areas because some plumes overlap; i.e., the total represents the combined 2-dimensional extent of individual COPC plumes.

(e) The Total Riparian Area is based on the areal extent of mapped riparian vegetation along the Benton County shoreline of the Hanford Site. The total riparian area listed (2660.78 ac) includes riparian area within 100-FR-3 (721.2 ac), which is part of the Hanford Reach but is not listed in other parts of the table because there is no plume intersection with the riparian zone.

Notes:

1. All groundwater plumes were generated by CH2M HILL Plateau Remediation Company for the 2013 Hanford Site Groundwater Monitoring Report (DOE/RL-2014-32).

2. Riparian cover type was documented in the Hanford Site Environmental Report for Calendar Year 2004 (PNNL-15222).
3. The impacted riparian zone corresponds to the areal extent of the plume above the corresponding reference value listed for each COPC. Riparian cover type in 200-East Area was not included because those plants are not removing groundwater; groundwater is more than 100 ft deep in 200-East Area.

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

Surface archaeological surveys of most of the RC-GW-3, 100-B/D/H/F/K Area Groundwater Plumes EU have been previously completed in conjunction with various cultural resources compliance activities dating from 1991-2011. While additional information needs to be gathered on the extent of subsurface investigations in these areas, it is apparent that the riparian zone falls outside of defined operation areas, and as such contains little evidence of surface disturbance. Given the limited disturbance within the area, and the proximity to the Columbia River, it is highly likely that intact archaeological material is present both on the surface and in the subsurface throughout the riparian areas. A review of existing cultural resources data and historic records indicate a high potential for archaeological resources associated with all three landscapes (the Native American Precontact and Ethnographic Landscape, Pre-Hanford Early Settlers/Farming Landscape and Manhattan Project/Cold War Era Landscape) within the EU.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁶³

- There is one known recorded TCP within the EU.
- There are ten known archaeological sites associated with the Native American Precontact and Ethnographic Landscape located within the EU. Two of these sites are included in as part of a Washington Heritage Register listed archaeological district. One additional site is included as part of a National Register listed archaeological district. Four of these sites have been determined eligible for listing in the National Register of Historic Places. The remaining three sites have not been evaluated for listing in the National Register of Historic Places.
- The boundary of one additional National Register listed archaeological district intersects with the EU.
- There are three known archaeological sites associated with the Pre-Hanford Early Settlers/Farming Landscape within the EU. All three sites have been determined not eligible for listing in the National Register of Historic Places.
- There is one known archaeological site associated with the Manhattan Project/Cold War Era Landscape within the EU. This site has been determined not eligible for listing in the National Register of Historic Places.

⁶³ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- No additional recorded TCPs (aside from the one mentioned above) are located within 500 meters of the EU.
- Numerous archaeological resources (sites, isolates and features) associated with the Native American Precontact and Ethnographic Landscape, as well as the historic, Pre-Hanford Early Settlers/Farming Landscape area located within 500 meters of the EU.
- There are two recorded, Washington State Register listed archaeological districts within 500 meters of the EU. Both of these districts are associated with the Native American Precontact and Ethnographic Landscape.
- Thirty-six National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the EU (all 36 are contributing properties within the Manhattan Project and Cold War Era Historic District, 17 with individual documentation required, and 19 with no additional documentation required). In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for these properties.
- Segments of the National Register-eligible Hanford Site Plant Railroad a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500 meters of the EU. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for this property.

Closest Recorded TCP

There are 2 recorded TCPS known to be visible from the EU or within the immediate vicinity.

Historic Map and Aerial Photograph Indicators

A review of 1916, 1917 and 1924 historic United States Geological Survey (USGS) topographic maps (USGS 1916, 1917 and 1924) depict evidence of historic land use within the EU, mostly in the form of various primary and secondary roadways associated with the developing farming communities in these areas, such as Allard in the vicinity of the 100-K Area and the town of White Bluffs on the eastern side of the Columbia River horn. Information provided on 1943 Hanford Engineer Works Real Estate maps in conjunction with 1943 aerial imagery similarly show historic roadways running through and in close proximity to the EU (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). In addition, aerial imagery shows some agricultural development within and adjacent to the EU, along with water control features, such as irrigation canals. Land ownership information indicates that areas within the EU were both privately and publicly owned (depending on the specific location). The information collected from historic maps and aerial imagery (in conjunction with known and recorded resources) indicate a high potential for

archaeological resources associated with the Pre-Hanford Early Settlers/Farming landscape to be present within these areas.

Geomorphology Indicators

The geomorphology within the EU is characterized by Quaternary (Pleistocene) outburst flood deposits (gravels and sands) and Quaternary alluvial deposits, consisting of clays, silts, sands and gravels/cobbles. The geomorphology of the area suggests a high potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape within the surface and subsurface component of the EU.

Ground Disturbance Indicators

Examination of 2012 and 2013 aerial imagery of the EU indicates that there has been minimal disturbance within the EU with the exception of a few small pockets of disturbance associated with Hanford Site operations, remedial actions and related activities. The general undisturbed nature of the EU indicates that there is a very high potential for intact archaeological resources to be present (which is evidenced by the existence of numerous cultural resources both within and in close proximity to these defined areas).

Summary of Cultural Resources Review

Most of the EU has been inventoried for cultural resources, with numerous archaeological sites/isolates recorded both within and adjacent to these areas. Various cultural resources reviews have been conducted to inventory these areas as part of ongoing Hanford operations, and to address potential impacts from those activities to these existing resources. There are numerous archaeological resources recorded within the EU, representing all three of the cultural landscapes present on the Hanford Site (the Native American Precontact and Ethnographic Landscape, Pre-Hanford Early Settlers/Farming Landscape and Manhattan Project/Cold War Era Landscape). While further research is needed to understand the extent of sub-surface investigations in these areas, it is apparent that there is a high probability for intact buried archaeological materials/deposits in these areas.

There are numerous cultural resources associated with all three landscapes within 500 meters of the EU. These resources include archaeological sites, isolates, districts, features and structures.

Historic maps and aerial imagery indicate past land use associated with the Pre-Hanford Early Settlers/Farming Landscape within the EU. Evidence of historic land use in this area is tied to many of the developing farming/agricultural communities within the current Hanford Site boundary. This, coupled with the presence of recorded historic resources within and adjacent to the EU, suggest a high potential for the presence of archaeological materials from this landscape. Geomorphology indicators, along with known cultural resources data, suggests a high potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape within the EU. Additionally, because there is little evidence of surface disturbance, it is likely that these deposits remain intact. This is further evidenced by the sheer number of archaeological resources (sites, isolates, districts and TCPs) recorded within and adjacent to these areas.

With our understanding of these areas, archaeological monitoring may be appropriate as well as surface and subsurface archaeological investigations in these areas prior to initiating any remediation activity. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups who may have an interest in the areas (e.g. East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes would be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References

CH2MHill Plateau Remediation Company 2014, *Hanford Site groundwater monitoring report for 2013*, DOE/RL-2014-32, Rev. 0, CH2MHill, Richland, Wash.

Department of Energy. 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Richland, Washington.

Hanf RW, JR, LF Morasch, TM Poston, and RL Dirkes. 2005. *Summary of the Hanford Site Environmental Report for Calendar Year 2004*. PNNL-15222 SUM. Pacific Northwest National Laboratory, Richland, WA.

Parker, P. and T. King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

USGS (United States Geological Survey). 1917. Pasco Quadrangle, 1:125,000 Topographic Map. Reston, VA.

USGS (United States Geological Survey). 1924. Hanford Quadrangle, 1:62500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

Evaluation Unit: 200-East Groundwater
 ID: CP-GW-1
 Group: Groundwater
 Operable Unit Cross-Walk: 200-BP-5
 200-PO-1
 Related EU: CP-LS-1, 8, 9, 10, 11; CP-TF-5, 6, 7
 Sites & Facilities: Existing groundwater plumes emanating from the 200-East area
 Key Data Sources Docs: NA

NOTE: Due to time constraints, a full literature review was not possible. Given more time, a more in depth analysis with an added level of detail for these areas is possible.

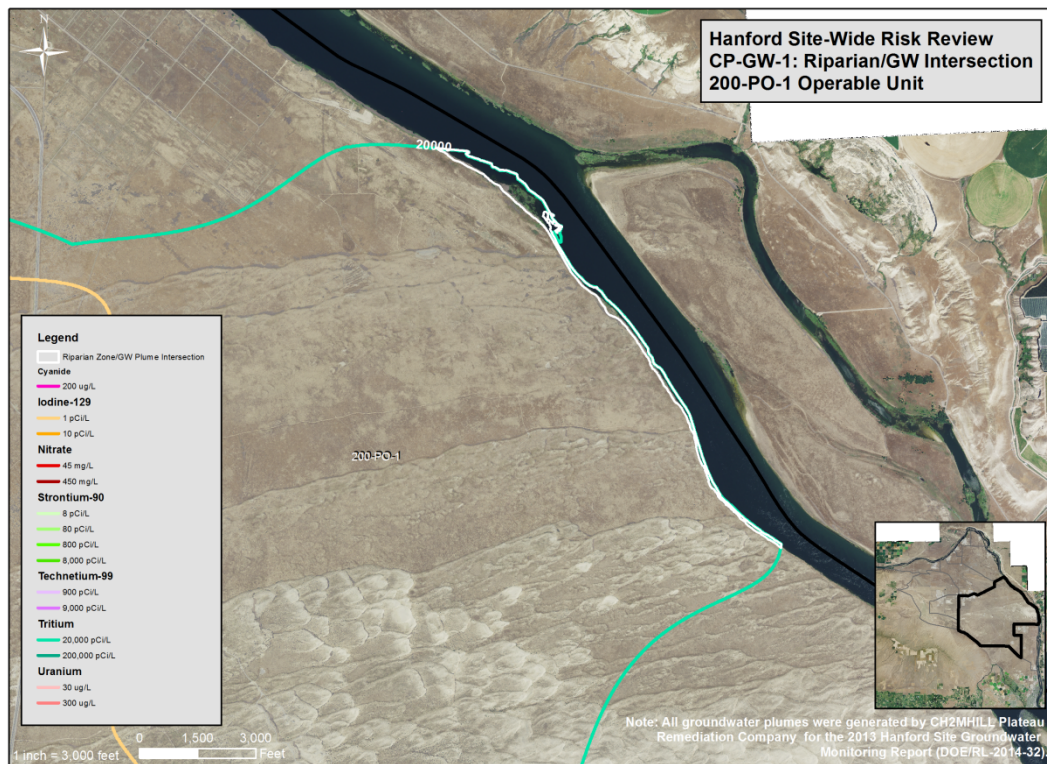


Figure K.37. 200-East Groundwater Plumes Intercepting the Riparian Areas

CP-GW-1: 200-East Groundwater Plumes

This review is limited to the region of the evaluation unit where groundwater intercepts the riparian vegetation. The approach developed to assess potential impacts to cultural resources within the individual groundwater evaluation units aligns with the evaluation of ecological resources. The potential for ecological receptors to interact directly with any of the groundwater plumes is expected to be limited to those areas where the depth to groundwater is very shallow (<15 ft from the soil surface). Along the shoreline adjacent to where groundwater plumes intercept and enter the river, the groundwater may not be as deep below the surface. In such areas, there could be mixing of river bank storage and groundwater at shallower depths accessible to biota, and plant roots and burrowing animals could potentially

interact with portions of the groundwater plume. The shoreline of the Columbia River is very important to people in the region, and the focus of this review is on the shoreline where the groundwater intercepts the rooting zone for the riparian vegetation. Figure K.37 shows the riparian area for CP-GW-1, and Table K.29 includes the contaminants of concern exceeding accepted reference values and the area of the riparian vegetation intercepting the contaminated groundwater.

There are characterization, monitoring and remediation activities for the groundwater evaluation unit. These activities lead to soil disturbances that might impact cultural resources. Such activities are not evaluated here. Each activity has been reviewed in accordance with the cultural resources review process for DOE's Richland Operations Offices and the Office of River Protection. Impacts to Cultural Resources as a result of proposed future cleanup activities will be evaluated in depth under Section 106 of the National Historic Preservation Act (16 USC 470, et. seq.) during the planning for remedial action.

Table K.29. Areal Extent (Acres) of Riparian Zone Intersected by 2013 Groundwater Plumes Within Each Groundwater Operable Unit

| Evaluation Unit Groundwater Operable Unit COPC | Reference Value | RC-GW- 3 100-BC- 5 | RC-GW- 3 100-KR- 4 | RC-GW- 2 100-NR- 2 | RC-GW- 3 100-HR- 3 | CP-GW- 1 200-PO- 1 | RC-GW- 1 300-FF-5 | Total Area |
|---|------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------|---------------|
| Carbon-14 | 2,000 pCi/L ^a | - | - | - | - | - | - | - |
| Cyanide | 200 µg/L ^a | - | - | - | - | - | - | - |
| Chromium | 10 µg/L ^b | 7.61 | 2.78 | 0.04 | 29.90 | - | - | 40.32 |
| Carbon Tetrachloride | 5 µg/L ^a | - | - | - | - | - | - | - |
| Iodine-129 | 1 pCi/L ^a | - | - | - | - | - | - | - |
| Nitrate | 45 mg/L ^a | - | - | 0.38 | - | - | 0.61 | 0.99 |
| Strontium-90 | 8 pCi/L ^a | 2.00 | - | 1.14 | 0.14 | - | - | 3.28 |
| Technetium-99 | 900 pCi/L ^a | - | - | - | - | - | - | - |
| Trichloroethylene | 5 µg/L ^a | - | 0.73 | - | - | - | 0.66 | 1.39 |
| TPH-D | 200 µg/L ^c | - | - | 0.10 | - | - | - | 0.10 |
| Tritium | 20,000 pCi/L ^a | - | - | 0.11 | - | 52.84 | - | 52.94 |
| Uranium | 30 µg/L ^a | - | - | - | - | - | 3.21 | 3.21 |
| Total Extent of Plumes^d | - | 7.61 | 3.55 | 1.54 | 30.51 | 52.84 | 4.20 | 100.25 |
| Total Riparian Area^e | - | 491.52 | 78.04 | 11.38 | 792.84 | 357.37 | 208.42 | 2660.78 |

(a) EPA and/or DOH Drinking Water Standard

(b) Criteria for chronic exposure in fresh water, WAC 173-201A-240. "Water Quality Standards for Surface Waters of the State of Washington," "Toxic Substances," Table 240(3).

(c) EPA and/or DOH Secondary Drinking Water Standard for Total Dissolved Solids. Secondary drinking water standards are not associated with health effects, but associated with taste, odor, staining, or other aesthetic qualities.

(d) The Total Extent of Plumes for a given Operable Unit is not equal the sum of individual COPC plume areas because some plumes overlap; i.e., the total represents the combined 2-dimensional extent of individual COPC plumes.

(e) The Total Riparian Area is based on the areal extent of mapped riparian vegetation along the Benton County shoreline of the Hanford Site. The total riparian area listed (2660.78 ac) includes riparian area within 100-FR-3 (721.2 ac), which is part of the Hanford Reach but is not listed in other parts of the table because there is no plume intersection with the riparian zone.

Notes:

1. All groundwater plumes were generated by CH2M HILL Plateau Remediation Company for the 2013 Hanford Site Groundwater Monitoring Report (DOE/RL-2014-32).
2. Riparian cover type was documented in the Hanford Site Environmental Report for Calendar Year 2004 (PNNL-15222).
3. The impacted riparian zone corresponds to the areal extent of the plume above the corresponding reference value listed for each COPC. Riparian cover type in 200-East Area was not included because those plants are not removing groundwater; groundwater is more than 100 ft deep in 200-East Area.

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

Surface surveys of most of the CP-GW-1, 200-East Groundwater Plumes EU have been previously completed in conjunction with various NHPA reviews and projects dating from 1992-2002. While additional information needs to be gathered on the extent of subsurface investigations in these areas, it is apparent that the EU falls outside of defined operation areas, and as such contains little evidence of surface disturbance. Given the limited disturbance within the area, and the proximity to the Columbia River, it is highly likely that intact archaeological material is present both on the surface and in the subsurface throughout the EU. A review of existing cultural resources data and historic records indicate a high potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape as well as the historic, Pre-Hanford Early Settlers/Farming Landscape within the EU.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁶⁴

- There are no known recorded TCPs within the EU.
- There are four known archaeological sites associated with the Native American Precontact and Ethnographic landscape located within the EU. Two of these sites are included as part of a National Register and Washington Heritage Register listed archaeological district.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- No recorded TCPs are known to be located within 500 meters of the EU.
- Numerous archaeological resources (both sites and isolates) associated with the Native American Precontact and Ethnographic Landscape, as well as the historic, Pre-Hanford Early Settlers/Farming Landscape area located within 500 meters of the EU.

Closest Recorded TCP

There are no recorded TCPS known to be visible from the EU or within the immediate vicinity.

Historic Map and Aerial Photograph Indicators

A review of 1924 historic United States Geological Survey (USGS) topographic maps (USGS 1924) depicts evidence of historic land use mostly in the form of historic roadways within the EU. The visible historic roadways extend from the former Hanford townsite, which is located northwest of the EU. Information provided on 1943 Hanford Engineer Works Real Estate maps similarly show historic roadways running through and in close proximity to the EU (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs confirm the historic land use mentioned above, through the depiction of various roadways. The former Hanford townsite is

⁶⁴ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

located in close proximity to the EU, and this information indicates a high potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming landscape to be present within these areas.

Geomorphology Indicators

The geomorphology within the EU is characterized by a small pocket of Pleistocene outburst gravels and large swaths of Holocene dune/stabilized dune deposits suggesting a high potential for archaeological resources associated with the Native American Precontact and Ethnographic landscape (and likely Pre-Hanford Early-Settlers/Farming Landscape) to be present within the surface and subsurface component of the EU.

Ground Disturbance Indicators

Examination of 2012 and 2013 aerial imagery of the EU indicates that there has been minimal disturbance within the riparian areas with the exception of a few dirt roads. The general undisturbed nature of the EU suggests that there is a very high potential for intact archaeological resources to be present (which is evidenced by the existence of numerous cultural resources both within and in close proximity to these defined areas).

Summary of Cultural Resources Review

Large portions of the EU have been inventoried for archaeological resources, with numerous archaeological sites/isolates recorded both within and adjacent to these areas. There are several archaeological resources recorded within the EU, two of which are currently listed on National Register of Historic Places and Washington Heritage Register as part of an archaeological district. While further research is needed to understand the extent of subsurface investigations in these areas, it is apparent that there is a high probability for intact buried archaeological materials/deposits in these areas.

There are numerous cultural resources associated with the Native American Precontact and Ethnographic Landscape, as well as the Pre-Hanford Early Settlers/Farming Landscape within 500 meters of the EU including archaeological isolates and sites.

Historic maps and aerial imagery indicate past land use associated with the Pre-Hanford Early Settlers/Farming Landscape timeframe. This, coupled with the presence of the Hanford townsite just northwest of the EU, suggests a high potential for the presence of archaeological resources associated with this landscape in the EU. Geomorphology indicators, along with known cultural resources data, suggests a high potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the EU. Additionally, because there is little evidence of surface disturbance, it is likely that these deposits remain intact.

With our understanding of these areas, archaeological monitoring may be appropriate as well as surface and subsurface archaeological investigations in these areas prior to initiating any remediation activity. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups who may have an interest in the areas (e.g. East Benton Historical Society,

Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References

CH2MHill Plateau Remediation Company 2014, *Hanford Site groundwater monitoring report for 2013*, DOE/RL-2014-32, Rev. 0, CH2MHill, Richland, Wash.

Department of Energy. 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Richland, Washington.

Hanf RW, JR, LF Morasch, TM Poston, and RL Dirkes. 2005. *Summary of the Hanford Site Environmental Report for Calendar Year 2004*. PNNL-15222 SUM. Pacific Northwest National Laboratory, Richland, WA.

Parker, P. and T. King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

USGS (United States Geological Survey). 1924. Hanford Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

Evaluation Unit: 200-West Groundwater
 ID: CP-GW-2
 Group: Groundwater
 Operable Unit Cross-Walk: 200-ZP-5
 200-UP-1
 Related EU: CP-LS-2, 3, 4, 5, 6
 CP-TF-1, 2, 3, 4
 Sites & Facilities: Existing groundwater plumes emanating from the 200-West Area.
 Includes pump and treat systems.
 Key Data Sources Docs: NA

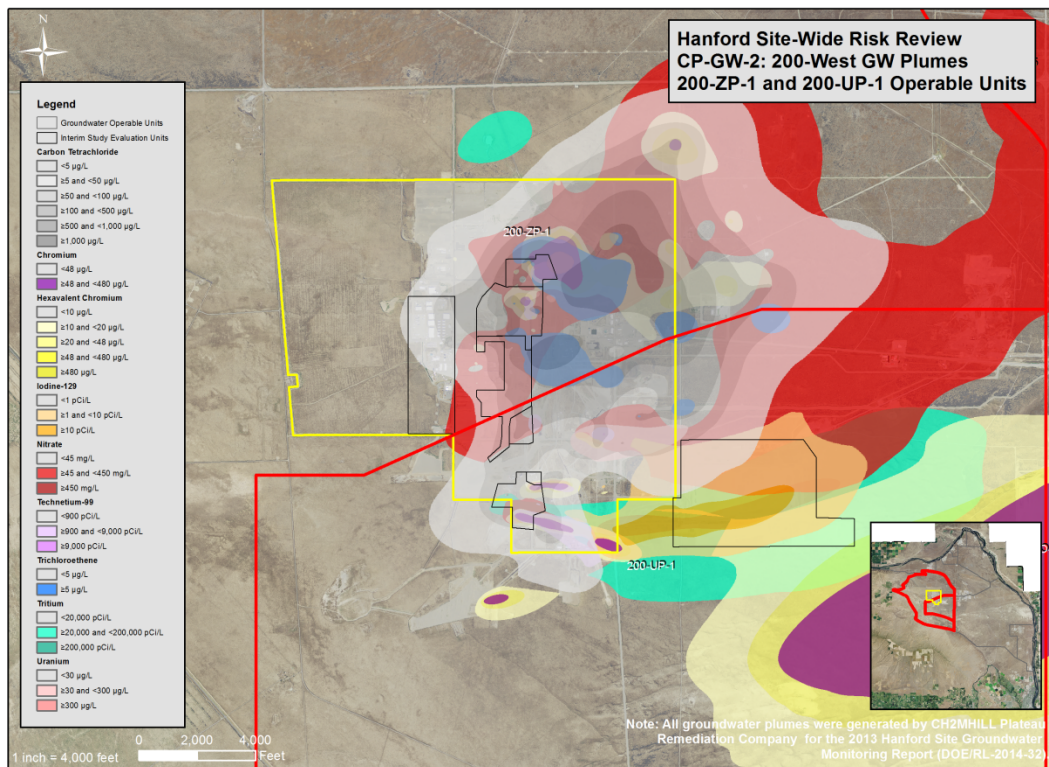


Figure K.38. Site Map with Evaluation Unit Boundaries

CP-GW-2: 200-West Groundwater Plumes

This review is limited to the region of the evaluation units where groundwater intercepts the riparian vegetation. In CP-GW-2, there is no area where groundwater intercepts riparian vegetation, so no additional information is included at this time.

Evaluation Unit: 324 Building
 ID: RC-DD-1
 Group: D&D
 Operable Unit Cross-Walk: 300-FF-2
 Related EU: RC-GW-1
 Sites & Facilities: 324 Building and associated soils contamination under the building
 Key Data Sources Docs: 300-FF-2 ROD
 WCH-140, Rev 4
 WCH-503, Rev 0

DRAFT

Figure K.39. Site Map with Evaluation Unit Boundaries

RC-DD-1: 324 Building

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

Most of the 324 Building EU has been inventoried for cultural resources under HCRC# 2011-300-024 (Purtzer 2011), HCRC# 2011-300-046 (Sharpe et al 2012), and HCRC# 2012-300-009b (Mendez et. al 2012) with negative findings. Demolition and remediation activities within the 324 Building EU have been addressed in an NHPA Section 106 under HCRC# 2011-300-0024 (Purtzer 2011). Given the extensive disturbance within the 324 Building EU, it is unlikely, but it is possible that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly if undisturbed soil deposits exist within the 324 Building EU. There are important

cultural resources associated with the Native American Precontact and Ethnographic Landscape located in close vicinity to the 324 Building EU

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁶⁵

- There are no known recorded archaeological sites or TCPs located within the 324 Building EU.
- The 324 Building, Chemical Engineering Laboratory, a contributing property within the Manhattan Project/Cold War era Landscape with no additional documentation required is located within the 324 Building EU. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for this property.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- There are five archaeological sites located within 500 meters of the 324 Building EU. These include one isolated find, three National Register-eligible sites, and a state-Registered archaeological district associated with the Native American Precontact and Ethnographic Landscape and one isolated find associated with the Pre-Hanford Early Settlers and Farming Landscape. The archaeological isolates have not been formally evaluated for listing in the National Register of Historic Places, however, it should be noted that isolates are typically considered not eligible.
- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500-meters of the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.
- Twenty-four National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the EU (all 25 are contributing within the Manhattan Project and Cold War Era Historic District, 17 with individual documentation required and 7 with no additional documentation required). In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for these properties.

⁶⁵ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

**Table K.X. National Register-eligible Manhattan Project and Cold War Era Landscape
Buildings located within 500 meters of the 324 Building EU**

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|---|---|--|--|-------------------------------------|
| 308/ 308-A | Fuels Development Laboratory Plutonium Fabrication Pilot Plant | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 309 | Sp-100 Ges Test Facility Plutonium Recycle Test Reactor | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 318 | Radiological Calibrations Laboratory High Temperature Lattice Test Reactor | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 320 | Physical Sciences Laboratory Low Level Radiochemistry Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 325/ 325-A | Cesium Recovery Facility Part Of 325 Radiochemistry Laboratory/ Cerium Recovery | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 326 | Materials Sciences Laboratory Physics and Metallurgy Laboratory | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 329 | Chemical Sciences Biophysics Laboratory | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 340 Complex (340, 340-A, 340-B) | Waste Neutralization Facility | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 382 | Pump House Building | A.5 | Contributing Property Recommended for | HPIF |

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|---|--|---|-------------------------------------|
| | | | Individual Documentation | |
| 3709-A | 300 Area Fire Station | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 3614-A | River Monitoring Station | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 3760 | 3760 Office Building/Hanford Technical Library | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 3790 | Badging Office/Safeguards and Security Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 331 | Life Sciences Laboratory/Virology Laboratory | A.6 | Contributing Property w/ no additional documentation requirements | |
| 339-A | Classified Computer Facility | A.6 | Contributing Property w/ no additional documentation requirements | |
| 350 | Plant Operations & Maintenance Facility | A.6 | Contributing Property w/ no additional documentation requirements | |
| 3707-F | Radiation Monitoring Building/Personnel Survey | A.6 | Contributing Property w/ no additional documentation requirements | |
| 3714 | Organic Chemistry Laboratory | A.6 | Contributing Property w/ no additional documentation requirements | |
| 3730 | Graphite Laboratory and Shop/Gamma | A.6 | Contributing Property w/ no additional | |

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|----------------------|---|---|------------------------------|
| | Irradiation Facility | | | documentation requirements |
| 3766 | Office Building | A.6 | Contributing Property w/ no additional documentation requirements | |

Closest Recorded TCP

There are no known recorded TCPS known to be visible from the 324 Building EU or within the immediate vicinity.

Historic Map and Aerial Photograph Indicators

A review of 1916 historic United States Geological Survey (USGS) topographic maps (USGS 1916) depicts evidence of historic land associated with the community of Fruitvale school, within the 324 Building EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the 324 Building EU were designated as part of the plat of Fruitvale in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs confirm additional evidence of historic land use including various roads. This information indicates a high potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming landscape to be present within the 324 Building EU.

Geomorphology Indicators

The geomorphology within the 324 Building EU is combination of Pleistocene outburst gravels with a thin layer of Holocene deposits suggesting a high potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface component of the 324 Building EU depending upon the location of these soils within the 324 Building EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that the EU is heavily disturbed by the presence of the 324 Building, various waste sites, staging areas, and roads. This disturbance indicates that there is a very low potential for intact archaeological resources to be present within the 324 Building EU.

Summary of Cultural Resources Review

Most of the 324 Building EU has been inventoried for cultural resources with negative findings. Demolition and remediation activities within the 324 Building EU have been addressed in a

previously completed NHPA Section 106 cultural resources review (Purtzer 2011). It is very unlikely that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface) given the extensive disturbance present within the 324 Building EU.

There are no cultural resources (archaeological sites/isolates or TCPs) known to be located within the 324 Building EU. The 324 Building, Chemical Engineering Laboratory, a contributing property within the Manhattan Project/Cold War era Landscape with no additional documentation required is located within the 324 Building EU. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for this property.

There are several cultural resources associated with all three landscapes located within 500 meters of the 324 building EU. There are five archaeological sites located within 500 meters of the 324 Building EU. These include one isolated find, three National Register-eligible sites, and a state-Registered archaeological district associated with the Native American Precontact and Ethnographic Landscape and one isolated find associated with the Pre-Hanford Early Settlers and Farming Landscape. The archaeological isolates have not been formally evaluated for listing in the National Register of Historic Places, however, it should be noted that isolates are typically considered not eligible. Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500-meters of the EU. In addition, 24 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the EU (all 25 are contributing within the Manhattan Project and Cold War Era Historic District, 17 with individual documentation required and 7 with no additional documentation required). In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for these Manhattan Project/Cold War Era properties.

Historic maps and aerial imagery indicate that historic land use was occurring within the Pre-Hanford Early Settlers/Farming and the Manhattan Project and Cold War era. Geomorphology indicators suggests the potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic landscape to be present depending on the location of these soils within the 324 Building EU. However because of the extensive disturbance within the 324 Building EU, it is unlikely any archaeological material remains intact.

Because of the potential for pockets of undisturbed deposits to exist within the EU, archaeological monitoring as well as surface and subsurface archaeological investigations in these areas prior to and during remediation activity. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups who may have an interest in the areas (e.g. East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor Museum Association) may need to occur. Consultation

with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References⁶⁶

Department of Energy. 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Richland, Washington.

Mendez, K., H. Hay, and K. Clark. 2012. *Cultural Resource Review for the City of Richland 300 Area Electrical Service to the 324 Building, Hanford Site, Richland, Washington* (HCRC#2012-300-009b). CH2M Hill. Richland, Washington. **

Parker, P. and T. King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

Purtzer, L. 2011. *Remediation of 316-3 Waste Site (307 Disposal Trenches) in the 300 Area of the Hanford Site, Benton County, Washington*. (HCRC# 2011-300-024). Washington Closure Hanford. Richland, Washington. **

Sharpe, J.J., R. DeMaris, H. Hay, D. Sheldon, and S.N. Harrison. 2012. *Remedial Actions, Decommission, Deactivation, Decontamination, Demolition, Support Infrastructure, Removal and Related Activities of Waste Sites, Orphan Sites, Buildings, Miscellaneous Restoration, and Housekeeping Debris in the 300 Area of the Hanford Site, Benton County, Washington*. HCRC#2011-300-046. Washington Closure Hanford, Richland, Washington. **

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

⁶⁶ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: KE/KW Reactors
 ID: RC-DD-2
 Group: D&D
 Operable Unit Cross-Walk: 100-KR-1
 100-KR-2
 Related EU: RC-LS-2
 RC-GW-3
 Sites & Facilities: KE/KW reactors, basin, ancillary buildings, sludge, and associated soils contamination
 Key Data Sources Docs: DOE/RL-96-17
 DOE/RL-2005-26, Rev 1
 BHI-01172, Rev 2

DRAFT

Figure K.40. Site Map with Evaluation Unit Boundaries

RC-DD-2: KE/KW Reactors

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The K Area Reactors EU is located near the Columbia River on the Hanford Site, in an area generally known to have high potential to contain cultural resources associated with all three landscapes (Native American Pre-contact and Ethnographic Landscape, Pre-Hanford Early Settlers/Farming Landscape and the Manhattan Project/Cold War Landscape). A portion of the EU has been inventoried for cultural resources during a sludge treatment project in 2012 under HCRC#2012-100-020, (Mendez and Clark with Wright 2012). Remediation of waste sites within the K Area Waste Sites Evaluation Unit has been addressed by a NHPA Section 106 review

under HCRC#2011-100-015 (Mendez 2011). There is a possibility that intact archaeological material is present in the small areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly where undisturbed soil deposits exist within the EU.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs)⁶⁷ located within the EU

- There are no known TCPs within the EU.
- No archaeological resources have been documented within the EU.
- Five National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within the EU (all 5 are contributing within the Manhattan Project and Cold War Era Historic District, 4 with individual documentation required, 1 with no individual documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) and building demolition is ongoing.

Table K.30. National Register-eligible Manhattan Project/Cold War Era buildings located within the RC-DD-2, KE/KW Reactors EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|--|---|---|------------------------------|
| 105-KW | Reactor Building and Process Water Tunnels | A.5 | Buildings/Structures recommended for Mitigation | HPIF |
| 107-KW | Effluent Water Retention Basin | A.5 | Buildings/Structures recommended for Mitigation | HPIF |
| 116-KW | Reactor Exhaust Stack | A.5 | Buildings/Structures recommended for Mitigation | HPIF |
| 119-KW | Exhaust Air Sampling Building | A.5 | Buildings/Structures recommended for Mitigation | HPIF |
| 105-KE | Reactor Building | A.6 | Contributing Property w/ no additional | HPIF |

⁶⁷ Traditional Cultural Property (TCP) is defined as, “a property that is eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in the community’s history, and (b) are important in maintaining the continuing cultural identity of the community” (Parker and King 1998).

documentation
requirements

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- There are no documented TCPs located within 500 meters of the EU.
- Ten additional cultural resources have been documented within 500-meters of the EU. These resources include archaeological sites and isolates associated with the Native American Pre-contact and Ethnographic, Pre-Hanford Early Settlers/Farming and Manhattan Project/Cold War era cultural landscapes.
 - Four archaeological sites (3 eligible and 1 unevaluated) associated with the Native American Pre-contact and Ethnographic landscape.
 - One archaeological site (eligible) associated with the Pre-Hanford Early Settlers/Farming landscape.
 - Three archaeological sites (1 eligible, 1 not eligible and 1 unevaluated) and 2 isolates (2 not eligible) associated with the Manhattan Project/Cold War era landscape.
- Ten National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the EU (all 10 are contributing within the Manhattan Project and Cold War Era Historic District, 3 with individual documentation required, 7 with no individual documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) and building demolition is ongoing.

Table K.X. National Register-eligible Manhattan Project/Cold War Era buildings located within 500 meters of the RC-DD-2, KE/KW Reactors EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|---------------------|---|---|------------------------------|
| 190-KW | Main Pump House | A.5 | Buildings/Structures recommended for Mitigation | HPIF |
| 1717-K | Maintenance Shop | A.5 | Buildings/Structures recommended for Mitigation | HPIF |
| 1720-K | Patrol Headquarters | A.5 | Buildings/Structures recommended for Mitigation | HPIF |

| | | | |
|--------|----------------------------|-----|--|
| 115-KW | Gas Recirculation Building | A.6 | Contributing Property w/ no additional documentation requirements |
| 165-KE | Power Control Building | A.6 | Contributing Property w/ no additional documentation requirements |
| 165-KW | Power Control Building | A.6 | Contributing Property w/ no additional documentation requirements |
| 167-K | Crosstie Tunnel Building | A.6 | Contributing Property w/ no additional documentation requirements |
| 1724-K | Maintenance Shop | A.6 | Contributing Property w/ no additional documentation requirements |
| 1908-K | Outfall Structure | A.6 | Contributing Property w/ no additional documentation requirements |
| 190-KE | Process Water Pump House | A.6 | Contributing Property w/ no additional documentation requirements |

Closest Recorded TCP

There are three recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the RC-DD-2, KE/KW Reactors EU.

Historic Map and Aerial Photograph Indicators

A review of 1916 United States Geological Survey (USGS) topographic maps (USGS 1916) shows no indications of historic land use such as roads or buildings within the 100-K Reactors EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the EU were owned by the State of Washington, Benton County, and the Chicago, Milwaukee, St. Paul, and Pacific Railroad company in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). The 1943 aerial imagery does not indicate any historic use of the EU, except for a small road or trail traversing the northeast corner. North of the EU, historic land

use included an irrigation canal, agricultural fields, and several trails, roads, or linear utilities. Collectively, this information suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming landscape to be present within the EU.

Geomorphology Indicators

Surface geology of the EU consists of sedimentary Pleistocene flood deposits and gravels. This geomorphological environment suggests low to medium potential for archaeological resources associated with the Native American Pre-contact/Ethnographic Landscape to be present within the subsurface component of this EU. Areas outside of the EU immediately adjacent to the north along the Columbia River shoreline have a particularly high likelihood for containing subsurface archaeological deposits.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that 100% of the EU has undergone extensive ground disturbances. The depth of these disturbances is not known. However, it is highly unlikely that cultural resources would be present on or near the ground surface within the EU.

Summary of Cultural Resources Review

A small portion of the K Area Reactors EU has been inventoried for archaeological resources. Remediation of waste sites within the K Area Waste Sites Evaluation Unit has been addressed by a previously completed NHPA Section 106 review (Mendez 2011). There is a possibility that intact archaeological material is present in the small areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly where undisturbed soil deposits exist within the EU.

Five National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within the EU (all 5 are contributing within the Manhattan Project and Cold War Era Historic District, 4 with individual documentation required, 1 with no individual documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) and building demolition is ongoing.

| Building # | Building Name |
|------------|--|
| 105-KW | Reactor Building and Process Water Tunnels |
| 107-KW | Effluent Water Retention Basin |
| 116-KW | Reactor Exhaust Stack |
| 119-KW | Exhaust Air Sampling Building |
| 105-KE | Reactor Building |

No other archaeological resources or TCPs are known to be recorded within the EU.

There are 10 archaeological sites/isolates within 500 meters of the EU: 4 archaeological sites (3 eligible and 1 unevaluated) associated with the Native American Pre-contact and Ethnographic landscape; 1 archaeological site (eligible) associated with the Pre-Hanford Early

Settlers/Farming landscape, 3 archaeological sites (1 eligible, 1 not eligible, and 1 unevaluated); and 2 isolates (2 not eligible) associated with the Manhattan Project/Cold War era landscape. In addition, 10 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the EU (all 10 are contributing within the Manhattan Project and Cold War Era Historic District, 3 with individual documentation required, 7 with no individual documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) and building demolition is ongoing.

The geomorphologic composition of the EU, historic map, and both historic and modern aerial imagery all suggest low potential for subsurface intact archaeological resources in EU.

Because the RC-DD-2, KE/KW Reactor EU has not been completely inventoried for cultural resources, it may be appropriate to conduct surface archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups who may have an interest in the areas (e.g. East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References⁶⁸

Department of Energy. 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Richland, Washington.

Mendez, K. 2011. *Field Remediation of Waste Sites in the 100-K Reactor Area (HCRC#2011-100-015)*. CH2M Hill. Richland, Washington.

Mendez, K and C Clark with M Wright. 2012. *Construction and Demolition of the 105-KW Annex Temporary Facility to Support the Sludge Treatment Project at the 100-K Area of the Hanford Site, Benton County, Washington (HCRC#2012-100-020)*. CH2M HILL. Richland, Washington.

Parker, P. and T. King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

⁶⁸ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: Final Reactor Disposition
 ID: RC-DD-3
 Group: D&D
 Operable Unit Cross-Walk: TBD
 Related EU: NA
 Sites & Facilities: C, D, DR, F, H, KE, KW, and N Reactors

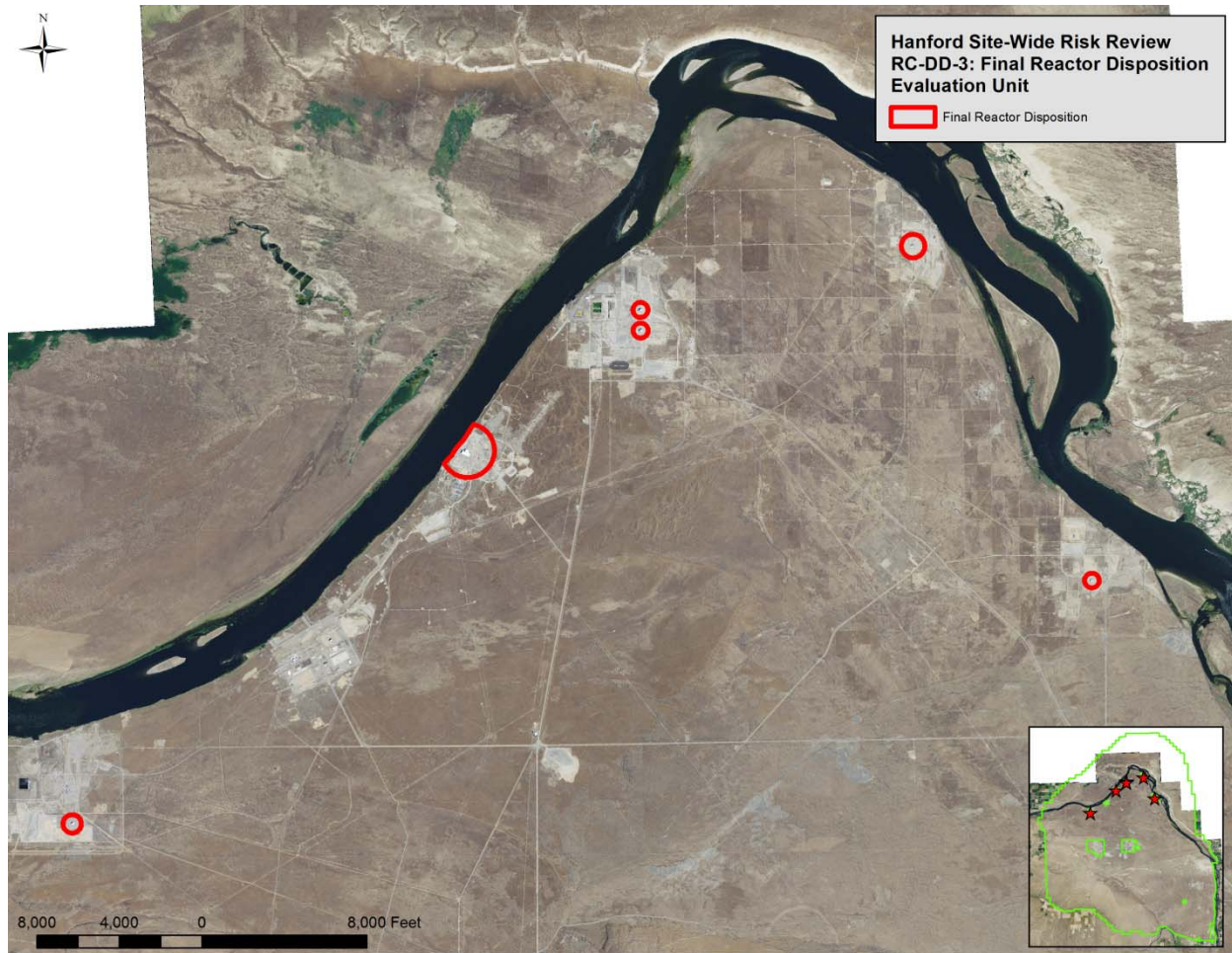


Figure K.41. RC-DD-3 (Final Reactor Disposition) Site Location Map

RC-DD-3: Final Reactor Disposition

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The RC-DD-3, Final Reactor Disposition EU is located in the 100 Areas (B/C, N, D/DR, H and F) of the Hanford Site, along the Columbia River.

100 B/C Area

Portions of the EU have been inventoried for cultural resources under, HCRC# 2011-100-049 (DeMaris et al. 2011b), HCRC# 2011-100-080 (Mendez & Christensen 2011), HCRC#

2013-100-018 (Harrison and Purtzer 2013), HCRC# 2013-100-033 (Purtzer et al. 2013) and HCRC# 2014-100-005 (McFarland et al. 2014).

100-N Area

Portions of the EU have been inventoried for cultural resources under, HCRC# 89-100-005 (Cadoret 1989), HCRC# 92-600-026 (Longenecker 1993), HCRC# 97-100-021 (Sharpe 1997), HCRC# 99-600-011 (Cadoret 1999), HCRC# 2001-600-033b (Woody 2002), HCRC# 2010-100-097 (Harrison & Sharpe 2010), HCRC# 2011-100-044 (Sheldon et al. 2011a), HCRC# 2011-100-048 (Harrison et al. 2012), HCRC# 2011-100-049 (DeMaris et al. 2011b), HCRC# 2011-100-050 (DeMaris et al. 2011a), HCRC# 2011-100-099 (Harrison et al. 2011), HCRC# 2014-100-006 (Sharpe 2014) and HCRC# 2015-100-008 (Mendez 2015).

100 D/DR Area

Small portion of the EU have been inventoried for cultural resources under, HCRC# 2011-100-049 (DeMaris 2011a) and HCRC# 2011-100-091 (Sheldon et al 2011b).

100-H Area

Most of the EU has been inventoried for cultural resources under, HCRC# 2011-100-038 (Purtzer et al. 2011) and HCRC# 2011-100-041 (Sheldon 2011).

100-F Area

This portion of the EU has not been inventoried for cultural resources.

The entire EU is heavily disturbed from the installation, operations and maintenance of the reactors and supporting infrastructure, suggesting a low potential for intact surface and subsurface archaeological resources.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁶⁹

100 B/C Area

- There is one National Register-eligible Manhattan Project and Cold War Era building located within the 100 B/C portion of the EU (contributing with no additional documentation required). Mitigation for contributing buildings/structures has been completed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998) and buildings demolition is ongoing.

⁶⁹ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (a) rooted in the history of a community, and (b) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

Table K.31. National Register-eligible Manhattan Project and Cold War Era building located within the 100 B/C portion of the RC-DD-3, Final Reactor Disposition EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|---------------|---|--|------------------------------|
| 105-C | C Reactor | A.6 | Contributing Property w/ no additional documentation requirements | |

- No additional archaeological sites and/or TCPs are known to exist within the 100 B/C Area of the EU.

100-N Area

- There is one known Traditional Cultural Property (TCP) located within the 100-N portion of the Final Reactor Disposition EU.
- A segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within the 100-N portion of the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for this property.
- There are 4 National Register-eligible Manhattan Project and Cold War Era buildings located within the 100-N portion of the RC-DD-3, Final Reactor Disposition EU (all 4 are contributing within the Manhattan Project and Cold War Era Historic District, 3 recommended for individual documentation and 1 with no additional documentation required). Mitigation for contributing buildings/structures has been completed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)* and buildings demolition is ongoing.

Table K.32. National Register-eligible Manhattan Project and Cold War Era buildings located within the 100-N portion of the RC-DD-3, Final Reactor Disposition EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|-------------------------|---|--|------------------------------|
| 105-N | N Reactor | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 109-N | Heat Exchanger Building | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 182-N | High Lift Pump House | A.5 | Contributing Property Recommended for | HPIF |

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|-------------------|---|---|------------------------------|
| 105-ND | Remote Air Intake | A.6 | Contributing Property w/ no additional documentation requirements | Individual Documentation |

- In addition, one archaeological site associated with the Pre-Hanford Early Settlers/Farming Landscape has been recorded within the 100-N portion of the EU and this resource has been determined not eligible for listing in the National Register of Historic Places.

100 D/DR Area

- There are 2 National Register-eligible Manhattan Project and Cold War Era buildings located within the 100 D/DR portion of the RC-DD-3, Final Reactor Disposition EU (both are contributing within the Manhattan Project and Cold War Era Historic District with no additional documentation required). Mitigation for contributing buildings/structures has been completed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998) and buildings demolition is ongoing.

Table K.33. National Register-eligible Manhattan Project and Cold War Era buildings located within the 100 D/DR portion of the RC-DD-3, Final Reactor Disposition EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|-----------------------|---|---|------------------------------|
| 105-D | D Reactor | A.6 | Contributing Property w/ no additional documentation requirements | |
| 105-DR | D Replacement Reactor | A.6 | Contributing Property w/ no additional documentation requirements | |

100-H Area

- There is one National Register-eligible Manhattan Project and Cold War Era building located within the 100-H portion of the EU (contributing with no additional documentation required). Mitigation for contributing buildings/structures has been completed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998) and buildings demolition

is ongoing.

Table K.34. National Register-eligible Manhattan Project and Cold War Era building located within the 100-H portion of the RC-DD-3, Final Reactor Disposition EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|----------------------|--|--|-------------------------------------|
| 105-H | H Reactor | A.6 | Contributing Property w/ no additional documentation requirements | |

100-F Area

- There is one National Register-eligible Manhattan Project and Cold War Era building located within the 100-F portion of the EU (contributing with no additional documentation required). Mitigation for contributing buildings/structures has been completed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998) and buildings demolition is ongoing.

Table K.35. National Register-eligible Manhattan Project and Cold War Era building located within the 100-F portion of the RC-DD-3, Final Reactor Disposition EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|----------------------|--|--|-------------------------------------|
| 105-F | F Reactor | A.6 | Contributing Property w/ no additional documentation requirements | |

Archaeological sites, buildings and TCPs located within 500 meters of the EU

100 B/C Area

- The B-Reactor, a National Historic Landmark, is located within 500 meters of the 100 B/C portion of the EU (contributing property recommended for individual documentation). This building has been selected for preservation, and HAER level documentation has been completed. Additionally, the B Reactor (105-B) has been identified as part of the Manhattan Project National Historic Park by the National Park Service.

Table K.36. National Historic Landmark, as part of the Manhattan Project National Historic Park, located within 500 meters of the 100 B/C portion of the RC-DD-3, Final Reactor Disposition EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|----------------------|--|--|-------------------------------------|
| 105-B | B Reactor | A.5 | Contributing Property Recommended for Individual Documentation | HAER |

- A segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within 500 meters of the 100 B/C portion of the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for this property.
- Two archaeological sites have been recorded within 500 meters of the 100 B/C portion of the EU. One of these resources is associated with the Native American Precontact and Ethnographic Landscape, and remains unevaluated for the National Register of Historic Places. The other archaeological site is associated with the Manhattan Project and Cold War Era Landscape and has been determined not eligible for listing in the National Register of Historic Places.

100-N Area

- There are 2 National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the 100-N portion of the EU (both are contributing to the historic district, 1 recommended for individual documentation and 1 with no additional documentation required). Mitigation for contributing buildings/structures has been completed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)* and buildings demolition is ongoing.

Table K.37. National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the 100-N portion of the RC-DD-3, Final Reactor Disposition EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|--------------------------------|---|---|------------------------------|
| 155-N | Export Power Switchyard | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 1120-N | Equipment Storage and Training | A.6 | Contributing Property w/ no additional documentation requirements | |

- Five archaeological sites and one National Register of Historic Places listed Archaeological District have been recorded within 500 meters of the 100-N portion of the EU. All 5 of these resources as well as the recorded archaeological district are associated with the Native American Precontact and Ethnographic Landscape. One of the archaeological sites has been determined eligible for listing in the National Register of Historic Places, one remains unevaluated, one has been determined a contributing component to the National Register Listed Archaeological District, and the remaining two have been determined contributing components to the National Register eligible TCP that lies within the 100-N Area vicinity.

100 D/DR Area

- There are 2 National Register-eligible Manhattan Project and Cold War Era building located within 500 meters of the 100 D/DR portion of the EU (both are contributing to the historic district with no additional documentation required). Mitigation for contributing buildings/structures has been completed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)* and buildings demolition is ongoing.

Table K.38. National Register-eligible Manhattan Project and Cold War Era building located within 500 meters of the 100 D/DR portion of the RC-DD-3, Final Reactor Disposition EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|-----------------------------------|---|---|------------------------------|
| 182-D | Pumphouse | A.6 | Contributing Property w/ no additional documentation requirements | |
| 183-D | Filter Plant & Chemical Treatment | A.6 | Contributing Property w/ no additional documentation | |

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|---------------|---|-------------------------------|------------------------------|
| | Building | | requirements | |

- A segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within 500 meters of the 100 D/DR portion of the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for this property.
- No additional archaeological sites and/or TCPs are currently recorded within 500 meters of the 100-D/DR portion of the EU boundary.

100-H Area

- There is one National Register-eligible Manhattan Project and Cold War Era building located within 500 meters of the 100-H portion of the EU (contributing to the historic district with no additional documentation required). Mitigation for contributing buildings/structures has been completed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)* and buildings demolition is ongoing.

Table K.39. National Register-eligible Manhattan Project and Cold War Era building located within 500 meters of the 100-H portion of the RC-DD-3, Final Reactor Disposition EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|---------------|---|--|------------------------------|
| 1713-H | Warehouse | A.6 | Contributing Property w/ no additional documentation requirements | |

- A segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within 500 meters of the 100-H portion of the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for this property.
- Three archaeological sites/isolates and one National Register Listed Archaeological District have been recorded within 500 meters of the 100-H portion of the EU. One of these archaeological resources (1 isolate) and the Archaeological District are associated with the Native American Precontact and Ethnographic Landscape. This isolate has not been formally evaluated for listing in the National Register of Historic Places, however it should be noted that isolates are typically considered not eligible. The remaining two

archaeological sites are associated with the Pre-Hanford Early Settlers/Farming Landscape. One of these resources has been determined eligible for listing in the National Register of Historic Places, while the other remains unevaluated.

100-F Area

- A segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within 500 meters of the 100-F portion of the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for this property.
- One archaeological site associated with the Pre-Hanford Early Settlers/Farming Landscape has been recorded within 500 meters of the 100-F portion of the EU. This site currently remains unevaluated for listing in the National Register of Historic Places.

Closest Recorded TCP

100 B/C

There are 2 recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the 100 B/C portion of the EU.

100-N

There are 3 recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the 100-N portion of the EU.

100 D/DR

There are 3 recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the 100 D/DR portion of the EU.

100-H

There are 2 recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the 100-H portion of the EU.

100-F

There are 2 recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the 100-F portion of the EU.

Historic Map and Aerial Photograph Indicators

100 B/C

Review of historic United States Geological Survey (USGS) topographic maps (USGS 1916) show some development in the 100 B/C area of the EU, including several primary and secondary roadways. In addition, the Chicago Milwaukee and St. Paul Railroad sit just north of the 100-B/C portion of the EU. Ownership information provided on the 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the 100 B/C portion of the EU were owned by Benton County (the 1943 Hanford Engineer Works Real Estate

maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs confirm some development in the area. The only feature visible is a small roadway which runs through the southeastern portion of the EU. This information suggests that there is a moderate potential for archaeological resources associated with the Pre-Hanford Early-Settlers/Farming Landscape to be present within the EU boundary.

100-N Area

Review of historic United States Geological Survey (USGS) topographic maps (USGS 1916) shows some development in the 100-N portion of the EU, including a secondary roadway that runs through the 100-N portion of the EU boundary. In addition, several other primary and secondary roadways as well as a few structures are depicted in close proximity to the 100-N portion of the EU. Ownership information provided on the 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the 100-N portion of the EU were owned by the Priest Rapids Irrigation District and under contract with the Priest Rapids Development Company (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs confirm some development in the area. Several roadways appear within this portion of the EU boundary. This information suggests that there is a moderate potential for archaeological resources associated with the Pre-Hanford Early-Settlers/Farming landscape to be present within the EU boundary.

100 D/DR Area

Review of historic United States Geological Survey (USGS) topographic maps (USGS 1916) does not show any development in the immediate vicinity of the 100 D/DR portion of the EU boundary. Ownership information provided on the 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the 100 D/DR portion of the EU were owned by the Priest Rapids Irrigation District and under contract with the Priest Rapids Development Company, and Benton County (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs confirm little development in the area. A roadway on the northern and western boundaries of the 100 D/DR portion of the EU does appear. This information suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming landscape to be present.

100-H Area

Review of historic United States Geological Survey (USGS) topographic maps (USGS 1924) shows significant development in the area of the 100-H portion of the EU. Several primary roadways are in close proximity to the EU, as well as number of structures. The topographic map calls out the Maplehurst Ranch in the area of the EU boundary. Ownership information provided on the 1943 Hanford Engineer Works Real Estate maps state that the lands

contained within the 100-H portion of the EU were owned by the Benton County and under contract with W.E. Sapp, Lillie C. Robinson Baxter and Priest Rapids Irrigation District under contract with the Priest Rapids Development Company (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs confirm development in this portion of the EU. Land development appears mostly in the form of agricultural fields and orchards within the EU boundary, with farmsteads and other standing structures located within the vicinity of the EU, along the Columbia River shoreline. This information suggests a high potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming landscape to be present.

100-F Area

Review of historic United States Geological Survey (USGS) topographic maps (USGS 1924) shows little development in the area of the 100-F portion of the EU. One primary roadway lies within close proximity to the EU. Ownership information provided on the 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the 100-N portion of the EU were owned by John C. Hyer and the Priest Rapids Irrigation District and under contract with the Priest Rapids Development Company (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs show little development within the 100-F portion of the EU boundary itself; however agricultural development is apparent in close proximity to the EU to the north and west. Additionally, a roadway runs along the northern boundary of the EU. This information suggests a moderate potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming landscape to be present.

Geomorphology Indicators

100 B/C

The geomorphology within the 100 B/C portion of the EU is comprised of Pleistocene outburst flood deposits and gravel. This suggests a low potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface components of this portion of the EU. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

100-N Area

The geomorphology within the 100-N portion of the EU is comprised of Pleistocene outburst flood deposits and gravel overlaid in the western portion of the EU by Quaternary alluvium. This suggests a moderate potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface components of this portion of the EU. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

100 D/DR Area

The geomorphology within the 100 D/DR portion of the EU is comprised of Pleistocene outburst flood deposits and gravel overlaid in the northeastern portion of the EU (105-D portion) by Holocene dune sand. This suggests a moderate potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape associated to be present within the surface and subsurface components of this portion of the EU. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

100-H Area

The geomorphology within the 100-H portion of the EU is comprised of Pleistocene outburst flood deposits and gravel. This suggests a low potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface components of this portion of the EU. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

100-F Area

The geomorphology within the 100-F portion of the EU is comprised of Holocene dune sand. This suggests a high potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface components of this portion of the EU. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Ground Disturbance Indicators

100 B/C

Examination of 2012 aerial imagery indicates that the 100 B/C portion of the EU has been heavily disturbed through the construction, operation, maintenance of the 100 B/C Area facilities and supporting infrastructure. The highly disturbed nature of the EU suggests a low potential for intact archaeological resources to exist within this portion of the EU boundary.

100-N Area

Examination of 2012 aerial imagery indicates that the 100-N portion of the EU has been heavily disturbed through the construction, operation and maintenance of the 100-N Area facilities and supporting infrastructure. Small pockets of undisturbed areas do appear, particularly in the northern and western portion of the EU. The highly disturbed nature of the EU suggests a low potential for intact archaeological resources. Resources, if present, would likely be limited to these small pockets of intact, undisturbed sediments along the western and northern margins of the 100-N portion of the EU.

100 D/DR Area

Examination of 2012 aerial imagery indicates that the 100 D/DR portion of the EU has been heavily disturbed through the construction, operation and maintenance of the 100 D/DR Area facilities and supporting infrastructure. The highly disturbed nature of the EU suggests a low potential for intact archaeological resources.

100-H Area

Examination of 2012 aerial imagery indicates that the 100-H portion of the EU has been heavily disturbed through the construction, operation and maintenance of the 100-F Area facilities and supporting infrastructure. The highly disturbed nature of the EU suggests a low potential for intact archaeological resources.

100-F Area

Examination of 2012 aerial imagery indicates that the 100-F portion of the EU has been heavily disturbed through the construction, operation and maintenance of the 100-F Area facilities and supporting infrastructure. The highly disturbed nature of the EU suggests a low potential for intact archaeological resources.

Summary of Cultural Resources Review**100 B/C**

Portions of the 100 B/C segment of the EU have been inventoried for archaeological resources. There is one National Register-eligible Manhattan Project and Cold War Era building, C Reactor (105-C), located within the 100 B/C portion of the EU (contributing with no additional documentation required). Mitigation for contributing buildings/structures has been completed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998) and buildings demolition is ongoing.

No additional archaeological sites/isolates, TCPs and/or structures are located within this portion of the EU.

There is one National Register-eligible Manhattan Project and Cold War Era building located within 500 meters of the 100 B/C portion of the EU (contributing property recommended for individual documentation). This building, B Reactor (105-B) is a National Historic Landmark and has been identified as part of the Manhattan Project National Historic Park by the National Park Service.

Additionally, a segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within 500 meters of the 100 B/C portion of the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements for these two properties have been completed. Two archaeological sites have been recorded within 500 meters of the 100 B/C portion of the EU. One of these resources is associated with the Native American Precontact and Ethnographic Landscape, and remains unevaluated for the National Register of Historic Places. The other archaeological site is associated with the Manhattan Project and Cold War Era Landscape and has been determined not eligible for listing in the National Register of Historic Places.

Historic Maps and aerial imagery suggests a moderate potential for resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present. The geomorphology within the 100 B/C portion of the EU suggests a low potential for archaeological resources

associated with the Native American Precontact and Ethnographic to be present within the surface and subsurface components of this portion of the EU. A review of recent aerial imagery of the EU suggest heavily disturbed through the construction, operation, maintenance of the 100 B/C Area facilities and supporting infrastructure. The highly disturbed nature of the EU suggests a low potential for intact archaeological resources to exist within this portion of the EU boundary.

100-N Area

Portions of the 100-N segment of the EU have been inventoried for archaeological resources. There is one known TCP located within the 100-N portion of the RC-DD-3, Final Reactor Disposition EU. A segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within the 100-N portion of the EU. There are 4 National Register-eligible Manhattan Project and Cold War Era buildings located within the 100-N portion of the Final Reactor Disposition EU (all 4 are contributing within the Manhattan Project and Cold War Era Historic District, 3 recommended for individual documentation and 1 with no additional documentation required). Mitigation for contributing these properties have been completed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998) and buildings demolition is ongoing.

Table K.40. National Register-eligible Manhattan Project and Cold War Era buildings located within the 100-N portion of the RC-DD-3, Final Reactor Disposition EU

| Building # | Building Name |
|-------------------|-------------------------|
| 105-N | N Reactor |
| 109-N | Heat Exchanger Building |
| 182-N | High Lift Pump House |
| 105-ND | Remote Air Intake |

In addition, one archaeological site associated with the Pre-Hanford Early Settlers/Farming Landscape has been recorded within the 100-N portion of the EU and this resource has been determined not eligible for listing in the National Register of Historic Places.

There are 2 National Register-eligible Manhattan Project and Cold War Era building located within 500 meters of the 100-N portion of the EU (both are contributing to the historic district, 1 recommended for individual documentation and 1 with no additional documentation required). Mitigation for contributing buildings/structures has been completed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998) and buildings demolition is ongoing. In addition, 5 archaeological sites and one National Register of Historic Places listed Archaeological District have been recorded within 500 meters of the 100-N portion of the EU. All 5 of these resources as well as the recorded archaeological district are associated with the Native American Precontact and Ethnographic Landscape. One of the archaeological sites has been determined eligible for listing in the National Register of

Historic Places, one remains unevaluated, one has been determined a contributing component to the National Register Listed Archaeological District, and the remaining two have been determined contributing components to the National Register eligible TCP that lies within the 100-N Area vicinity.

Historic Maps and aerial imagery suggests a moderate potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape. The geomorphology within the 100-N portion of the EU suggests a moderate potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface components of this portion of the EU. A review of recent aerial imagery of the EU suggest heavily disturbed through the construction, operation, maintenance of the 100-N Area facilities and supporting infrastructure. Small pockets of undisturbed areas do appear, particularly in the northern and western portion of the EU. The highly disturbed nature of the EU suggests a low degree of potential for intact archaeological resources. Resources, if present, would likely be limited to these small pockets of intact, undisturbed sediments along the western and northern margins of the 100-N portion of the EU.

100 D/DR Area

Small portions of the 100 D/DR segment of the EU have been inventoried for archaeological resources. There are 2 National Register-eligible Manhattan Project and Cold War Era building located within the 100-D portion of the Final Reactor Disposition EU (both are contributing within the Manhattan Project and Cold War Era Historic District with no additional documentation required). Mitigation for contributing buildings/structures has been completed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998) and buildings demolition is ongoing.

Table K.41. National Register-eligible Manhattan Project and Cold War Era building located within the 100-D portion of the RC-DD-3, Final Reactor Disposition EU

| Building # | Building Name |
|-------------------|-----------------------|
| 105-D | D Reactor |
| 105-DR | D Replacement Reactor |

There are 2 National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the 100 D/DR portion of the EU (both are contributing to the historic district with no additional documentation required). Additionally, a segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within 500 meters of the 100 D/DR portion of the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these properties.

Historic Maps and aerial imagery indicate suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present in the 100D-DR portion of the EU. The geomorphology within the 100 D/DR portion of the EU suggests a moderate potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface components of this portion of the EU. A review of recent aerial imagery of the EU suggest the 100D/DR EU is heavily disturbed through the construction, operation, maintenance of the 100-D/DR Area facilities and supporting infrastructure. The highly disturbed nature of the EU suggests a low potential for intact archaeological resources. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

100-H Area

Most of the 100-H portion of the EU has been inventoried for archaeological resources. There is one National Register-eligible Manhattan Project and Cold War Era building, H Reactor (105-H), located within the 100-H portion of the EU (contributing with no additional documentation required). Mitigation for contributing buildings/structures has been completed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998) and buildings demolition is ongoing.

There is one National Register-eligible Manhattan Project and Cold War Era building located within 500 meters of the 100-H portion of the EU (contributing to the historic district with no additional documentation required). Additionally, a segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within 500 meters of the 100-H portion of the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property. Three archaeological sites/isolates and one National Register Listed Archaeological District have been recorded within 500 meters of the 100-H portion of the EU. One of these archaeological resources (1 isolate) and the Archaeological District are associated with the Native American Precontact and Ethnographic Landscape. This resource has not been formerly evaluated for listing in the National Register of Historic Places, however isolates are often considered not eligible. The remaining two archaeological sites are associated with the Pre-Hanford Early Settlers/Farming Landscape. One of these resources has been determined eligible for listing in the National Register of Historic Places, while the other remains unevaluated.

Review of historic maps and aerial imagery indicate farmsteads are present in the 100-H portion of the EU and there is a high potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming landscape to be present. The geomorphology within the 100-H portion of the EU suggests a low potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface components of this portion of the EU. Examination of recent aerial imagery indicates that the 100-H portion of the EU has been heavily disturbed through the

construction, operation and maintenance of the 100-H Area facilities and supporting infrastructure. The highly disturbed nature of the EU suggests a low degree of potential for intact archaeological resources. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

100-F Area

The 100-F portion of the EU has not been inventoried for cultural resources. There is one National Register-eligible Manhattan Project and Cold War Era building, F Reactor (105-F), located within the 100-F portion of the EU (contributing with no additional documentation required). Mitigation for contributing buildings/structures has been completed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998) and buildings demolition is ongoing.

A segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within 500 meters of the 100-F portion of the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property. Additionally, one archaeological site associated with the Pre-Hanford Early Settlers/Farming Landscape has been recorded within 500 meters of the 100-F portion of the EU. This site currently remains unevaluated for listing in the National Register of Historic Places.

Review of historic maps and aerial imagery suggest a moderate potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming landscape to be present. The geomorphology within the 100-F portion of the EU suggests a high potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface components of this portion of the EU. Examination of recent aerial imagery indicates that the 100-F portion of the EU has been heavily disturbed through the construction, operation and maintenance of the 100-F Area facilities and supporting infrastructure. The highly disturbed nature of the EU suggests a low degree of potential for intact archaeological resources. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Because of the potential for intact archaeological deposits within portions of the RC-DD-3, Final Reactor Disposition EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups who may have an interest in the areas (e.g. East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B- Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

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Evaluation Unit: FFTF
 ID: RC-DD-4
 Group: D&D
 Operable Unit Cross-Walk: NA
 Related EU: NA
 Sites & Facilities: Fast Flux Test Facility (FFTF), ancillary buildings and structures



Figure K.42. RC-DD-4 (FFTF) Site Location Map

RC-DD-4: FFTF

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The RC-DD-4, FFTF EU is located in the 400 Area of the Hanford Site. Most of the EU has been inventoried for cultural resources under various survey efforts including, HCRL# 180 (Rice et al. 1978), HCRC# 90-400-001 (Gard 1990), HCRC# 90-600-028 (O'Neil and Crist 1993) and HCRC# 2011-400-003 (Mendez 2011). It is unknown if an NHPA Section 106 review has been completed specifically for the remediation of the RC-DD-4, FFTF EU. Most of the EU is heavily disturbed

from ground disturbance associated with the installation of FFTF and associated infrastructure, suggesting a low potential for intact surface and subsurface archaeological resources.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁷¹

- A segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within the FFTF EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for this property.
- There are 33 National Register-eligible Manhattan Project and Cold War Era buildings located within the RC-DD-4, FFTF EU (all 33 are contributing within the Manhattan Project and Cold War Era Historic District, 6 recommended for individual documentation and 27 with no additional documentation required). Mitigation for contributing buildings/structures has been completed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)* and buildings demolition is ongoing. These buildings include:

Table K.42. National Register-eligible Manhattan Project and Cold War Era buildings located within the RC-DD-4, FFTF EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|------------------------------|---|--|------------------------------|
| 405 | Fast Flux Test Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 436 | Training Facility | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 4621-W | Auxiliary Equipment Facility | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 4703 | FFTF Control Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |

⁷¹ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (a) rooted in the history of a community, and (b) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|---|--|---|-------------------------------------|
| 4710 | Operation Support Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 4790 | Patrol Headquarters | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 403 | Fuel Storage Facility | A.6 | Contributing Property w/ no additional documentation requirements | |
| 408-A | Main Heat Dump - East | A.6 | Contributing Property w/ no additional documentation requirements | |
| 408-B | Main Heat Dump - South | A.6 | Contributing Property w/ no additional documentation requirements | |
| 408-C | Main Heat Dump - West | A.6 | Contributing Property w/ no additional documentation requirements | |
| 409-A | Closed Loop Heat Dump - East | A.6 | Contributing Property w/ no additional documentation requirements | |
| 409-B | Closed Loop Heat Dump - East | A.6 | Contributing Property w/ no additional documentation requirements | |
| 427 | Fuels and Materials Examination Facility (FMEF) | A.6 | Contributing Property w/ no additional documentation requirements | |
| 427-A | Argon – Hydrogen Mixing Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 437 | Maintenance and Storage Facility | A.6 | Contributing Property w/ no additional documentation | |

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|-------------------------------------|--|---|-------------------------------------|
| | | | requirements | |
| 451-A | Electrical Substation - FFTF | A.6 | Contributing Property w/ no additional documentation requirements | |
| 451-B | Electrical Substation - FMEF | A.6 | Contributing Property w/ no additional documentation requirements | |
| 4621-E | Auxiliary Equipment Facility - East | A.6 | Contributing Property w/ no additional documentation requirements | |
| 4701-A | Kentucky Boulevard Guard Station | A.6 | Contributing Property w/ no additional documentation requirements | |
| 4701-B | Grant Avenue Guard Station | A.6 | Contributing Property w/ no additional documentation requirements | |
| 4701-C | FMEF Gate Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 4702 | Office Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 4704 | Fire Station | A.6 | Contributing Property w/ no additional documentation requirements | |
| 4707 | Site Support Office Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 4717 | Reactor Service Building | A.6 | Contributing Property w/ no additional documentation requirements | |

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|-----------------------------------|--|---|-------------------------------------|
| 4726 | Carpenter Supply Storage Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 481 | Pumphouse | A.6 | Contributing Property w/ no additional documentation requirements | |
| 481-A | Water Pumphouse | A.6 | Contributing Property w/ no additional documentation requirements | |
| 483-B | FMEF Water Treatment Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 4862 | FMEF Entry Wing/Office Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 491-E | HTS Service Facility - East | A.6 | Contributing Property w/ no additional documentation requirements | |
| 491-S | HTS Service Facility - South | A.6 | Contributing Property w/ no additional documentation requirements | |
| 491-W | HTS Service Facility - West | A.6 | Contributing Property w/ no additional documentation requirements | |

- No archaeological sites/isolates and/or Traditional Cultural Properties (TCPs) are currently known to exist within the EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- No archaeological sites/isolates and/or Traditional Cultural Properties (TCPs) are currently known to exist within 500 meters of the RC-DD-4, FFTF EU.

Closest Recorded TCP

There are 2 recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the RC-DD-4, FFTF EU.

Historic Map and Aerial Photograph Indicators

Historic United States Geological Survey (USGS) topographic maps (USGS 1917) do not show any development in the area of the RC-DD-4, FFTF EU. One historic trail/road is in the vicinity of the EU, but there is no indication that any features from this time period existed within the EU itself, or within adjacent areas. Ownership information provided on the 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the EU were owned by the United States of America and Benton County (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs confirm that this area was undeveloped. This information suggests a low potential for archaeological resources associated with the Pre-Hanford Early-Settlers/Farming landscape to be present within the EU boundary.

Geomorphology Indicators

The geomorphology within the RC-DD-4, FFTF EU is comprised of Pleistocene outburst flood deposits overlaid by stabilized Holocene dune sands throughout most of the EU, suggesting a moderate potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface component of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery indicates that most of the EU is heavily disturbed from the installation of FFTF buildings and infrastructure. A small pocket of undisturbed soil does appear to exist in the southwestern portion of the EU. Resources if present would likely be limited to areas of intact or undisturbed soils.

Summary of Cultural Resources Review

Most of the RC-DD-4, FFTF EU has been inventoried for archaeological resources under 4 cultural resource surveys, all with negative findings within the EU. It is unknown if an NHPA Section 106 review has been completed specifically for the remediation of the RC-DD-4, FFTF EU. Most of the EU is heavily disturbed from ground disturbance associated with the installation of FFTF and associated infrastructure, suggesting a low potential for intact surface and subsurface archaeological resources.

A segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within the RC-DD-4, FFTF EU. In addition, there are 33 National Register-eligible Manhattan Project and Cold War Era buildings located within the EU (all 33 are contributing within the Manhattan Project and Cold War Era Historic District, 6 recommended for individual documentation and 27 with no additional documentation required). The 33 buildings within the FFTF EU are listed below.

Table K.43. National Register-eligible Manhattan Project and Cold War Era buildings located within the RC-DD-4, FFTF EU

| Building # | Building Name |
|-------------------|---|
| 405 | Fast Flux Test Facility |
| 436 | Training Facility |
| 4621-W | Auxiliary Equipment Facility |
| 4703 | FFTF Control Building |
| 4710 | Operation Support Building |
| 4790 | Patrol Headquarters |
| 403 | Fuel Storage Facility |
| 408-A | Main Heat Dump - East |
| 408-B | Main Heat Dump - South |
| 408-C | Main Heat Dump - West |
| 409-A | Closed Loop Heat Dump - East |
| 409-B | Closed Loop Heat Dump - East |
| 427 | Fuels and Materials Examination Facility (FMEF) |
| 427-A | Argon – Hydrogen Mixing Building |
| 437 | Maintenance and Storage Facility |
| 451-A | Electrical Substation - FFTF |
| 451-B | Electrical Substation - FMEF |
| 4621-E | Auxiliary Equipment Facility - East |
| 4701-A | Kentucky Boulevard Guard Station |
| 4701-B | Grant Avenue Guard Station |
| 4701-C | FMEF Gate Building |
| 4702 | Office Building |
| 4704 | Fire Station |
| 4707 | Site Support Office Building |
| 4717 | Reactor Service Building |
| 4726 | Carpenter Supply Storage Building |
| 481 | Pumphouse |
| 481-A | Water Pumphouse |
| 483-B | FMEF Water Treatment Building |
| 4862 | FMEF Entry Wing/Office Building |
| 491-E | HTS Service Facility - East |
| 491-S | HTS Service Facility - South |
| 491-W | HTS Service Facility - West |

Mitigation and documentation for all of these contributing properties has been completed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998).

There are no known or recorded archaeological sites/isolates, buildings and/or Traditional Cultural Properties within 500 meters of the EU.

Historic maps and aerial imagery indicate a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape. A review of recent aerial imagery of the EU suggests that most of the EU has been heavily disturbed. Geomorphology indicates a moderate potential for the presence of Native American Precontact and Ethnographic cultural resources to be present within the EU boundary. The EU is heavily disturbed from the installation of FFTF buildings and infrastructure; however areas of undisturbed sediments do appear to exist within the EU. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Because of the potential for intact archaeological deposits within portions of the RC-DD-4, FFTF EU, it may be appropriate to conduct surface and subsurface archaeological investigations in this area prior to initiating any remediation activities. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups who may have an interest in the areas (e.g. East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References⁷²

DOE-RL (Department of Energy, Richland Operations Office). 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Richland, Washington.

Gard, H. 1990. *Cultural Resources Review of the 400 Area Broadband Cable Installation Adjacent to the 4719-A Building* (HCRC#90-400-001). Pacific Northwest National Laboratory, Richland, Washington.**

Mendez, KM. 2011. *Miscellaneous Restoration of Debris in the 400 Area of the Hanford Site, Benton County* (HCRC# 2011-400-003). CH2MHill, Richland, Washington.**

O'Neil, TK and ME Crist. 1993. *Laser Interferometer Gravitational Wave Observatory (LIGO) Project – A Cultural Resources Inventory Report* (90-600-028 LIGO). Pacific Northwest National Laboratory, Richland, Washington.**

Parker, P and T King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

Rice, HS, DH Stratton and GW Lindeman, 1978. *An Archaeological and Historic Survey of the 400 Area, Hanford Reservation* (HCRL#180). Pacific Northwest National Laboratory, Richland, Washington.**

⁷² **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

USGS (United States Geological Survey). 1917. Pasco Quadrangle, 1:125,000 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

Evaluation Unit: PUREX
 ID: CP-DD-1
 Group: D&D
 Operable Unit Cross-Walk: 200-CP-1
 Related EU: CP-LS-9
 Sites & Facilities: PUREX canyon, tunnels, ancillary building, structures, and associated near-surface contaminated soils
 Key Data Sources Docs: M-85-12-02
 CP-14977, Rev 6
 HNF-SD-CP-HIE-002
 HNF-SD-CP-HIE-004
 HNF-14579
 DOE/RL-98-35, Rev 3
 DOE/RL-2010-102, Rev0
 WA7890008967

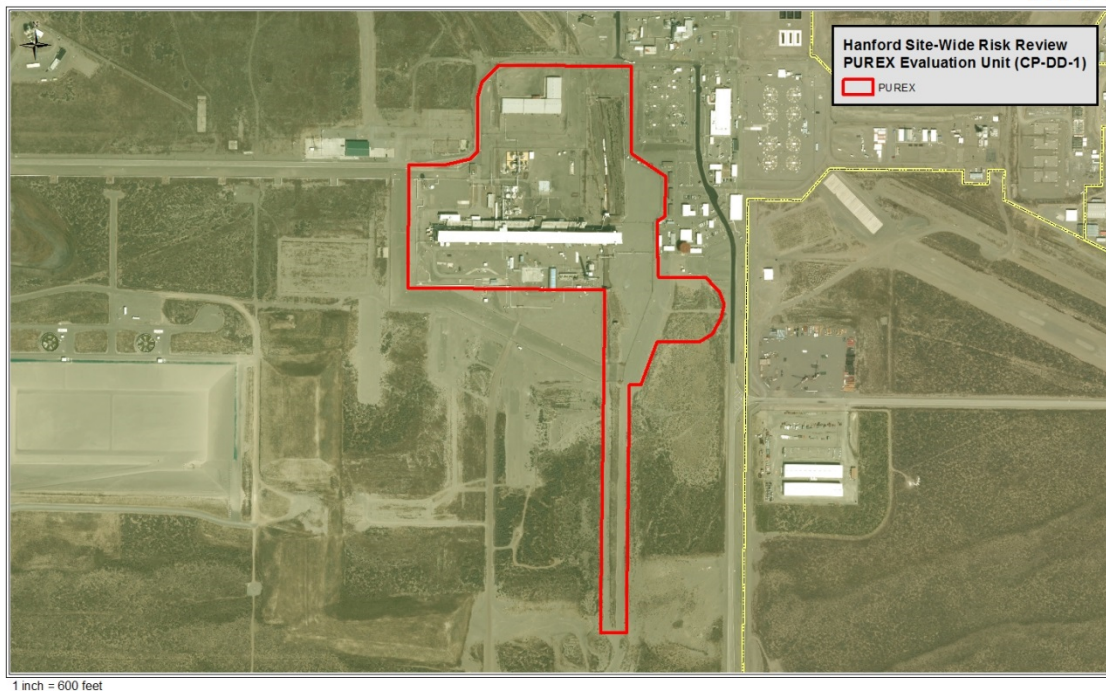
DRAFT

Figure K.43. Site Map with Evaluation Unit Boundaries

CP-DD-1: PUREX

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The PUREX EU is located within the 200-East Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200*

West Areas, Hanford Site (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric Trail/Road corridor which runs through the 200-West Area (well-away from the 200-East Area).

Much of the PUREX EU has not been inventoried (surface or subsurface) for archaeological resources and it is unknown if an NHPA Section 106 review has been completed for remediation of the PUREX EU as one was not located. A large archaeological survey with negative findings was completed under HCRC# 87-200-046 (Chatters 1988a), in the vicinity of the PUREX EU and overlaps the area in two places (Chatters 1988b) Two surveys were completed adjacent to the PUREX EU under HCRC#87-200-001 (Chatters 1987) and HCRC# 2012-600-031a (Gilmour et. al. 2013). Although it is unlikely given the heavy disturbance in the PUREX EU, there is a possibility that intact archaeological material is present in the areas (both on the surface and in the subsurface) that have not been inventoried for archaeological resources, particularly if undisturbed soil deposits exist within the PUREX EU.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁷³

- There are no known recorded archaeological sites or TCPs located within the EU.
- Segments of the National Register-eligible Hanford Site Plant Railroad a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within the PUREX EU. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for this property.
- There are 7 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District that are located within with EU (all 7 are contributing within the Manhattan Project and Cold War Era Historic District, 4 with individual documentation required, and 3 with no additional documentation required). In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for these properties.

⁷³ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

Table K.44. National Register-Eligible Buildings Manhattan Project and Cold War Era buildings located within the CP-DD-1, PUREX EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|---|--|---|-------------------------------------|
| 202-A | Plutonium-Uranium Extraction Facility (PUREX) | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 293-A | Dissolver Off-Gas Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 294-A | Exhaust Air Filter Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2701-AB | PUREX Badge House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 212-A | Fission Product Loadout Station | A.6 | Contributing Property w/ no additional documentation requirements | |
| 275-EA | Carpenter Shop Storage Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 291-A | PUREX Exhaust Stack | A.6 | Contributing Property w/ no additional documentation requirements | |

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- An isolated find associated with the Pre-Hanford Early Settlers/Farming Landscape is located within 500 meters of the PUREX Evaluation Unit. While this isolate has not been formally evaluated for the National Register, it should be noted that isolates are typically considered not eligible.
- There are 4 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District that are located

within with EU (all 4 are contributing within the Manhattan Project and Cold War Era Historic District, 2 with individual documentation required, and 2 with no additional documentation required). In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for these properties.

Table K.X. National Register-Eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-DD-1, PUREX EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|--|--|---|-------------------------------------|
| 241-AW | Waste Storage Tank Farm (Double Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2707-AR | Change House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 242-A/AB | Evaporator Building/Evaporator Control | A.6 | Contributing Property w/ no additional documentation requirements | |
| 244-AR | Sludge Storage Vault | A.6 | Contributing Property w/ no additional documentation requirements | |

Closest Recorded TCP

Two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape are visible from the PUREX EU.

Historic Map and Aerial Photograph Indicators

A review of 1916 United States Geological Survey (USGS) topographic maps (USGS 1916) shows no indications of historic land use such as roads or buildings within the PUREX EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the PUREX EU were owned by the United States and the J.M. Coleman Company in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerials further confirm a lack

of land use or development in this area. This information suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming landscape to be present within the PUREX EU.

Geomorphology Indicators

The geomorphology within the PUREX EU is primarily Pleistocene outburst flood deposits with a small pocket of Holocene dune sands to the south suggesting a low potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape within undisturbed portions of the subsurface component of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the PUREX EU depicts roads, parking lots, buildings as well as grubbed and cleared areas. It is also known that the PUREX EU contains buried pipelines, sewer lines, tanks and miscellaneous waste sites. This extensive disturbance to both surface and subsurface soils suggests low potential for intact archaeological resources to be present within the PUREX EU. Although unlikely, it is still possible however, for pockets of undisturbed soils to exist within the PUREX EU.

Summary of Cultural Resources Review

Most of the PUREX EU has not been inventoried for archaeological resources and it is unknown if an NHPA Section 106 review has been completed for remediation of the PUREX EU as one was not located. A few archaeological surveys with negative findings have been completed in the PUREX EU. No archaeological sites have been located by any of these surveys within the PUREX EU or near it. There is a slight possibility that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly if undisturbed soil deposits exist within the PUREX EU. Given the extensive ground disturbance in the PUREX EU however, this is unlikely.

Segments of the National Register-eligible Hanford Site Plant Railroad a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within the PUREX EU. Additionally, there are 7 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District that are located within with EU (all 7 are contributing within the Manhattan Project and Cold War Era Historic District, 4 with individual documentation required, and 3 with no additional documentation required). In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for these Manhattan Project and Cold War Era properties.

| Building # | Building Name |
|------------|---|
| 202-A | Plutonium-Uranium Extraction Facility (PUREX) |
| 293-A | Dissolver Off-Gas Building |
| 294-A | Exhaust Air Filter Building |
| 2701-AB | PUREX Badge House |

| | |
|--------|---------------------------------|
| 212-A | Fission Product Loadout Station |
| 275-EA | Carpenter Shop Storage Building |
| 291-A | PUREX Exhaust Stack |

The closest recorded archaeological site, located within 500 meters of the PUREX EU, is a historic-era isolated find likely associated with the Pre-Hanford Early Settlers/Farming Landscape. While this isolate has not been formally evaluated for listing in the National Register of Historic Places, it should be noted that isolates are typically considered not eligible. In addition, there are 4 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District that are located within with EU (all 4 are contributing within the Manhattan Project and Cold War Era Historic District, 2 with individual documentation required, and 2 with no additional documentation required). In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for these properties.

Geomorphology, ground disturbance, historic maps and aerial photographs, and the lack of cultural resources located within and in the vicinity of PUREX EU all suggest that a low potential for the presence of archaeological resources associated with the all three landscapes to be on the surface or within the subsurface areas within the EU.

Because large areas have not been investigated for archaeological sites and pockets of undisturbed soil may exist, it may be appropriate to conduct subsurface archaeological investigations in these areas prior to initiating a remediation activity. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Because large portions of the EU have not been inventoried for cultural resources, it may be appropriate to conduct surface archaeological investigations in these areas prior to initiating any remediation activity. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society, Prosser Cemetery Association, B-Reactor Museum Association and the Reach) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References⁷⁴

Department of Energy. 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Richland, Washington.

⁷⁴ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Chatters JC 1987. *Cultural Resources Survey of Proposed PFM Construction Site Hanford Reservation, Washington*. Pacific National Laboratory, Richland, Washington.**

Chatters JC 1988a. *Cultural Resources Survey of the Proposed B-503 Decontamination Laundry Facility HCRC# 87-200-046*. Pacific Northwest Laboratory, Richland, Washington.**

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Chatters JC and NA Cadoret 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington.**

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Parker, P. and T. King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

Evaluation Unit: B Plant
 ID: CP-DD-2
 Group: D&D
 Operable Unit Cross-Walk: 200-CB-1
 Related EU: CP-LS-8
 Sites & Facilities: B Plant Canyon, ancillary buildings (e.g. 224-B), structures, and associated near-surface contaminated soils. Includes the D&D of WESF after the capsules are moved into dry storage.



Figure K.44. CP-DD-2 (B Plant) Site Location Map

CP-DD-2 B Plant

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-DD-2 B Plant EU is located within the 200-East Area of the Hanford Site, an area known to have low potential to contain archaeological resources associated with the Native American Precontact and Ethnographic and Pre-Hanford Early Settlers/Farming landscape. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the*

200 East and 200 West Areas, Hanford Site (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

Most of the CP-DD-2 B Plant EU has not been inventoried for archaeological resources and it is unknown if an NHPA Section 106 review has been completed for remediation of CP-DD-2 B Plant EU. One archaeological survey was completed for a portion of the EU under HCRC#87-200-037 (Hoover and Chatters 1988) with negative findings within the EU. It is unlikely that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly because the soils in the CP-DD-2 B Plant EU appear to be heavily disturbed.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁷⁵

- There are twelve National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District (all 12 are contributing within the Manhattan Project and Cold War Era Historic District, 3 recommended for individual documentation, 9 with no additional documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998) and building demolition is ongoing.

Table K.45. National Register-eligible Manhattan Project and Cold War Era buildings located within the CP-DD-2 B Plant EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|--|--|--|-------------------------------------|
| 212-B | Fission Products Load Out Station | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 225-B | Waste Encapsulation And Storage Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 276-B | Paint Shop | A.5 | Contributing Property Recommended for | HPIF |

⁷⁵ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (NPS 1992).

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|---|--|---|-------------------------------------|
| 221-B | B Plant | A.6 | Contributing Property w/ no additional documentation requirements | Individual Documentation |
| 221-BC | SWP Change House | A.6 | Contributing Property w/ no additional documentation requirements | |
| 222-B | Office Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 224-B | Concentration Facility | A.6 | Contributing Property w/ no additional documentation requirements | |
| 271-B | B Plant Support Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 272-B | Electrical Maintenance Shop | A.6 | Contributing Property w/ no additional documentation requirements | |
| 282-B | Water Pump House South | A.6 | Contributing Property w/ no additional documentation requirements | |
| 291-B | Exhaust Air Control House And Sand Filter/Stack | A.6 | Contributing Property w/ no additional documentation requirements | |
| 292-B | Stack Monitor Station | A.6 | Contributing Property w/ no additional documentation requirements | |

Archaeological sites, buildings, and TCPs located within 500 meters of the EU

- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing

property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500-meters of the CP-DD-2 B Plant EU. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)*, all documentation requirements have been completed for this property.

- The 216-B-5 Reverse Well is a National Register eligible property as a contributing component of the Manhattan Project and Cold War Era Historic District.

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-DD-2 B Plant EU.

Historic Map and Aerial Photograph Indicators

The EU overlaps the 1916 Coyote Rapids United States Geological Survey (USGS) map (USGS 1916). This map does not show any manmade or otherwise cultural features within the EU or within 500 meters of it. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps indicates that lands within this EU was owned by Benton County prior to Hanford Site development by the U.S. Government. (The 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943). 1943 aerial photographs are not available for the CP-DD-2 B Plant EU. These data indicate there is a low potential for the existence of resources associated with the Pre-Hanford Early-Settlers/Farming landscape within the EU boundary

Geomorphology Indicators

The geomorphology within the CP-DD-2 B Plant EU consists of Pleistocene outburst flood deposits suggesting a low potential for Native American Precontact and Ethnographic landscape associated archaeological resources to be present within the surface subsurface component of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that the EU is heavily disturbed by building construction, Hanford site facilities, wells and borings, buried utilities, surface grading, roads and waste sites. This disturbance suggests low potential for intact archaeological resources to be present. It is possible but unlikely that pockets of undisturbed soils exist.

Summary of Cultural Resources Review

Much of the CP-DD-2 B Plant EU has not been inventoried for archaeological resources and it is not known if an NHPA Section 106 review has not been completed for remediation of the CP-DD-2 B Plant EU. One small archaeological survey was completed for a portion of the EU with negative findings. It is unlikely that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), because the soils in the EU are extensively disturbed.

Cultural resources known to be recorded within the CP-DD-2 B Plant EU are limited to: three National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District, with documentation required; and nine National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District, with no documentation required. All National-Register-eligible Manhattan Project and Cold War Era buildings have been documented as described in the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998).

Table K.46. National Register-eligible Manhattan Project and Cold War Era buildings located within the CP-DD-2 B Plant EU

| Building # | Building Name |
|-------------------|---|
| 212-B | Fission Products Load Out Station |
| 225-B | Waste Encapsulation And Storage Facility |
| 276-B | Paint Shop |
| 221-B | B Plant |
| 221-BC | SWP Change House |
| 222-B | Office Building |
| 224-B | Concentration Facility |
| 271-B | B Plant Support Building |
| 272-B | Electrical Maintenance Shop |
| 282-B | Water Pump House South |
| 291-B | Exhaust Air Control House And Sand Filter/Stack |
| 292-B | Stack Monitor Station |

One archaeological site was identified within 500 meters of the CP-DD-2 B Plant EU: the National Register-eligible Hanford Site Plant Railroad. Additionally, The 216-B-5 Reverse Well has been documented within 500 meters of the EU as a contributing component of the Manhattan Project and Cold War Era Historic District.

Historic maps and imagery indicate there is a low potential for cultural resources associated with the Pre-Hanford Early Settlers/Farming Landscape. Geomorphology indicates a low potential for cultural resources associated with the Native American Precontact and Ethnographic Landscape to be present within the CP-DD-2 B Plant EU. Further, extensive ground disturbance within the entire EU suggests little potential for intact cultural resources at or below ground surface.

Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and the B-Reactor Museum

Association) may be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References⁷⁶

Chatters, JC and NA Cadoret. 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington.**

DOE-RL (Department of Energy, Richland Operations Office). 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)*. Richland, Washington.

Hoover, KA and JC Chatters. 1988. *Cultural Resources Survey of the 200-East Area B-Plant Facilities HCRC#87-200-037*. Pacific Northwest Laboratory, Richland, Washington.

Parker, P and T King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

USGS (United State Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

⁷⁶ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: U Plant
 ID: CP-DD-3
 Group: D&D
 Operable Unit Cross-Walk: 200-CU-1
 Related EU: CP-LS-3
 Sites & Facilities: U Plant Canyon, ancillary buildings, structures, and associated near-surface contaminated soils.



Figure K.45. CP-DD-3 (U Plant) Site Location Map

CP-DD-3 U Plant

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-DD-3, U Plant EU is located within the 200-West Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this

archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

The CP-DD-3 U Plant EU has not been inventoried for archaeological resources, and it is unknown if an NHPA Section 106 review has been completed specifically for remediation of CP-DD-3, U Plant EU. It is unlikely that intact previously undocumented archaeological material is present in the EU, both on the surface and in subsurface areas, because the soils in the CP-DD-3 U Plant EU appear to have been extensively disturbed by U Plant construction and other Hanford activities.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁷⁷

- There are four National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District, with no documentation required, that are located within CP-DD-3 U Plant EU. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for these properties. These include:

Table K.47. National Register-eligible Manhattan Project and Cold War Era buildings located within the CP-DD-3 U Plant EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|-----------------------------|--|---|-------------------------------------|
| 221-U | U Plant Canyon | A.6 | Contributing Property w/ no additional documentation requirements | |
| 271-U | Office And Service Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 291-U | Exhaust Fan & Stack | A.6 | Contributing Property w/ no additional documentation requirements | |
| 292-U | Gas Sampling | A.6 | Contributing Property w/ | |

⁷⁷ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|---------------|---|--|------------------------------|
| | Building | | no additional documentation requirements | |

Archaeological sites, buildings, and TCPs located within 500 meters of the EU

- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500 meters of the CP-DD-3 U Plant EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for this property.
- There are 4 National Register-eligible buildings that are contributing to the Manhattan Project and Cold War Era Historic District within 500 meters of the EU (all 4 are contributing within the Manhattan Project and Cold War Era Historic District, 1 is recommended for individual documentation and 3 with no additional documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)* and building demolition is ongoing.

Table K.48. National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-DD-3 U Plant EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|-------------------------------|---|---|------------------------------|
| 241-WR | Thorium Storage Vault U Area | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2727-W | Sodium Storage Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2727-WA | Sodium Storage Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| W19 | Pipe Filters Fabfication Shop | A.6 | Contributing Property w/ no additional documentation | |

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility requirements | Documentation Completed/Type |
|-------------------|----------------------|--|---|-------------------------------------|
|-------------------|----------------------|--|---|-------------------------------------|

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-DD-3, U Plant EU.

Historic Map and Aerial Photograph Indicators

The EU overlaps the 1916 Coyote Rapids United States Geological Survey (USGS 1916) map. This map does not show any manmade or otherwise cultural features within or in the vicinity of the EU. However, ownership information provided on 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the EU were owned by the United States and Benton County in 1943 (The 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs indicate that this area was not culturally used, but was vegetated dunes in 1943. This information suggests a low potential for archaeological resources associated with the Pre-Hanford Early-Settlers/Farming landscape within the EU boundary.

Geomorphology Indicators

The geomorphology within the CP-DD-3 U Plant EU consists of Pleistocene outburst flood deposits and dune sands suggesting a moderate potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface subsurface component of this EU. Archaeological resources, if present, would likely be limited to areas of intact or undisturbed soils.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that the EU has been entirely extensively disturbed by building construction, Hanford site facilities, buried utilities, surface grading, roads etc. This disturbance suggests an extremely low potential for intact archaeological resources within the EU.

Summary of Cultural Resources Review

The CP-DD-3, U Plant EU has not been inventoried for archaeological resources and it is unknown if an NHPA Section 106 review was completed for remediation activities at U-Plant. It is unlikely that intact archaeological material is present in the EU, both on the surface and in the subsurface, because the soils in the EU have been extensively disturbed.

Cultural resource documented within the CP-DD-3, U Plant EU include: four National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District, with no documentation required. In accordance with the 1998 *Hanford Site*

Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56), all documentation requirements have been completed for these properties.

Table K.49. National Register-eligible Manhattan Project and Cold War Era buildings located within the CP-DD-3 U Plant EU

| Building # | Building Name |
|------------|-----------------------------|
| 221-U | U Plant Canyon |
| 271-U | Office And Service Building |
| 291-U | Exhaust Fan & Stack |
| 292-U | Gas Sampling Building |

Cultural resource documented within 500 meters of the CP-DD-3 U Plant EU include: segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required; one National Register-eligible building that is a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required; and three National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District, with no documentation required. Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)* (DOE-RL 1998).

Historic maps and aerial imagery of the area do not indicate any cultural features or use within or near this EU. This suggests a low potential for the presence of archaeological resources associated with the Pre-Hanford Early-Settlers/Farming landscape within the EU boundary. Geomorphology indicates a moderate potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the CP-DD-3 U Plant EU. However, extensive ground disturbance within the entire EU suggests little to no potential for intact cultural resources at or below ground surface.

Because the EU has not been inventoried for cultural resources, it may be appropriate to conduct surface archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and the B-Reactor Museum Association) may be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References⁷⁸

Chatters, JC and NA Cadoret 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington.**

DOE-RL (Department of Energy, Richland Operations Office). 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)*. Richland, Washington.

Parker, P and T King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

⁷⁸ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: REDOX
 ID: CP-DD-4
 Group: Legacy Source
 Operable Unit Cross-Walk: 200-CR-1
 Related EU: CP-LS-4
 Sites & Facilities: REDOX Canyon (S Plant), ancillary buildings, except 222-S laboratory, structures, and associated near-surface contaminated soils.



Figure K.46. CP-DD-4 (REDOX) Site Location Map

CP-DD-4: REDOX

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-DD-4, REDOX EU is located in the 200 West Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200*

West Areas, Hanford Site (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area. The CP-DD-4, REDOX EU has not been inventoried for archaeological resources, and it is unknown if an NHPA Section 106 review has been completed specifically for remediation of CP-DD-4, REDOX EU. However the EU is extensively disturbed from 200 West area operations and other Hanford activities, suggesting a low potential for intact archaeological resources to exist both on the surface and in the subsurface area of the EU.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁷⁹

- There are 3 National Register-eligible Manhattan Project and Cold War Era buildings located within the EU (all 3 are contributing within the Manhattan Project and Cold War Era Historic District, 1 recommended for individual documentation and 2 with no additional documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998) and building demolition is ongoing.

Table K.50. National Register-eligible Manhattan Project and Cold War Era buildings located within the CP-DD-4 REDOX EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|--|--|---|-------------------------------------|
| 202-S | REDOX Canyon Building | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 292-S | Stack Monitoring Building/Jet Pile | A.6 | Contributing Property w/ no additional documentation requirements | |
| 293-S | Acid Recovery & Gas Treatment Building | A.6 | Contributing Property w/ no additional documentation requirements | |

⁷⁹ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (a) rooted in the history of a community, and (b) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

- No additional archaeological sites and/or TCPs are known to be located within the EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- There are 2 archaeological isolates located within 500 meters of the EU. One of these is associated with the Native American Precontact and Ethnographic Landscape and the other is associated with the Pre-Hanford Early Settlers/Farming Landscape. Neither of these recorded resources has been evaluated for listing in the National Register of Historic Places, however, it should be noted that isolates are typically assumed not eligible.
- A segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within 500 meters of the REDOX EU. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (Department of Energy 1998), all documentation requirements have been completed for this property.
- There are 4 National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the EU (all 4 are contributing within the Manhattan Project and Cold War Era Historic District with no additional documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998) and building demolition is ongoing.

Table K.51. National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-DD-4 REDOX EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|--------------------------|---|---|------------------------------|
| 219-S | Waste Treatment Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 222-SB | HVAC Filter House | A.6 | Contributing Property w/ no additional documentation requirements | |
| 291-S | Exhaust Fan & Stack | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2704-S | Office Building | A.6 | Contributing Property w/ no additional documentation | |

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility requirements | Documentation Completed/Type |
|-------------------|----------------------|--|---|-------------------------------------|
|-------------------|----------------------|--|---|-------------------------------------|

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the REDOX EU.

Historic Map and Aerial Photograph Indicators

A review of the 1916 historic United States Geological Survey (USGS) topographic map (USGS 1916) does not show any development within the CP-DD-4, REDOX EU. A historic/ethnohistoric trail/road corridor lies in the vicinity of the EU, suggesting the potential for historic use associated with travel in the area. Ownership information provided on the 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the REDOX EU was owned by the United States of America (northern portion) (The 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs confirm that this area was undeveloped, indicating a low potential for the existence of resources associated with the Pre-Hanford Early-Settlers/Farming landscape within the EU boundary.

Geomorphology Indicators

The geomorphology within the CP-DD-4, REDOX EU is comprised of Holocene stabilized dune sands, suggesting a moderate potential for Native American Precontact and Ethnographic Landscape associated archaeological resources to be present within the surface and subsurface component of this EU. Archaeological resources, if present, would likely be limited to areas of intact or undisturbed soils.

Ground Disturbance Indicators

Examination of 2012 aerial imagery indicates that the EU has been heavily disturbed by 200 West Area operations. It does not appear that any areas of undisturbed soil exist within the EU.

Summary of Cultural Resources Review

Currently, no portion of the CP-DD-4, REDOX EU has been inventoried for archaeological resources, however, the 200-East and 200-West Areas are generally considered to be areas of low archaeological potential. Three National Register-eligible Manhattan Project and Cold War Era buildings located within the EU (all 3 are contributing within the Manhattan Project and Cold War Era Historic District, 1 recommended for individual documentation and 2 with no additional documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*. These three building can be found in the table below:

Table K.52. National Register-eligible Manhattan Project and Cold War Era buildings located within the CP-DD-4 REDOX EU

| Building # | Building Name |
|------------|--|
| 202-S | REDOX Canyon Building |
| 292-S | Stack Monitoring Building/Jet Pile |
| 293-S | Acid Recovery & Gas Treatment Building |

No additional archaeological sites and/or TCPs are known to be located within the boundary of the EU. Most of the land within the EU is extensively disturbed by associated 200 West Area operations. There is a low potential for intact archaeological resources to be present within these disturbed areas.

There are 2 archaeological isolates located within 500 meters of the EU. One of these is associated with the Native American Precontact and Ethnographic Landscape and the other is associated with the Pre-Hanford Early Settlers/Farming Landscape. Neither of these recorded resources has been evaluated for listing in the National Register of Historic Places, however, it should be noted that isolates are typically assumed not eligible.

A segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within 500 meters of the CP-DD-4, REDOX EU. In addition, there are 4 National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the EU (all 4 are contributing within the Manhattan Project and Cold War Era Historic District with no additional documentation required). Mitigation for contributing properties has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998).

Historic Maps and aerial imagery indicate that the area was relatively undeveloped aside from one historic trail/road in the general vicinity of the EU. This suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape era to be present. Geomorphology indicates a moderate potential for cultural resources associated with the Native American Precontact and Ethnographic landscape to be present within the EU boundary. These resources, if present, would likely be limited to areas of intact, undisturbed Holocene dune sand deposits. Extensive ground disturbance across large portions of the EU, however, may negate this moderate potential.

Because the EU has not been inventoried for cultural resources and because of the potential for buried archaeological deposits within the CP-DD-4, REDOX EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups who may have an interest in the areas (e.g. East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor

Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References⁸⁰

Chatters, JC and NA Cadoret 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington. **

DOE-RL (Department of Energy, Richland Operations Office). 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)*. Richland, Washington.

Parker, P and T King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

⁸⁰ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: PFP
 ID: CP-DD-5
 Group: D&D
 Operable Unit Cross-Walk: 200-WA-1
 Related EU: CP-LS-2
 Sites & Facilities: Plutonium Finishing Plant (PFP), ancillary buildings, structures, and associated near-surface contaminated soils.

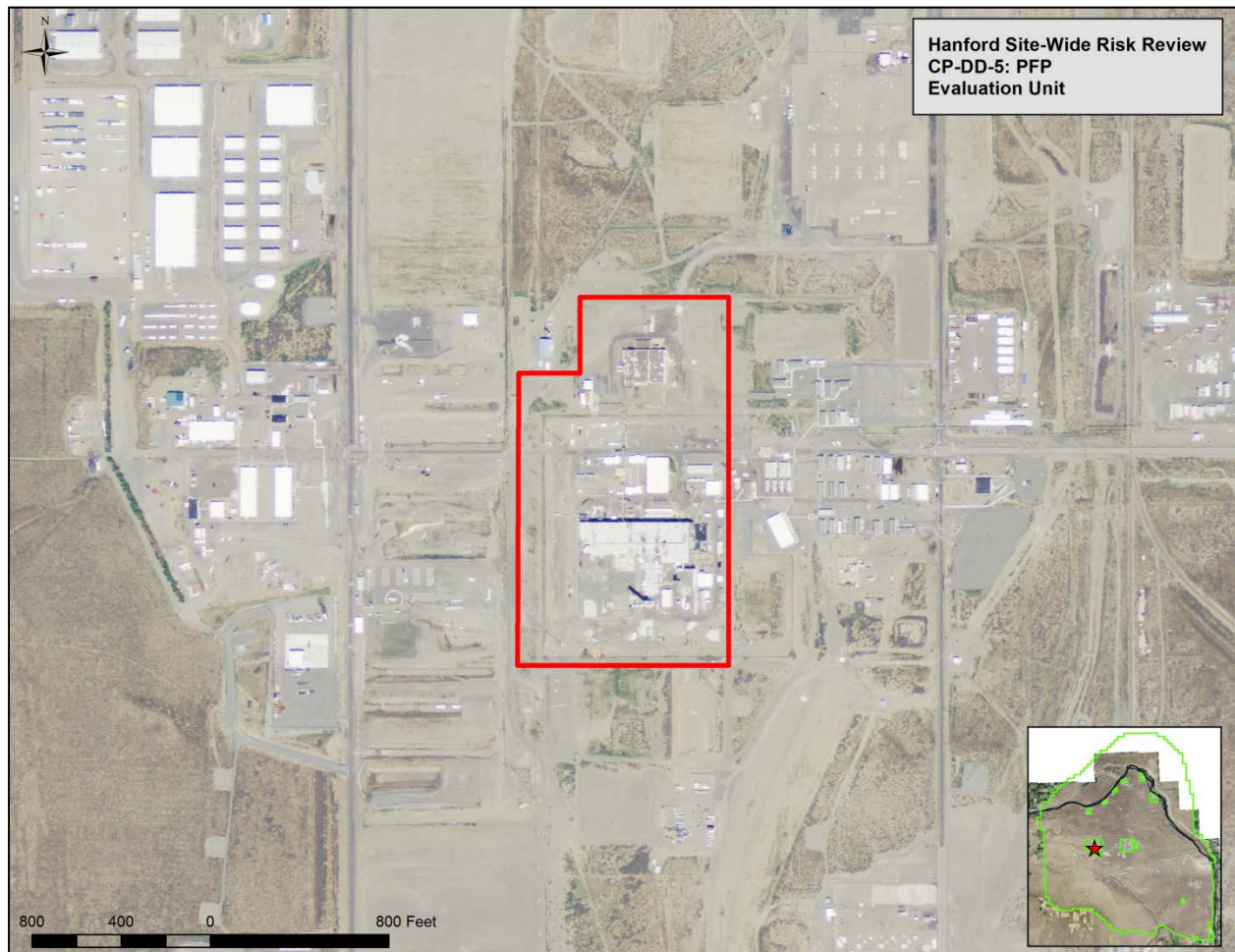


Figure K.47. CP-DD-5 (PFP) Site Location Map

CP-DD-5 PFP

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-DD-5, PFP EU is located within the 200-West Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this archaeological survey

was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

The CP-DD-5 PFP EU has not been inventoried for archaeological resources, and it is unknown if an NHPA Section 106 review has been completed specifically for remediation of CP-DD-5, PFP EU. It is unlikely that intact previously undocumented archaeological material is present in the EU, both on the surface and in subsurface areas, because the soils in the CP-DD-5 PFP EU appear to have been heavily disturbed by Hanford Site activities.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁸¹

- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within the CP-DD-5 PFP EU. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for this property.
- There are 11 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District located within CP-DD-5 PFP EU (all 11 are contributing within the Manhattan Project and Cold War Era Historic District, 10 recommended for individual documentation and 1 with no additional documentation required). Mitigation for contributing buildings/structures has been completed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998).

Table K.53. National Register-eligible Manhattan Project and Cold War Era buildings located within CP-DD-5 PFP EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|---|--|--|-------------------------------------|
| 231-Z | Plutonium Isolation Building/Plutonium Metallurgical Laboratory | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 234-5Z | Plutonium Finishing Plant | A.5 | Contributing Property Recommended for | ExHPIF |

⁸¹ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

| | | | | |
|---------|---|-----|---|--------|
| | | | Individual Documentation | |
| 234-5ZA | 234-5Z South Annex | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 236-Z | Plutonium Reclamation Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 242-Z | Waste Treatment Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 2704-Z | Office Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2736-Z | Primary Plutonium Storage Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 2736-ZA | Primary Plutonium Storage Annex | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2736-ZB | Primary Plutonium Storage Support | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 291-Z | Air Filter and Exhaust Stack | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 270-Z | PFP Support Facility / Inside The Fence | A.6 | Contributing Property w/ no additional documentation requirements | |

Archaeological sites, buildings, and TCPs located within 500 meters of the EU

- One archaeological site associated with the Pre-Hanford Early Settlers/Farming Landscape has been recorded within 500 meters of the EU. This archaeological site has not been formally evaluated for listing in the National Register of Historic Places.

- Noncontributing segments of a National Register eligible historic/ethnohistoric trail/road are located within 500 meters of the EU.
- There are 7 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District located within 500 meters of the CP-DD-5 PFP EU (all 7 are contributing within the Manhattan Project and Cold War Era Historic District, 6 with individual documentation required, and 1 with no additional documentation required). Mitigation for contributing buildings/structures has been completed in accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998).

Table K.54. National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-DD-5 PFP EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|---|--|--|-------------------------------------|
| 232-Z | Waste Incenerator Facility | A.5 | Contributing Property Recommended for Individual Documentation | HAER |
| 241-TX | Waste Disposal Tank Farm (Single Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 241-TY | Waste Disposal Tank Farm (Single Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 242-T | Waste Evaporator | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 244-UR | Liquid Waste Disposal Vault | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2701-ZA | Central Alarm Station | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2220-W | Telephone Exchange | A.6 | Contributing Property w/ no additional | |

**documentation
requirements**

- The 232-Z, Waste Incinerator Facility is located within 500 meters of the CP-DD-5, PFP EU. This facility was selected as part of the Federal/Public working group meetings (held between 1997 and 1998) for preservation and heritage tourism. The 232-Z building was selected (along with several other facilities) as one of those necessary to tell the story of plutonium finishing (HCRP 2003) and its role within the process for producing plutonium at the Hanford Site. As such, the building was selected for preservation in place, and HAER level documentation was completed for this facility.

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-DD-5, PFP EU.

Historic Map and Aerial Photograph Indicators

Historic United States Geological Survey (USGS) topographic maps (USGS 1916) do not show any manmade or cultural features within the EU, although a historic/ethnohistoric trail/road is shown within 500 meters of the EU, to the northwest. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps indicate that the lands within this EU were owned by Benton County in 1943. (The 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943). 1943 aerial photographs are not available for this EU. This information suggests a moderate potential for the presence of archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape within the EU.

Geomorphology Indicators

The geomorphology within the CP-DD-5, PFP EU consists of Pleistocene outburst flood deposits and Holocene dune sands suggesting a moderate potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface subsurface component of this EU. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the area indicates that the EU has been extensively disturbed by building construction, Hanford site facilities, buried utilities, surface grading, roads and waste sites. This disturbance suggests very low potential for intact archaeological resources to be present. It is possible but very unlikely that pockets of undisturbed soils exist within the EU.

Summary of Cultural Resources Review

The CP-DD-5, PFP EU has not been inventoried for archaeological resources, and it is unknown if an NHPA Section 106 review has been completed specifically for the remediation of the CP-DD-

5, PFP EU, as one was not located for this area. The EU is located within the 200-West Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources.

Cultural resource documented within the CP-DD-5, PFP EU include: Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required; ten National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District, with documentation required, and one National Register-eligible building that is a contributing property within the Manhattan Project and Cold War Era Historic District, with no documentation required. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for these properties.

Table K.55 National Register-eligible Manhattan Project and Cold War Era buildings located within CP-DD-5 PFP EU

| Building # | Building Name |
|------------|---|
| 231-Z | Plutonium Isolation Building/Plutonium Metallurgical Laboratory |
| 234-5Z | Plutonium Finishing Plant |
| 234-5ZA | 234-5Z South Annex |
| 236-Z | Plutonium Reclamation Facility |
| 242-Z | Waste Treatment Facility |
| 2704-Z | Office Building |
| 2736-Z | Primary Plutonium Storage Facility |
| 2736-ZA | Primary Plutonium Storage Annex |
| 2736-ZB | Primary Plutonium Storage Support |
| 291-Z | Air Filter and Exhaust Stack |
| 270-Z | PFP Support Facility / Inside The Fence |

Cultural resources documented within 500 meters of the CP-DD-5 PFP EU include: one archaeological site associated with the Pre-Hanford Early Settlers/Farming Landscape (which has not been evaluated for listing in the National Register of Historic Places); non-contributing segments of a historic/ethnohistoric trail/road corridor (which is eligible for listing in the National Register of Historic Places); and 7 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District (6 with documentation required and 1 with no documentation required).

Historic maps indicate relatively little development within the vicinity of the EU with the exception of the historic/ethnohistoric trail/road which is located within 500 meters of the EU, suggesting a moderate potential for the presence of archaeological resources associated with the Pre-Hanford and Early Settlers/Farming landscape to be present within the EU.

Geomorphology indicates a low to moderate potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be

present within the CP-DD-5, PFP EU. However, extensive ground disturbance within the entire EU suggests little to no potential for intact cultural resources at or below ground surface.

Because the EU has not been inventoried for cultural resources, and the potential for intact archaeological deposits, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and the B-Reactor Museum Association) may be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References⁸²

Chatters, JC and NA Cadoret. 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington.**

DOE-RL (Department of Energy, Richland Operations Office). 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)*. Richland, Washington.

HCRP (Hanford Cultural and Historic Resources Program). 2003. *Hanford Site Historic District: History of the Plutonium Production Facilities 1943-1990*. Battelle Press, Columbus, Ohio.

Parker, P and T King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

⁸² **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

| | |
|---------------------------|---|
| Evaluation Unit: | K Basin Sludge |
| ID: | RC-OP-1 |
| Group: | Operations |
| Operable Unit Cross-Walk: | 100-KR-2 |
| Related EU: | RC-LS-2 |
| RC-DD-2 | |
| | RC-GW-3 |
| Sites & Facilities: | KE/KW fuel basin |
| Key Data Sources Docs: | BHI-01172, Rev 2 |
| | <i>CHPRC-DD-50769 Rev a (OUO)</i> |
| | DD-49394, Rev 2 |
| | DD-49580, Rev 1 |
| | DD-49581, Rev 1 |
| | DD-53484, Rev 0 |
| | DD-53838, Rev 0 |
| | DD-54878, Rev 0 |
| | DOE/RL-2005-26, Rev 1 |
| | DOE/RL-2010-43, Rev 0 |
| | DOE/RL-96-17, Rev 6 |
| | HNF-24274, Rev 6 |
| | HNF-40475, Rev 4 |
| | HNF-41051, Rev 6 |
| | HNF-5356, Rev 15 |
| | HNF-SD-SNF-TI-015, Rev 14, Vol 2 |
| | HNF-SD-SNF-TI-015, Rev 14A, Vol 2 |
| | <i>HNF-SD-WM-SAR-062, Rev 15C a (OUO)</i> |
| | KBC-36585, Rev 1A |
| | <i>KBC-39764 a (OUO)</i> |
| | KBC-43475, Rev 2 |
| | KBC-43809, Rev 0 |
| | KBC-46856, Rev 1 |
| | PRC-STP-00012, Rev 0 |
| | PRC-STP-00109, Rev 0 |
| | PRC-STP-00467, Rev 2 (Interim) |
| | PRC-STP-00473, Rev 2 |
| | PRC-STP-00497, Rev 0 |
| | PRC-STP-00615, Rev 0 |
| | PRC-STP-00687, Rev 1 |
| | PRC-STP-00697, Rev 3 |
| | PRC-STP-00718, Rev 0 |
| | PRC-STP-00720, Rev 1 |
| | PRC-STP-00731, Rev 2 |
| | PRC-STP-00834, Rev 0 |
| | SNF-8163, Rev 5 |

SNF-10823, Rev 1 - 1E
 SGW-40938, Rev 0
 PRC-STP-00702, Rev 3
 ALARA 4QTR13 Presentation

DRAFT



Figure K.48. Site Map with Evaluation Unit Boundaries

RC-OP-1: K Basin Sludge

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The K Basin Sludge EU is located near the Columbia River on the Hanford Site, in an area generally known to have high potential to contain cultural resources associated with all three landscapes (Native American Pre-contact and Ethnographic Landscape, Pre-Hanford Early Settlers/Farming Landscape and the Manhattan Project/Cold War Landscape). This EU is essentially in the same location as RC-DD-2, the KE and KW Reactors, and thus the cultural resources are similar. A portion of the EU has been inventoried for cultural resources during a sludge treatment project in 2012 under HCRC#2012-100-020, (Mendez and Clark with Wright 2012). Remediation of waste sites within the K Area Waste Sites Evaluation Unit has been addressed by a NHPA Section 106 review under HCRC#2011-100-015 (Mendez 2011). There is a possibility that intact archaeological material is present in the small areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly where undisturbed soil deposits exist within the EU.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs)⁸³ located within the EU

- There are no known TCPs within the EU.
- No archaeological resources have been documented in the EU.
- Five National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within the EU (all 5 are contributing within the Manhattan Project and Cold War Era Historic District, 4 with individual documentation required, 1 with no individual documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) and building demolition is ongoing.

Table K.56. National Register-eligible Manhattan Project/Cold War Era Buildings located within the RC-OP-1, K Basin Sludge EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|--|---|---|------------------------------|
| 105-KW | Reactor Building and Process Water Tunnels | A.5 | Buildings/Structures recommended for Mitigation | HPIF |
| 107-KW | Effluent Water Retention Basin | A.5 | Buildings/Structures recommended for Mitigation | HPIF |
| 116-KW | Reactor Exhaust Stack | A.5 | Buildings/Structures recommended for Mitigation | HPIF |
| 119-KW | Exhaust Air Sampling Building | A.5 | Buildings/Structures recommended for Mitigation | HPIF |
| 105-KE | Reactor Building | A.6 | Contributing Property w/ no additional documentation requirements | HPIF |

Archaeological sites, buildings and TCPs located within 500 meters of the EU

⁸³ Traditional Cultural Property (TCP) is defined as, “a property that is eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in the community’s history, and (b) are important in maintaining the continuing cultural identity of the community” (Parker and King 1998).

- There are no documented TCPs located within 500 meters of the EU.
- Ten additional cultural resources have been documented within 500-meters of the EU. These resources include archaeological sites and isolates associated with the Native American Pre-contact and Ethnographic, Pre-Hanford Early Settlers/Farming and Manhattan Project/Cold War era cultural landscapes.
 - Four archaeological sites (3 eligible and 1 unevaluated) associated with the Native American Pre-contact and Ethnographic landscape.
 - One archaeological site (eligible) associated with the Pre-Hanford Early Settlers/Farming landscape.
 - Three archaeological sites (1 eligible, 1 not eligible and 1 unevaluated) and 2 isolates (2 not eligible) associated with the Manhattan Project/Cold War era landscape.
- Ten National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the EU (all 10 are contributing within the Manhattan Project and Cold War Era Historic District, 3 with individual documentation required, 7 with no individual documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) and building demolition is ongoing.

Table K.X. National Register-eligible Manhattan Project/Cold War Era Buildings located within 500 meters of the RC-OP-1, K Basin Sludge EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|----------------------------|--|---|-------------------------------------|
| 190-KW | Main Pump House | A.5 | Buildings/Structures recommended for Mitigation | HPIF |
| 1717-K | Maintenance Shop | A.5 | Buildings/Structures recommended for Mitigation | HPIF |
| 1720-K | Patrol Headquarters | A.5 | Buildings/Structures recommended for Mitigation | HPIF |
| 115-KW | Gas Recirculation Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 165-KE | Power Control | A.6 | Contributing Property w/ | |

| | | | |
|--------|--------------------------|-----|---|
| | Building | | no additional documentation requirements |
| 165-KW | Power Control Building | A.6 | Contributing Property w/ no additional documentation requirements |
| 167-K | Crosstie Tunnel Building | A.6 | Contributing Property w/ no additional documentation requirements |
| 1724-K | Maintenance Shop | A.6 | Contributing Property w/ no additional documentation requirements |
| 1908-K | Outfall Structure | A.6 | Contributing Property w/ no additional documentation requirements |
| 190-KE | Process Water Pump House | A.6 | Contributing Property w/ no additional documentation requirements |

Closest Recorded TCP

There are three recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the RC-DD-2, KE/KW Reactors EU.

Historic Map and Aerial Photograph Indicators

A review of 1916 United States Geological Survey (USGS) topographic maps (USGS 1916) shows no indications of historic land use such as roads or buildings within the K Basin Sludge EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the EU were owned by the State of Washington, Benton County, and the Chicago, Milwaukee, St. Paul, and Pacific Railroad company in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). The 1943 aerial imagery does not indicate any historic use of the EU, except for a small road or trail traversing the northeast corner. North of the EU, historic land use included an irrigation canal, agricultural fields, and several trails, roads, or linear utilities. Collectively, this information suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming landscape to be present within the EU.

Geomorphology Indicators

Surface geology of the EU consists of sedimentary Pleistocene flood deposits and gravels. This geomorphological environment suggests low to medium potential for archaeological resources associated with the Native American Pre-contact/Ethnographic Landscape to be present within the subsurface component of this EU. Areas outside of the EU immediately adjacent to the north along the Columbia River shoreline have a particularly high likelihood for containing subsurface archaeological deposits.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that 100% of the EU has undergone extensive ground disturbances. The depth of these disturbances is not known. However, it is highly unlikely that cultural resources would be present on or near the ground surface within the EU.

Summary of Cultural Resources Review

A small portion of the K Basin Sludge EU has been inventoried for archaeological resources. Remediation of waste sites within the K Area Waste Sites Evaluation Unit has been addressed by a NHPA Section 106 review (Mendez 2011). There is a possibility that intact archaeological material is present in the small areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly where undisturbed soil deposits exist within the EU.

Cultural resources documented within the K Basin Sludge EU include 5 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District (all 5 are contributing within the Manhattan Project and Cold War Era Historic District, 4 with individual documentation required, 1 with no individual documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) and building demolition is ongoing.

| Building # | Building Name |
|------------|--|
| 105-KW | Reactor Building and Process Water Tunnels |
| 107-KW | Effluent Water Retention Basin |
| 116-KW | Reactor Exhaust Stack |
| 119-KW | Exhaust Air Sampling Building |
| 105-KE | Reactor Building |

No other archaeological resources or TCPs are known to be recorded within the EU.

There are 10 archaeological sites within 500 meters of the EU: 4 archaeological sites (3 eligible and 1 unevaluated) associated with the Native American Pre-contact and Ethnographic landscape; 1 archaeological site (eligible) associated with the Pre-Hanford Early Settlers/Farming landscape, 3 archaeological sites (1 eligible, 1 not eligible, and 1 unevaluated); and 2 isolates (2 not eligible) associated with the Manhattan Project/Cold War era landscape.

In addition, 10 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the EU (all 10 are contributing within the Manhattan Project and Cold War Era Historic District, 3 with individual documentation required, 7 with no individual documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56).

The geomorphologic composition of the EU, historic maps, and both historic and modern aerial imagery all suggest low potential for subsurface intact archaeological resources in EU.

Because the RC-OP-1, K Basin Sludge EU has not been completely inventoried for cultural resources, it may be appropriate to conduct surface archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups who may have an interest in the areas (e.g. East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References⁸⁴

Department of Energy. 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Richland, Washington.

Mendez, K. 2011. *Field Remediation of Waste Sites in the 100-K Reactor Area (HCRC#2011-100-015)*. CH2M Hill. Richland, Washington.

Mendez, K and C Clark with M Wright. 2012. *Construction and Demolition of the 105-KW Annex Temporary Facility to Support the Sludge Treatment Project at the 100-K Area of the Hanford Site, Benton County, Washington (HCRC#2012-100-020)*. CH2M HILL. Richland, Washington.

Parker, P. and T. King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

⁸⁴ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: Retained Facilities
 ID: RC-OP-2
 Group: Operations
 Operable Unit Cross-Walk:
 Related EU:
 Sites & Facilities: Office of Science Facilities including the 318, 325, 331, and 350 Buildings

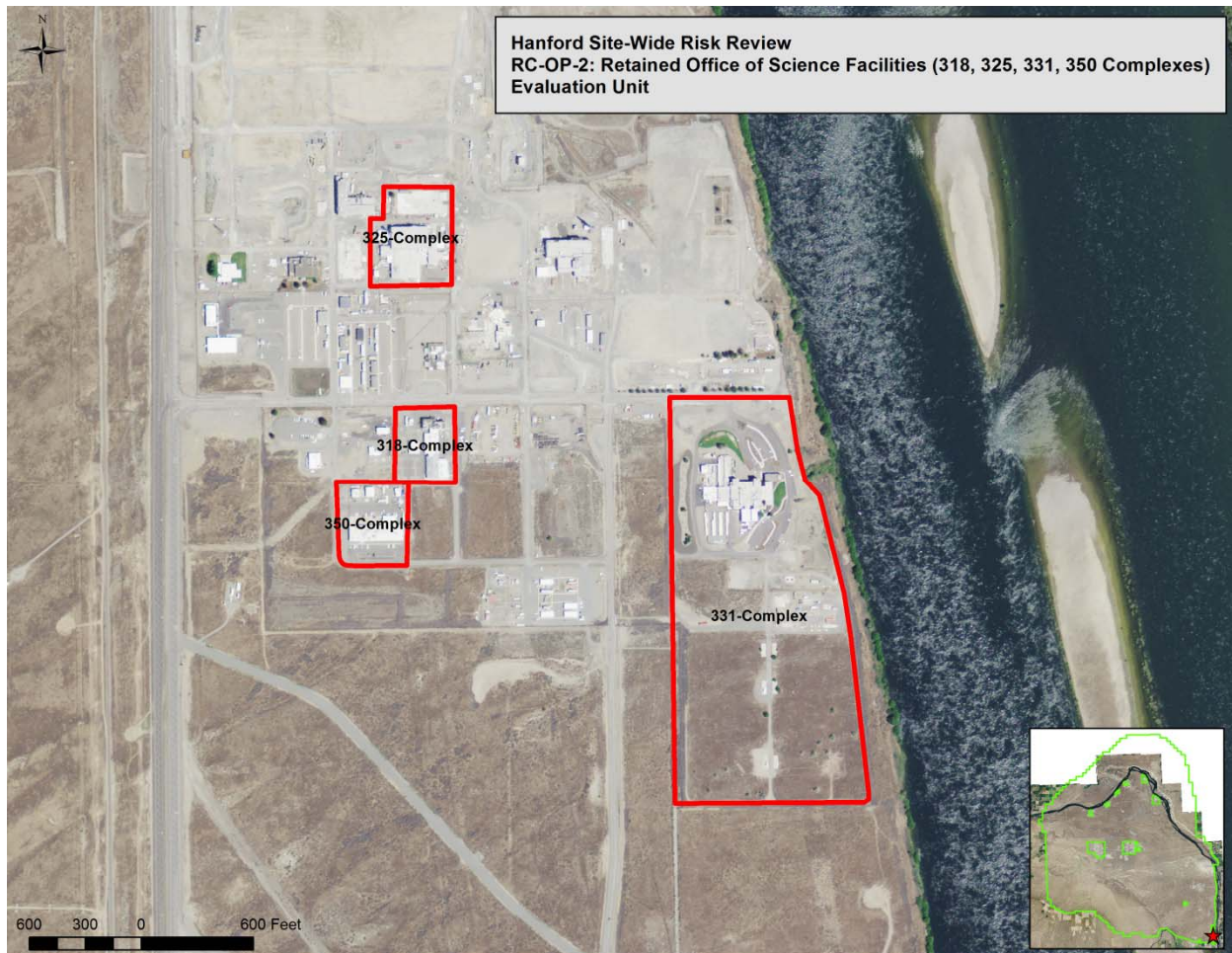


Figure K.49. RC-OP-2 (Retained Facilities) Site Location Map

RC-OP-2: Retained Facilities

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The RC-OP-2, Retained Facilities EU is located in the 300 Area of the Hanford Site. Almost the entire EU has been inventoried for cultural resources under various survey efforts including, HCRL# 702b (Thoms et al. 1983), HCRC# 90-300-011 (Minthorn 1990), HCRC# 91-300-004 (Chatters 1991), HCRC# 95-300-056 (Cadoret 1995), HCRC# 2011-300-023 (Sheldon et al. 2011), HCRC# 2011-300-036 (Harrison & DeMaris 2011), HCRC# 2011-300-041 (Peters et al. 2011),

HCRC# 2011-300-046 (Sharpe et al. 2012), HCRC# 2012-300-002 (Hughes 2012), HCRC# 2012-300-009 (Mendez & Clark 2012), HCRC# 2012-600-031 (Sharpe 2013), HCRC# 2012-600-031a (Gilmour et al. 2013), HCRC# 2013-300-006 (Mendez et al. 2013), HCRC# 2013-300-011 (Harrison et al. 2014). It is unknown if an NHPA Section 106 review has been completed specifically for the remediation of the RC-OP-2, Retained Facilities EU.

Large portions of the EU have been heavily disturbed from operations associated with the construction and operation of the Hanford Site 300 Area. Small swaths of undisturbed sediments do appear to exist, specifically in the southern extent of the 331 Complex portion of the EU, suggesting some potential for intact archaeological resources to exist within the surface and subsurface components of the EU.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁸⁵

- There are 2 archaeological sites associated with the Native American Precontact and Ethnographic Landscape within the boundary of the EU. The two archaeological sites are considered contributing components to a Washington State Register listed archaeological district. One of the sites has also been determined eligible for listing in the National Register of Historic Places.
- There are 8 National Register-eligible Manhattan Project and Cold War Era buildings located within the EU (all 8 are contributing within the Manhattan Project and Cold War Era Historic District, 3 recommended for individual documentation and 5 with no additional documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998) and building demolition is ongoing.

Table K.57. National Register-eligible Manhattan Project and Cold War Era buildings located within the RC-OP-2 Retained Facilities EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|---------------------------------------|---|--|------------------------------|
| 318 | High Temperature Lattice Test Reactor | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 325 | Radiochemistry Laboratory/Cerium | A.5 | Contributing Property Recommended for | ExHPIF |

⁸⁵ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (a) rooted in the history of a community, and (b) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|--|---|---|------------------------------|
| | Recovery | | Individual Documentation | |
| 325-A | Radiochemistry Laboratory/Cerium Recovery | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 331 | Life Sciences Laboratory/Virology Laboratory | A.6 | Contributing Property w/ no additional documentation requirements | |
| 331-G | Farrowing Facility/Interim Tissue Repository | A.6 | Contributing Property w/ no additional documentation requirements | |
| 331-H | Plant Exposure Facility/Aerosol Wind Tunnel | A.6 | Contributing Property w/ no additional documentation requirements | |
| 350 | Plant Operations & Maintenance Facility | A.6 | Contributing Property w/ no additional documentation requirements | |
| 3714 | Organic Chemistry Laboratory | A.6 | Contributing Property w/ no additional documentation requirements | |

- No TCPs are known to be located within the EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- There are 15 archaeological sites/isolates and one State Register listed historic district located within 500 meters of the EU. Five of these resources (3 sites and 2 isolates) and the archaeological district are associated with the Native American Precontact and Ethnographic Landscape. Ten of these resources (7 isolates and 3 sites) are associated with the Pre-Hanford Early Settlers/Farming Landscape. Of these resources, one site has been determined to be a contributing component to the Washington State Register listed historic district. The others currently remained unevaluated for listing in the National Register of Historic Places, however, it should be noted that isolates are typically assumed not eligible.
- A segment of the National Register-eligible Hanford Site Plant Railroad, a contributing

property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within 500 meters of the RC-OP-2, Retained Facilities EU. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)* (Department of Energy 1998), all documentation requirements have been completed for this property.

- Contributing portions of a National Register-eligible historic irrigation canal are located within 500 meters of the EU.
- There are 27 National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the EU (all 27 are contributing within the Manhattan Project and Cold War Era Historic District, 17 recommended for individual documentation and 10 with no additional documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)* (DOE-RL 1998) and building demolition is ongoing.

Table K.58. 27 National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the RC-OP-2 Retained Facilities EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|-----------------------------------|---|--|------------------------------|
| 308/308-A | Plutonium Fabrication Pilot Plant | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 309/309-E | Plutonium Recycle Test Reactor | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 320 | Low-Level Radiochemistry Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 326 | Physics and Metallurgy Laboratory | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 329 | Biophysics Laboratory | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 340 | Waste Neutralization Facility | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 340-A | Waste Neutralization Facility | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 340-B | Waste Neutralization | A.5 | Contributing Property Recommended for | HPIF |

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|---|---|---|------------------------------|
| | Facility | | Individual Documentation | |
| 382 | Pump House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 3614-A | River Monitoring Station | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 3709-A | Fire Station | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 3760 | Hanford Technical Library | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 3790 | Safeguards and Security Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 324 | Chemical Engineering Laboratory | A.6 | Contributing Property w/ no additional documentation requirements | |
| 339-A | Classified Computer Facility | A.6 | Contributing Property w/ no additional documentation requirements | |
| 3707-F | Radiation Monitoring Building/Personnel Survey | A.6 | Contributing Property w/ no additional documentation requirements | |
| 3730 | Graphite Laboratory and Shop/Gamma Irradiation Facility | A.6 | Contributing Property w/ no additional documentation requirements | |
| 3766 | Office Building | A.6 | Contributing Property w/ no additional documentation requirements | |

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the RC-OP-2, Retained Facilities EU. Additionally, a culturally sensitive area associated with the Native American Precontact Landscape is visible from the RC-OP-2, Retained Facilities EU.

Historic Map and Aerial Photograph Indicators

A review of historic United States Geological Survey (USGS) topographic maps (USGS 1917) shows substantial development in the area of the RC-OP-2, Retained Facilities EU. The EU overlays the historic plat of the small community of Fruitvale. Many primary and secondary roadways, buildings/structures and irrigation canal laterals are depicted within and in close proximity to the EU. Ownership information provided on the 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the RC-OP-2, Retained Facilities EU was subsumed within the 'Plat of Fruitvale.' Additional land owners listed include the Horn Rapids Irrigation District and Benton County (The 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs show little development in this area aside from irrigation ditches and several roadways. This information suggests a high potential for the existence of archaeological resources associated with the Pre-Hanford Early-Settlers/Farming landscape within the EU boundary.

Geomorphology Indicators

The geomorphology within the RC-OP-2, Retained Facilities EU is comprised of Pleistocene outburst flood deposits and gravels, suggesting a low potential for Native American Precontact and Ethnographic Landscape associated archaeological resources to be present within the surface and subsurface component of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery indicates that the EU has been heavily disturbed by 300 Area operations and remediation, however small pockets of undisturbed sediments do appear to exist particularly in the southeastern portion of the EU (331 building portion). Archaeological resources, if present, would likely be limited to areas of intact or undisturbed soils.

Summary of Cultural Resources Review

Almost the entire RC-OP-2, Retained Facilities EU has been inventoried for archaeological resources. It is unknown if an NHPA Section 106 review has been completed specifically for the remediation of the RC-OP-2, Retained Facilities EU. Large portions of the EU have been heavily disturbed from operations associated with the construction and operation of the Hanford Site 300 Area. Small swaths of undisturbed sediments do appear to exist, specifically in the southern extent of the 331 Complex portion of the EU, suggesting some potential for intact archaeological resources to exist within the surface and subsurface components of the EU.

There are 2 archaeological sites associated with the Native American Precontact and Ethnographic Landscape within the boundary of the EU. The two archaeological sites are considered contributing components to a Washington State Register listed archaeological district. One of the sites has also been determined eligible for listing in the National Register of Historic Places. In addition, there are 8 National Register-eligible Manhattan Project and Cold War Era buildings located within the EU (all 8 are contributing within the Manhattan Project and Cold War Era Historic District, 3 recommended for individual documentation and 5 with no additional documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998) and building demolition is ongoing. These 8 buildings can be found in the table below.

Table K.59. National Register-eligible Manhattan Project and Cold War Era buildings located within the RC-OP-2 Retained Facilities EU

| Building # | Building Name |
|------------|--|
| 318 | High Temperature Lattice Test Reactor |
| 325 | Radiochemistry Laboratory/Cerium Recovery |
| 325-A | Radiochemistry Laboratory/Cerium Recovery |
| 331 | Life Sciences Laboratory/Virology Laboratory |
| 331-G | Farrowing Facility/Interim Tissue Repository |
| 331-H | Plant Exposure Facility/Aerosol Wind Tunnel |
| 350 | Plant Operations & Maintenance Facility |
| 3714 | Organic Chemistry Laboratory |

There are 15 archaeological sites/isolates and one State Register listed historic district located within 500 meters of the EU. Five of these resources (3 sites and 2 isolates) and the archaeological district are associated with the Native American Precontact and Ethnographic Landscape. Ten of these resources (7 isolates and 3 sites) are associated with the Pre-Hanford Early Settlers/Farming Landscape. Of these resources, one site has been determined to be a contributing component to the Washington State Register listed historic district. The others currently remain unevaluated for listing in the National Register of Historic Places, however, it should be noted that isolates are typically assumed not eligible. A segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within 500 meters of the RC-OP-2, Retained Facilities EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property. In addition, contributing portions of a National Register-eligible historic irrigation canal are located within 500 meters of the EU.

There are 27 National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the EU (all 27 are contributing within the Manhattan Project and Cold War

Era Historic District, 17 recommended for individual documentation and 10 with no additional documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998) and building demolition is ongoing.

Historic maps and imagery indicate the historic community of Fruitvale is located within the area of the RC-OP-2, Retained Facilities EU suggesting a high potential for the presence of archaeological resources associated with the Pre-Hanford Early-Settlers/Farming landscape within the EU boundary. The geomorphology within the RC-OP2, Retained Facilities EU suggests a low potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface component of this EU. Examination of recent aerial imagery indicates that the EU has been heavily disturbed by 300 Area operations and remediation, however small pockets of undisturbed sediments do appear to exist particularly in the southeastern portion of the EU (331 building portion). Archaeological resources, if present, would likely be limited to areas of intact or undisturbed soils

Because the RC-OP-2, Retained Facilities EU has not been completely inventoried for cultural resources and because of the potential for intact archaeological materials within the EU, it may be appropriate to conduct surface (and possibly subsurface) archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups who may have an interest in the areas (e.g. East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

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Evaluation Unit: CWC
 ID: CP-OP-1
 Group: Operations
 Operable Unit Cross-Walk: NA
 Related EU: NA
 Sites & Facilities: Central Waste Complex (CWC) operations, closure, and D&D
 Key Data Sources Docs: HNF-14741
 HNF-EP-0063, Rev 18
 HNF-15589, Rev8
 WA7890008967, Part III
 DOE/EIS-022-F
 DOE-RL-98-10

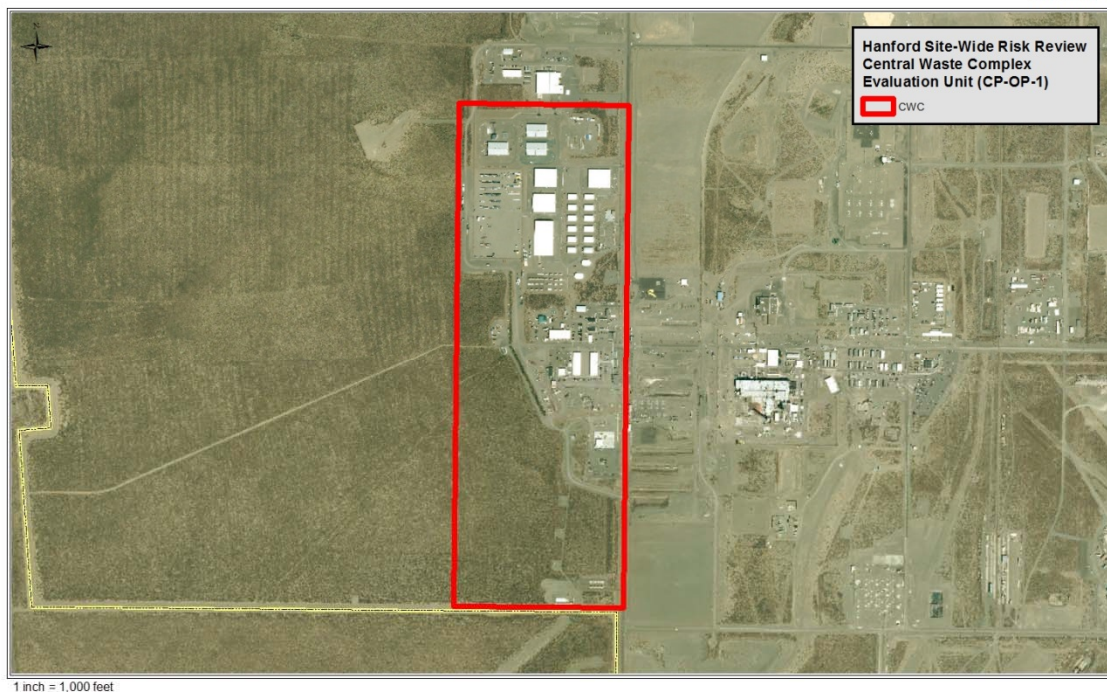
DRAFT

Figure K.50 Site Map with Evaluation Unit Boundaries

CP-OP-1: CWC

Cultural Resource Literature Reviews, Inventories, and Potential for Cultural Resources

The CWC EU is located in the 200-West Area of the Hanford Site, an area known to have low potential to contain Native American Pre-contact and Ethnographic archaeological resources and Pre-Hanford Early Settlers Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low

archaeological potential with the exception of intact portions of an historic/ethnohistoric Trail/Road corridor which runs through the CWC EU. Both contributing/intact segments and non-contributing/un-intact segments of the historic/ethnohistoric Trail/Road corridor run through the CWC EU.

Almost all of the CWC EU has been surface-inventoried for archaeological resources under HCRC#88-200-038 (Chatters and Cadoret 1990), HCRC# 2000-600-023 (Hale 2000), HCRC# 88-200-005 (Chatters 1988), HCRC# 87-200-021 (Cadoret and Chatters 1988), HCRC# 2012-200-028 (Hay et. al). There is a possibility that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly where undisturbed soil deposits exist within the CWC EU.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁸⁷

- Segment B of a National Register-eligible historic/ethnohistoric Trail/Road Corridor associated with the Pre-Hanford Early Settlers/Farming Landscape and the Native American Precontact and Ethnographic Landscape runs through the CWC EU. Both non-contributing and contributing portions of segment B are contained within the CWC EU. Previous cultural resources reviews have recommended a 60-foot easement of avoidance on either side of the historic/ethnohistoric Trail/Road Corridor through this area.
- One historic-archaeological site and one historic isolated find both likely associated with the Pre-Hanford Early Settlers/Farming Landscape and one prehistoric isolated find (lithic flake) associated with the Native American Precontact and Ethnographic Landscape are located within the CWC EU. None of these resources are considered to be eligible to the National Register of Historic Places.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- Four isolated finds (1 associated with the Native American Precontact and Ethnographic Landscape and 3 historic-era finds associated with the Pre-Hanford Early Settlers/Farming Landscape) are located within 500 meters of the CWC EU. None of these isolates have been formally evaluated for listing in the National Register of Historic Places, however, it should be noted that isolates are typically considered not eligible.
- Eleven National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the EU (all 11 are contributing within the Manhattan Project and Cold War Era Historic

⁸⁷ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

District, 10 with individual documentation required, and 1 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for these properties.

Table K.X. National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-OP-1, CWC EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|---|--|--|-------------------------------------|
| 231-Z | Plutonium Isolation Building/Plutonium Metallurgical Laboratory | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 234-5Z | Plutonium Finishing Plant | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 234-5ZA | 234-5Z South Annex | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 236-Z | Plutonium Reclamation Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 242-Z | Waste Treatment Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 291-Z | Air Filter and Exhaust Stack | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2704-Z | Office Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2736-Z | Primary Plutonium Storage Facility | A.5 | Contributing Property Recommended for | ExHPIF |

| | | | | |
|---------|-------------------------------------|-----|---|------|
| | | | Individual Documentation | |
| 2736-ZA | Primary Plutonium Storage Annex | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2736-ZB | Primary Plutonium Storage Support | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 270-Z | PFP Operations and Support Building | A.6 | Contributing Property w/ no additional documentation requirements | |

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CWC EU.

Historic Map and Aerial Photograph Indicators

A review of 1916 United States Geological Survey (USGS) topographic maps (USGS 1916) depicts the historic/ethnohistoric Trail/Road running through the CWC EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the CWC EU were owned by the United States and Benton County in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs further confirm the presence of the historic/ethnohistoric Trail/Road. This information suggests a moderate potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape as well as the Pre-Hanford Early Settlers/Farming Landscape within the EU.

Geomorphology Indicators

The geomorphology within the CWC EU is evenly dispersed with both Pleistocene outburst flood deposits and Holocene dune sands suggesting a moderate potential for archaeological resources associated with the Native American Pre-contact and to be present within undisturbed portions of both the surface and subsurface components of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the CWC EU depicts buildings, roads, parking lots as well as grubbed and cleared areas. It also contains areas that appear to have been undisturbed by ground-clearing activities. In areas where there is extensive disturbance to both surface and subsurface soil, there is a low potential for intact archaeological resources to be present within

the CWC EU. Within the areas of undisturbed soils the potential for intact archaeological resources to be present within the CWC EU is moderate.

Summary of Cultural Resources Review

Almost all of the CWC EU has been inventoried for archaeological resources. In addition to the archaeological resources already identified within the CWC EU, there is a possibility that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly where the undisturbed soil deposits exist within the CWC EU.

Cultural resources known to be recorded within the CWC EU consists of both contributing and noncontributing segments of a National register-eligible historic/ethnohistoric trail/Road associated with the Native American Precontact/Ethnographic and Pre-Hanford Early Settlers/Farming Landscapes as well as a historic site, likely associated with the Pre-Hanford Early Settlers/Farming Landscape. Additionally two isolated finds; one associated with the Native American Precontact and Ethnohistoric Landscape and one associated with the Pre-Hanford Early Settlers/Farming Landscape have also been identified. With the exception of the contributing portion of an historic/ethnohistoric Trail/Road, none of these resources are considered to be National Register-eligible. Previous cultural resources reviews have recommended a 60-foot easement of avoidance on either side of the contributing segment of the White Bluffs Trail/Road Corridor through this area.

The closest recorded archaeological sites, located within 500 meters of the CWC EU, consist of four isolated finds; one associated with the Native American and Ethnographic Landscape and three historic-era isolated finds that may be associated with the Pre-Hanford Early Settlers/Farming Landscape. While none of these isolates have been formally evaluated for listing in the National Register of Historic Places, it should be noted that isolates are typically considered not eligible. In addition, 11 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the EU (all 11 are contributing within the Manhattan Project and Cold War Era Historic District, 10 with individual documentation required, and 1 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for these properties.

The physical evidence of an historic/ethnohistoric Trail/Road within the CWC EU indicates evidence of historic and ethnohistoric land use through the CWC EU. The geomorphology and presence of undisturbed soils suggests that there is a moderate potential for the presence of archaeological resources associated with all three landscapes to be present both in the surface and subsurface within the CWC EU.

Because of the potential for pockets of undisturbed soil to exist within the EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating a remediation activity. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Because portions of the EU have not been inventoried for cultural resources, and because of the potential for intact archaeological

deposits (both on the surface and in the subsurface), particularly where the undisturbed soil deposits exist within the CWC EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating any remediation activity.

Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

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Evaluation Unit: T Plant
 ID: CP-OP-2
 Group: Operations
 Operable Unit Cross-Walk: NA
 Related EU: NA
 Sites & Facilities: T Plant Canyon, ancillary buildings, structures. Evaluate through operations, then will be preserved as a historical site or undergo D&D.



Figure K.51. CP-OP-2 (T Plant) Site Location Map

CP-OP-2 T Plant

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-OP-2, T Plant EU is located within the 200-West Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200*

West Areas, Hanford Site (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

Very small portions of the CP-OP-2, T Plant EU have been inventoried for cultural resource under two archaeological surveys: HCRC#98-200-058 (Cadoret 1998) and HCRC#2000-600-023 (Hale 2000). It is unknown if an NHPA Section 106 review has been completed specifically for remediation of CP-OP-2, T Plant EU. It is unlikely that intact previously undocumented archaeological material is present in the EU, both on the surface and in subsurface areas, because the soils in the CP-OP-2, T Plant EU appear to have been heavily disturbed by Hanford Site activities.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁸⁹

- A non-contributing segment of a National Register eligible historic/ethnohistoric trail/road corridor is located within the CP-OP-2, T Plant EU.
- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within the CP-OP-2 T Plant EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.
- There are 9 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District that are located within CP-OP-2, T Plant EU (all 9 are contributing properties within the Manhattan Project and Cold War Era Historic District, 5 with individual documentation required, and 4 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these properties.

Table K.60. National Register-eligible Manhattan Project and Cold War Era buildings located within CP-OP-2, T Plant EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|----------------------|--|--------------------------------------|-------------------------------------|
| 221-T | T Plant/Equipment | A.5 | Contributing Property | HAER |

⁸⁹ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

| Decontamination | | | Recommended for Individual Documentation | |
|--------------------|--|-----|--|--------|
| 221-TA | Fan House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 222-T | Process Control Laboratory/Office Building | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 271-T | Office Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 291-T | Exhaust Stack | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 292-T | Fission Products Release Lab | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 224-T | Transuranic Storage And Assay Facility | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2706-T/ 2706-TA | Equipment Decontamination Building/Annex | A.6 | Contributing Property w/ no additional documentation requirements | |
| 277-T | Blow Down Building | A.6 | Contributing Property w/ no additional documentation requirements | |

- T Plant (221-T) is located within the CP-OP-2, T Plant EU. This building has been selected for preservation, and HAER level documentation has been completed. Additionally, T Plant (221-T) has been identified as part of the Manhattan Project National Historic Park by the National Park Service.

Archaeological sites, buildings, and TCPs located within 500 meters of the EU

- Two archaeological isolates, associated with the Native American Precontact and Ethnographic Landscape, have been documented within 500 meters of the CP-OP-2, T Plant EU. While these isolates have not been formally evaluated for listing in the National Register of Historic Places, it should be noted that isolates are typically considered not eligible.
- There are 3 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District that are located within 500 meters of the CP-OP-2 T Plant EU (2 with individual documentation required, and 1 with

no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)* (DOE-RL 1998), all documentation requirements have been completed for these properties. These include:

Table K.61. National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-OP-2 T Plant EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|---|--|---|-------------------------------------|
| 241-T | Waste Disposal Tank Farm (Single Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 275-W | Heavy Equipment Shop | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2713-W | Office and Service Building | A.6 | Contributing Property w/ no additional documentation requirements | |

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-OP-2, T Plant EU.

Historic Map and Aerial Photograph Indicators

Historic United States Geological Survey (USGS) maps (USGS 1916) show a historic/ethnohistoric trail/road in the vicinity of the EU (to the northwest). Ownership information provided on 1943 Hanford Engineer Works Real Estate maps indicate that Elbert W. Frazier, Benton County, and the United States owned lands within the EU in 1943 (The 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs are not available for this EU. This information suggests a moderate potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU.

Geomorphology Indicators

The geomorphology within the CP-OP-2, T Plant EU consists of Pleistocene outburst flood deposits and Holocene dune sands suggesting a low to moderate potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface subsurface component of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the CP-OP-2, T Plant EU indicates that the EU is extensively disturbed by building construction, Hanford site facilities, buried utilities, surface grading, roads and waste sites. This disturbance suggests very low potential for intact archaeological resources to be present. It is possible but very unlikely that pockets of undisturbed soils exist within the EU. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Summary of Cultural Resources Review

Very small portions of the CP-OP-2, T Plant EU have been inventoried for archaeological resources under two archaeological surveys. It is unknown if an NHPA Section 106 review has been completed specifically for remediation of CP-OP-2 T Plant EU. It is unlikely that intact archaeological material is present in the EU, both on the surface and in the subsurface, because the soils in the EU have been extensively disturbed.

One archaeological resource has been documented within the CP-OP-2, T Plant EU, a non-contributing segment of a National Register eligible historic/ethnohistoric trail/road. A segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required has also been recorded within the EU. In addition 9 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within CP-OP-2, T Plant EU (all 9 are contributing within the Manhattan Project and Cold War Era Historic District, 6 with individual documentation required, and 3 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)*, all documentation requirements have been completed for these Manhattan Project and Cold War Era Historic District properties. Additionally, T Plant (221-T) is located within the CP-OP-2, T Plant EU. This building has been selected for preservation, and HAER level documentation has been completed. Additionally, T Plant (221-T) has been identified as part of the Manhattan Project National Historic Park by the National Park Service.

Table K.62. National Register-eligible Manhattan Project and Cold War Era buildings located within CP-OP-2, T Plant EU

| Building # | Building Name |
|--------------------|--|
| 221-T | T Plant/Equipment Decontamination |
| 221-TA | Fan House |
| 222-T | Process Control Laboratory/Office Building |
| 271-T | Office Building |
| 291-T | Exhaust Stack |
| 292-T | Fission Products Release Lab |
| 224-T | Transuranic Storage And Assay Facility |
| 2706-T/ 2706-TA | Equipment Decontamination Building/Annex |
| 277-T | Blow Down Building |

Cultural resources documented within 500 meters of the CP-OP-2 T Plant EU include: two archaeological isolates associated with the Native American Precontact and Ethnographic Landscape. While these isolates have not been formally evaluated for listing in the National Register of Historic Places, it should be noted that isolates are typically considered not eligible. In addition, 3 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District (all 3 are considered contributing within the Manhattan Project and Cold War Era Historic District, 2 with individual documentation required, and one with no additional documentation required) In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56), all documentation requirements have been completed for these Manhattan Project and Cold War Era Historic District properties..

Historic maps indicate a moderate potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the CP-OP-2, T Plant EU. Geomorphology indicates a low to moderate potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the CP-OP-2, T Plant EU. However, extensive ground disturbance within the entire EU suggests little to no potential for intact cultural resources at or below ground surface. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Because large portions of the EU have not been inventoried for archaeological resources, it may be appropriate to conduct surface (and potentially subsurface) archaeological investigation prior to the initiation of any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and the B-Reactor Museum Association) may be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References⁹⁰

Cadoret, NA. 1998. *Letter to C.R. Smith Regarding Cultural Resources Review of the Isolation of Sanitary Water to 241-A Tank Farms and Installation of a Flush Valve, HCRC#98-200-058*, Pacific Northwest National Laboratory, Richland, Washington.**

Chatters JC and NA Cadoret. 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington.**

⁹⁰ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

DOE-RL (Department of Energy, Richland Operations Office). 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)*. Richland, Washington.

Hale, LL. 2000. *Cultural Resources Report Narrative – The White Bluffs Road Archaeological Survey, HCRC#2000-600-023*, Pacific Northwest National Laboratory, Richland, Washington.**

Parker, P and T King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

Evaluation Unit: WESF
 ID: CP-OP-3
 Group: Operations
 Operable Unit Cross-Walk: NA
 Related EU: CP-DD-2
 Sites & Facilities: Waste Encapsulation and Storage Facility (WESF) – Evaluate for the storage and removal of Cs/SR capsules. D&D included with B Plant EU.
 Key Data Sources Docs: HNF-8758
 WA7890008967
 DOE/RL-2010-102

DRAFT

Figure K.52. Site Map with Evaluation Unit Boundaries

CP-OP-3: WESF

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The WESF EU is located within the 200-East Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric

Road/Trail corridor which runs through the 200-West Area located over 5 kilometers from the WESF EU. None of the WESF Evaluation Unit has been inventoried for archaeological resources because it is located inside the 225-B, Waste Encapsulation and Storage Facility.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁹¹

- There are no known recorded archaeological sites or TCPs located within the WESF EU.
- Three National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within the WESF EU (all 3 are contributing within the Manhattan Project and Cold War Era Historic District, 2 with individual documentation required, and 1 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for these properties.

Table K.X. National Register-eligible Manhattan Project and Cold War Era buildings located within CP-OP-3, WESF EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|------------|---|---|---|------------------------------|
| 212-B | Fission Product Loadout Station | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 225-B | Waste Encapsulation and Storage Facility (WESF) | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 221-B | B Plant Canyon/Separations Building | A.6 | Contributing Property w/ no additional documentation requirements | |

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- There are no known archaeological sites or TCPs located within 500 meters of the WESF EU.

⁹¹ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

- Nine National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within the WESF EU (all 9 are contributing within the Manhattan Project and Cold War Era Historic District, 1 with individual documentation required, and 8 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for these properties.

Table K.X. National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-OP-3, WESF EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|--|--|---|-------------------------------------|
| 276-B | Organic Make Up/Solvent Storage | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 221-BC | SWP Change House | A.6 | Contributing Property w/ no additional documentation requirements | |
| 222-B | Process Control Laboratory/Office Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 224-B | Concentration Facility | A.6 | Contributing Property w/ no additional documentation requirements | |
| 271-B | Office & Service Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 272-B | Service Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 282-B | Pumphouse | A.6 | Contributing Property w/ no additional documentation requirements | |
| 291-B | Exhaust Air Control | A.6 | Contributing Property | |

| | | | |
|-------|-----------------------------------|-----|---|
| | Building/Stack | | w/ no additional documentation requirements |
| 292-B | Stack Monitoring Building/Jet Pit | A.6 | Contributing Property w/ no additional documentation requirements |

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the WESF EU.

Historic Map and Aerial Photograph Indicators

A review of 1916 historic United States Geological Survey (USGS) topographic maps (USGS 1916) depicts no structures, roads, or any other indication of historic settlement. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the WESF EU were owned by Benton County in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs further confirm the absence of the historic settlement in the area. This information indicates a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming landscape to be present within WESF EU.

Geomorphology Indicators

The geomorphology within the WESF EU is all Pleistocene outburst flood deposits suggesting a low potential for archaeological resources associated with the Native American Precontact and Ethnographic to be present within the subsurface component of the WESF EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that the WESF EU is heavily disturbed because it is located inside the 225 B Waste Encapsulation and Storage Facility.

Summary of Cultural Resources Review

None of the WESF EU has been inventoried for archaeological resources and none are known to be located there.

Three National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within the WESF EU (all 3 are contributing within the Manhattan Project and Cold War Era Historic District, 2 with individual documentation required, and 1 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these properties.

| Building # | Building Name |
|-------------------|---|
| 212-B | Fission Product Loadout Station |
| 225-B | Waste Encapsulation and Storage Facility (WESF) |
| 221-B | B Plant Canyon/Separations Building |

Nine National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within the WESF EU (all 9 are contributing within the Manhattan Project and Cold War Era Historic District, 1 with individual documentation required, and 8 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these properties. There are no known archaeological sites, isolates or TCPs located within 500 meters of the WESF EU.

Historic maps and aerial photographs indicate that there is no evidence of historic settlement in or near the WESF EU. Geomorphology and extensive ground disturbance further indicates a low potential for the presence of intact archaeological resources associated with all three landscapes to be present subsurface within the WESF EU.

Because none of the EU has been inventoried for cultural resources, it may be appropriate to conduct surface archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach and B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References

- Chatters JC and NA Cadoret 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington.**
- Department of Energy. 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Richland, Washington.
- Parker, P. and T. King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.
- USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.
- U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

Evaluation Unit: WRAP
 ID: CP-OP-4
 Group: Operations
 Operable Unit Cross-Walk: NA
 Related EU: NA
 Sites & Facilities: Waste Repackaging and Processing (WRAP) facility operations, closure, and D&D.



Figure K.53. CP-OP-4 (WRAP) Site Location Map

CP-OP-4 WRAP

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-OP-4, WRAP EU is located within the 200-West Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this archaeological survey

was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

Most of the CP-OP-4, WRAP EU has been inventoried for archaeological resources. Two archaeological surveys were completed under HCRC#87-200-005 (Chatters and Cadoret 1988) and HCRC#96-200-058 (Nickens et al. 1996) with negative findings within the EU. It is unknown if an NHPA Section 106 review has been completed specifically for remediation of CP-OP-4, WRAP EU. It is unlikely that intact previously undocumented archaeological material is present in the EU, both on the surface and in subsurface areas, because the soils in the CP-OP-4, WRAP EU appear to have been heavily disturbed by Hanford Site activities.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁹²

- There are no known cultural resources within the CP-OP-4, WRAP EU.

Archaeological sites, buildings, and TCPs located within 500 meters of the EU

- Three archaeological isolates (2 associated with the Native American Precontact and Ethnographic Landscape and 1 with the Pre-Hanford Early Settlers/Farming Landscape) have been documented within 500 meters of the CP-OP-4, WRAP EU. While these isolates have not been formally evaluated for listing in the National Register of Historic Places, it should be noted that isolates are typically considered not eligible.
- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500 meters of the CP-OP-4, WRAP EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for this property.
- A non-contributing segment of a historic/ethnohistoric trail/road corridor has been recorded within 500 meters of the EU.

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-OP-4, WRAP EU.

Historic Map and Aerial Photograph Indicators

Historic United States Geological Survey (USGS) maps (USGS 1916) show a historic/ethnohistoric trail/road within the vicinity of the EU (to the southeast). Ownership information on the 1943 Hanford Works Real Estate maps indicate that lands within the EU

⁹² Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

were owned by Benton County and the United States in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs indicate that the entire CP-OP-4, WRAP EU was unused sand dunes in 1943. This information suggests a low potential for the presence of archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape within the EU.

Geomorphology Indicators

The geomorphology within the CP-OP-4, WRAP EU consists of Pleistocene outburst flood deposits and Holocene dune sands suggesting a moderate potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface subsurface component of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the area indicates that the CP-OP-4, WRAP EU is heavily disturbed by building construction, Hanford site facilities, buried utilities, surface grading, roads and waste sites. This disturbance suggests low potential for the presence of intact archaeological resources. It is possible but unlikely that pockets of undisturbed soils exist. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Summary of Cultural Resources Review

Almost the entire CP-OP-4, WRAP EU has been inventoried for archaeological resources under two previous archaeological survey efforts. Both of these survey efforts resulted in negative findings within the EU. It is unknown if an NHPA Section 106 review has been completed specifically for remediation of the CP-OP-4, WRAP EU. It is unlikely that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), because the soils in the EU are extensively disturbed.

No cultural resources are known to exist within the CP-OP-4, WRAP EU. Three archaeological isolates (2 associated with the Native American Precontact and Ethnographic Landscape and one with the Pre-Hanford Early Settlers/Farming Landscape) have been identified within 500 meters of the CP-OP-4, WRAP EU. While these isolates have not been formally evaluated for listing in the National Register of Historic Places, it should be noted that isolates are typically considered not eligible. In addition, a non-contributing segment of a National Register eligible historic/ethnohistoric trail/road corridor is located within 500 meters of the EU. Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500 meters of the CP-OP-4, WRAP EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)* (DOE-RL 1998), all documentation requirements have been completed for this property.

Historic maps and aerial imagery of the area indicate a low potential for the presence of archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape within the EU. The geomorphology indicates a moderate potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the CP-OP-4, WRAP EU. However, extensive ground disturbance within the entire EU suggests little potential for intact cultural resources at or below ground surface. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Because of the potential for archaeological resources within the CP-OP-4, WRAP EU, it may be appropriate to conduct surface archaeological investigations prior to the initiation of any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and the B-Reactor Museum Association) may be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References⁹³

DOE-RL (Department of Energy, Richland Operations Office). 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). Richland, Washington.

Chatters JC and NA Cadoret. 1988. *Cultural Resources Survey of the Proposed Steam System Rehabilitation, Phase I, HCRC#87-200-005 and of the Proposed Water System Upgrades – Reservoir HCRC#87-200-008*. Pacific Northwest National Laboratory, Richland, Washington**

Chatters JC and NA Cadoret. 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington.**

Nickens, PR, LL Hale, NA Cadoret, MK Wright, and DW Harvey. 1996. *Cultural Resources Project Annual Summary Report – Fiscal Year 1996*. Pacific Northwest National Laboratory, Richland, Washington.**

Parker, P and T King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

⁹³ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: CSB
 ID: CP-OP-5
 Group: Operations
 Operable Unit Cross-Walk: NA
 Related EU: NA
 Sites & Facilities: Canister Storage Building (CSB) operations and closure (including adjacent spent fuel dry storage pad).



Figure K.54. CP-OP-5 (CSB) Site Location Map

CP-OP-5 CSB

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-OP-5, CSB EU is located within the 200-East Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report

concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

The entire EU was inventoried for cultural resources under HCRC#87-200-004 (Chatters 1987). This review did not result in the identification of any cultural resources within the EU. It is unknown if an NHPA Section 106 review has been completed specifically for remediation of the CP-OP-5, CSB EU. It is unlikely that intact archaeological resources are present within the surface and subsurface of the EU due to the extensive ground disturbance from Hanford Site activities.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁹⁴

- There are no known archaeological sites, inventoried historic buildings, or TCPs located within the CP-OP-5, CSB EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- One archaeological site, associated with the Manhattan Project and Cold War Era Landscape, is located within 500 meters of the EU. This site has been determined a National Register-eligible property, and is considered a contributing property within the Manhattan Project and Cold War Era Historic District. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for this property. Direct impacts to contributing components of the archaeological site however have not been addressed and are dealt with on a project-by-project basis.
- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500 meters of the CP-OP-5 CSB EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for this property.
- There are 12 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District that are located within 500-meters of the CP-OP-5, CSB EU (all 12 are contributing within the Manhattan Project and Cold War Era Historic District, 3 with individual documentation required, and 9 with no additional documentation required) In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56) (DOE-RL 1998)*, all documentation requirements have been completed for these properties. These include:

⁹⁴ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

Table K.63. National Register-eligible Manhattan Project and Cold War Era buildings located within 500-meters of the CP-OP-5, CSB EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|---|--|---|-------------------------------------|
| 212-B | Fission Products Load Out Station | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 225-B | Waste Encapsulation And Storage Facility (WESF) | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 2721-E | Patrol Headquarters | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 221-B | B Plant Canyon/Separations Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 221-BC | SWP Change House | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2220-E | Telephone Exchange | A.6 | Contributing Property w/ no additional documentation requirements | |
| 222-B | Process Control Laboratory/Office Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 224-B | Concentration Facility | A.6 | Contributing Property w/ no additional documentation requirements | |
| 271-B | Office and Service Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2727-E | Safeguards And | A.6 | Contributing Property w/ | |

| | | | |
|-------|------------------|-----|---|
| | Security Offices | | no additional documentation requirements |
| 272-B | Service Building | A.6 | Contributing Property w/ no additional documentation requirements |
| 282-B | Pumphouse | A.6 | Contributing Property w/ no additional documentation requirements |

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-OP-5, CSB EU.

Historic Map and Aerial Photograph Indicators

The EU overlaps the 1916 Coyote Rapids map. Historic United States Geological Survey (USGS) maps (USGS 1916) do not show any manmade or otherwise cultural features within or in the vicinity of the EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps indicate that lands within the EU were owned by Benton County in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial imagery is not available for this EU. This information suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU.

Geomorphology Indicators

The geomorphology within the CP-OP-5, CSB EU consists of Pleistocene outburst flood deposits and Holocene dune sands suggesting a moderate potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface component of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the area indicates that the EU has been entirely and extensively disturbed by Hanford Site activities. This disturbance suggests a very low potential for intact archaeological resources to be present in the EU. A very small pocket of undisturbed soils does appear to exist in the southern portion of the EU. It is possible, but unlikely, that intact archaeological deposits are located in these undisturbed soils.

Summary of Cultural Resources Review

The entire CP-OP-5, CSB EU was inventoried for cultural resources under HCRC#87-200-004 (Chatters 1987). This review did not result in the identification of any cultural resources. It is unknown if an NHPA Section 106 review has been completed specifically for remediation of the

CP-OP-5, CSB EU. No cultural resources have been documented within the CP-OP-5, CSB EU. It is unlikely that intact archaeological material is present in the EU, which has been extensively disturbed by building and utilities construction.

One archaeological resource associated with the Manhattan Project and Cold War Era Landscape, has been recorded within 500 meters of the CP-OP-5, CSB EU. This site has been determined a National Register-eligible property, and is considered a contributing property within the Manhattan Project and Cold War Era Historic District. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property. Direct impacts to contributing components of the archaeological site however have not been addressed and are dealt with on a project-by-project basis. Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District with documentation required have also been recorded within 500 meters of the EU. Lastly, 12 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District (all 12 are contributing within the Manhattan Project and Cold War Era Historic District, 3 with documentation required, and 9 with no additional documentation required). All National-Register-eligible Manhattan Project and Cold War Era buildings have been documented as described in the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998).

Historic maps and aerial imagery indicate a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the CP-OP-5, CSB EU. Geomorphology indicates a moderate potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the EU. However, extensive ground disturbance within the EU suggests little to no potential for intact cultural resources at or below ground surface. Resources, if present, would likely be limited to areas of intact or undisturbed sediments.

Because of the potential for archaeological resources within the EU, it may be appropriate to conduct surface archaeological investigations prior to initiation of remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and the B-Reactor Museum Association) may be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References⁹⁵

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⁹⁵ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

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U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

Evaluation Unit: ERDF
 ID: CP-OP-6
 Group: Operations
 Operable Unit Cross-Walk: NA
 Related EU: NA
 Sites & Facilities: Environmental Restoration Disposal Facility (ERDF) operations and closure
 Key Data Sources Docs: WCH-174, Rev 2
 WCH-179
 WCH-191, Rev 3
 ROD ERDF

DRAFT

Figure K.55. Site Map with Evaluation Unit Boundaries

CP-OP-6: ERDF

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The ERDF EU is located between the 200-West and 200-East Areas of the Hanford Site, an area generally known to have low potential to contain Native American Pre-contact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Construction and operation of the ERDF was addressed by an NHPA Section 106 Review under HCRC#93-200-001. All of the ERDF Evaluation Unit has been inventoried for cultural resources by several cultural resources surveys in the past. These include HCRC#89-200-023 (Minthorn 1990) HCRC#93-200-001 (Cadoret and Wright, 1994), HCRC#93-600-005 (Meyers and McIntire 1993), HCRC#93-600-038 (Crist and Longenecker 1994), HCRC#95-200-013 (Stapp and Woodruff

1994), HCRC#2008-600-006 (Kennedy 2008), HCRC#2011-600-015 (Hughes et. al. 2011), and HCRC#2012-600-035c (Hay et. al. 2013). There is a possibility that intact archaeological material is present in the small areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly where undisturbed soil deposits exist within the ERDF boundary.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs)⁹⁶ located within the EU

- We say iOk!
- Six cultural resources have been documented in the EU. These resources include archaeological sites and isolates associated with the Native American Precontact and Ethnographic, and Pre-Hanford Early Settler/Farming Landscapes.
 - Specifically, there are two isolated finds and one archaeological site associated with the Native American Precontact and Ethnographic Landscape. The archaeological site has been determined not eligible for listing in the National Register of Historic Places and the two isolates remain unevaluated, however, it should be noted that isolates are typically considered not eligible.
 - In addition, one archaeological site and two isolated finds associated with the Pre-Hanford Early Settler/Farming Landscape have been recorded within the EU. Each of these six sites have been determined to be not eligible for listing on the NRHP. All of these resources remain unevaluated for listing in the National Register of Historic Places.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- There are no known TCPs within 500 meters of the EU.
- Five additional cultural resources have been documented within 500-meters of the EU. These resources include archaeological sites and isolates representing the Native American Pre-contact and Ethnographic, Pre-Hanford Early Settler/Farming and the Manhattan Project/Cold War Landscapes.
 - One isolated find associated with the Native American Pre-contact and Ethnographic Landscape has been recorded within 500 meters of the EU. While this isolate remains uneluated for listing in the National Register of Historic Places, it should be noted that isolates are typically considered not eligible.
 - Three isolated finds likely associated with the Pre-Hanford Early Settler/Farming Landscape have been recorded within 500 meters of the EU. While this isolate

⁹⁶ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

remains unelavated for listing in the National Register of Historic Places, it should be noted that isolates are typically considered not eligible.

- The Hanford Atmospheric Dispersion Test Facility is a National Register-eligible archaeological site, that is associated with the Manhattan Project and Cold War Era Landscape is located within 500 meters of the EU.
- One National Register-eligible building (the 201-W Instrument Building) that is a contributing property to the Manhattan Project and Cold War Era Landscape, with no documentation required, is located within 500-meters of the ERDF EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these properties.

Closest Recorded TCP

There are 2 recorded TCPs associated with the Native American Pre-contact and Ethnographic Landscape that are visible from the ERDF EU.

Historic Map and Aerial Photograph Indicators

A review of 1916 United States Geological Survey (USGS) topographic maps (USGS 1916) shows no indications of historic land use such as roads or buildings within the ERDF EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the ERDF EU were owned by the United States Government, and Benton County in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). The 1943 aerial imagery show a faint trail or road running from the southwest to the northeast of the EU. No other land use or development is shown in the EU on this imagery. Collectively, this information suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming landscape to be present within the ERDF EU.

Geomorphology Indicators

Surface geology of the EU consists of sedimentary Holocene stabilized sand dune deposits. Due to the age and deposition rate of this type of deposit this geomorphological environment suggests some potential for the presence of archaeological resources associated with the Native American Pre-contact and Ethnographic Landscape within the subsurface component of this EU, especially in undisturbed soils.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that the EU is almost entirely disturbed by massive earthworks operations at ERDF. Some relatively undisturbed lands appear to be present around the EU perimeter, particularly at the southwest corner and south margin of the EU. The large scale disturbances within the EU suggest very low potential for intact archaeological resources to be present on the surface or within the subsurface. Because there are small areas that appear to be minimally disturbed, it is possible for archaeological resources to be present both on the surface and within the subsurface. It is possible for pockets of

undisturbed soils to exist and therefore intact archaeological material to exist within the heavily disturbed areas.

Summary of Cultural Resources Review

The entire ERDF EU has been inventoried for archaeological resources with limited findings. There is a possibility that intact archaeological material is present in the small areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly where undisturbed soil deposits exist within the ERDF boundary.

Six cultural resources have been documented in the EU. These resources include archaeological sites and isolates associated with the Native American Precontact and Ethnographic, and Pre-Hanford Early Settler/Farming Landscapes. Specifically, there are two isolated finds and one archaeological site associated with the Native American Precontact and Ethnographic Landscape. The archaeological site has been determined not eligible for listing in the National Register of Historic Places and the two isolates remain unevaluated, however, it should be noted that isolates are typically considered not eligible. In addition, one archaeological site and two isolated finds associated with the Pre-Hanford Early Settler/Farming Landscape have been recorded within the EU. Each of these six sites have been determined to be not eligible for listing on the NRHP. All of these resources remain unevaluated for listing in the National Register of Historic Places. No TCPs or Manhattan Project/Cold War Era Landscape resources are known within the ERDF EU.

Five additional cultural resources have been documented within 500-meters of the EU. These resources include archaeological sites and isolates representing all three cultural landscapes. One isolated find associated with the Native American Pre-contact and Ethnographic Landscape has been recorded within 500 meters of the EU. In addition, three isolated finds likely associated with the Pre-Hanford Early Settler/Farming Landscape have been recorded within 500 meters of the EU. While these isolates remains uneluated for listing in the National Register of Historic Places, it should be noted that isolates are typically considered not eligible. The Hanford Atmospheric Dispersion Test Facility is a National Register-eligible archaeological site, that is associated with the Manhattan Project and Cold War Era Landscape is located within 500 meters of the EU. Lastly, 1 National Register-eligible building (the 201-W Instrument Building) that is a contributing property to the Manhattan Project and Cold War Era Landscape, with no documentation required, is located within 500-meters of the ERDF EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these properties.

While the geomorphologic composition suggest a potential for buried archaeological materials the great distance from a permanent water source as well as the extensive earthworks, evidence of ground disturbances, and inferences based on historic map and aerial imagery data suggest that the potential for intact archaeological resources associated with all three landscapes to be present within the EU is low.

Because of the potential for the presence of intact archaeological material in the small areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly where undisturbed soil deposits exist within the ERDF boundary, it may be appropriate to conduct surface and subsurface investigations in these areas prior to initiating any remediation activity. Indirect effects are always possible when TCPs are located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g., East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes will be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References⁹⁷

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U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

Evaluation Unit: IDF
 ID: CP-OP-7
 Group: Operations
 Operable Unit Cross-Walk: NA
 Related EU: NA
 Sites & Facilities: Integrated Disposal Facility operations and closure.



Figure K.56. CP-OP-7 (IDF) Site Location Map

CP-OP-7 IDF

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-OP-7, IDF EU is located within the 200-East Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low

archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

Small portions of the CP-OP-7, IDF EU have been inventoried for archaeological resources under three cultural resource reviews: HCRC#87-200-046 (Chatters 1987), HCRC#2012-600-031a (Gilmour, Solimano and Daniels 2013), and HCRC#2013-600-012a (Sheldon et al 2014). None of these cultural resource reviews resulted in the identification of any cultural resources within the CP-OP-7, IDF EU. It is unknown if an NHPA Section 106 review has been completed specifically for the remediation of the CP-OP-7, IDF EU. It is very unlikely that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), because soils in the entire EU appear to have been extensively disturbed by Hanford Site activities.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU⁹⁸

- Three archaeological isolates (one associated with the Native American Precontact and Ethnographic Landscape, and 2 with the Pre-Hanford Early Settlers/Farming Landscape) have been documented within the CP-OP-7, IDF EU. While none of these isolates have been formally evaluated for listing in the National Register of Historic Places, it should be noted that isolates are typically considered not eligible.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500 meters of the CP-OP-7, IDF EU. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.
- There are 7 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District that are located within 500-meters of the CP-OP-7, IDF EU (all 7 are contributing within the Manhattan Project and Cold War Era Historic District, 6 with individual documentation required, and 1 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for these properties.

⁹⁸ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

Table K.64. National Register-eligible Manhattan Project and Cold War Era buildings located within 500-meters of the CP-OP-7, IDF EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|--|--|---|-------------------------------------|
| 202-A | Plutonium-Uranium Extraction Facility (PUREX) Facility | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |
| 2101-M | Machine Shop/Office/Training Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2701-AB | PUREX Badge House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2750-E | Office Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 282-E | Pump house And Reservoir Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 283-E | Water Filtration Plant | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 291-A | PUREX Exhaust Stack | A.6 | Contributing Property w/ no additional documentation requirements | |

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-OP-7, IDF EU.

Historic Map and Aerial Photograph Indicators

Historic United States Geological Survey (USGS) maps (USGS 1916) do not show any manmade or otherwise cultural features within or in the vicinity of the EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps indicate that lands within the EU were owned by the J.M. Coleman Co. in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial imagery is not available for this EU. This information suggests a low potential

for the presence of archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape within the EU.

Geomorphology Indicators

The geomorphology within the CP-OP-7, IDF EU is primarily Pleistocene outburst flood deposits with the potential for Holocene dune sands present along the north edge of the EU, suggesting an overall low potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape within the surface and subsurface components of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the area indicates that the CP-OP-7, IDF EU has undergone significant ground disturbances by roads, waste sites, utilities and other Hanford Site activities. This disturbance suggests a very low potential for intact archaeological resources to be present in the EU. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Summary of Cultural Resources Review

Three cultural resource inventory surveys cover small portions of the CP-OP-7, IDF EU. Three archaeological isolates (one associated with the Native American Precontact and Ethnographic Landscape, and 2 with the Pre-Hanford Early Settlers/Farming Landscape) have been documented within the EU. While these isolates have not been formally evaluated for listing in the National Register of Historic Places, it should be noted that isolates are typically considered not eligible. It is unknown if an NHPA Section 106 review has been completed specifically for the remediation of the CP-OP-7, IDF EU. Although not all of the EU has been inventoried for cultural resources, it is highly unlikely that intact archaeological material is present in the EU, which has been extensively disturbed by Hanford Site activities.

Cultural resources within 500 meters of the CP-OP-7 IDF EU include: Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District with documentation required. In addition 7 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District are located within 500 meters of the EU (all 7 are contributing within the Manhattan Project and Cold War Era Historic District, 6 with individual documentation required, and 1 with no additional documentation required). All National-Register-eligible Manhattan Project and Cold War Era buildings have been documented as described in the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998).

Historic maps indicate a low potential for the presence of archaeological resources associated with the Pre-Hanford Early Settler/Farming Landscape within the EU. Geomorphology suggests a low potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the CP-OP-7, IDF EU. Extensive ground disturbance within the EU suggests a very low potential for intact cultural

resources at or below ground surface. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Because only small portions of the CP-OP-7, IDF EU have been inventoried for cultural resources, it may be appropriate to conduct surface archaeological investigations prior to the initiation of any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and the B-Reactor Museum Association) may be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

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USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department, 1943, *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

⁹⁹ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: Mixed Waste Trenches
 ID: CP-OP-8
 Group: Operations
 Operable Unit Cross-Walk: 200-SW-2
 Related EU: CP-LS-14
 Sites & Facilities: Mixed waste trenches (Trench 31 and 34, next to WRAP) operations and closure.



Figure K.57. CP-OP-8 (Mixed Waste Trenches) Site Location Map

CP-OP-8 Mixed Waste Trenches

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-OP-8, Mixed Waste Trenches EU is located within the 200-West Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this

archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

A portion of the CP-OP-8 Mixed Waste Trenches EU has been inventoried for archaeological resources under one archaeological survey, HCRC#96-200-058 (Nickens et al. 1996); which resulted in negative findings within the EU. It is unknown if an NHPA Section 106 review has been completed specifically for remediation of The CP-OP-8, Mixed Waste Trenches EU. It is unlikely that intact previously undocumented archaeological material is present in the EU, both on the surface and in subsurface areas, because the soils in the CP-OP-8, Mixed Waste Trenches EU appear to have been heavily disturbed by Hanford Site activities.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU¹⁰⁰

- There are no known cultural resources within the CP-OP-8, Mixed Waste Trenches EU.

Archaeological sites, buildings, and TCPs located within 500 meters of the EU

- Three archaeological isolates (2 associated with the Native American Precontact and Ethnographic Landscape, and one with the Pre-Hanford Early Settlers/Farming Landscape) have been documented within 500 meters of the CP-OP-8, Mixed Waste Trenches EU. While these isolates have not been formally evaluated for listing in the National Register of Historic Places, it should be noted that isolates are typically considered not eligible.
- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500 meters of the CP-OP-8, Mixed Waste Trenches EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-OP-8, Mixed Waste Trenches EU.

Historic Map and Aerial Photograph Indicators

Historic United States Geological Survey (USGS) maps (USGS 1916) do not show any manmade or cultural features within the EU, but a historic/ethnohistoric trail/road is shown in the vicinity of the EU (to the southeast). Ownership information provided on 1943 Hanford Engineer Works Real Estate maps indicate that lands within the EU were owned by Benton County, Washington

¹⁰⁰ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

State, the United States, and Perle C. Frazier in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs indicate that the entire CP-OP-8, Mixed Waste Trenches EU was unused sand dunes in 1943. This information suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU.

Geomorphology Indicators

The geomorphology within the CP-OP-8, Mixed Waste Trenches EU consists of Pleistocene outburst flood deposits and Holocene dune sands suggesting a moderate potential for archaeological resources associated with the Native American Precontact Landscape associated archaeological resources to be present within the surface subsurface component of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the area indicates that EU—especially the eastern two-thirds—has been heavily disturbed by building construction, Hanford site facilities, buried utilities, surface grading, roads and waste sites. This disturbance suggests low potential for intact archaeological resources to be present. It is possible but unlikely that pockets of undisturbed soils exist in the eastern half and likely in the western half of this EU. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Summary of Cultural Resources Review

A small portion of the CP-OP-8, Mixed Waste Trenches EU has been inventoried for archaeological resources under one archaeological survey, which resulted in negative findings within the EU. It is unknown if an NHPA Section 106 review has been completed specifically for remediation of the CP-OP-8, Mixed Waste Trenches EU. It is unlikely that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), because the soils in the EU are extensively disturbed.

No cultural resources are known to exist within the CP-OP-8, Mixed Waste Trenches EU. Three archaeological isolates (2 associated with the Native American Precontact and Ethnographic Landscape, and one with the Pre-Hanford Early Settlers/Farming Landscape) have been identified within 500 meters of the CP-OP-8, Mixed Waste Trenches EU. While these isolates have not been formally evaluated for listing in the National Register of Historic Places, it should be noted that isolates are typically considered not eligible. Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500 meters of the CP-OP-8, Mixed Waste Trenches EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property

Historic maps and aerial imagery indicate a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU. Geomorphology indicates a moderate potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the CP-OP-8, Mixed Waste Trenches EU. However, extensive ground disturbance within the eastern half of the EU suggests little potential for intact cultural resources at or below ground surface and moderate potential in the western half. It is possible that pockets of undisturbed sediments do exist within the EU. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Because only portions of the EU have been inventoried for archaeological resources, it may be appropriate to conduct surface (and potentially subsurface) archaeological investigations prior to the initiation of any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and the B-Reactor Museum Association) may be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References¹⁰¹

DOE-RL (Department of Energy, Richland Operations Office). 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)*. Richland, Washington.

Chatters, JC and NA Cadoret. 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington.**

Nickens, PR, LL Hale, NA Cadoret, MK Wright, and DW Harvey. 1996. *Cultural Resources Report Annual Summary Report – Fiscal Year 1996*. Pacific Northwest Laboratory, Richland, Washington.**

Parker, P and T King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

¹⁰¹ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: Naval Reactors Trench
 ID: CP-OP-9
 Group: Operations
 Operable Unit Cross-Walk: 200-SW-2
 Related EU: CP-LS-14
 Sites & Facilities: Naval Reactors disposal trench operations and closure.

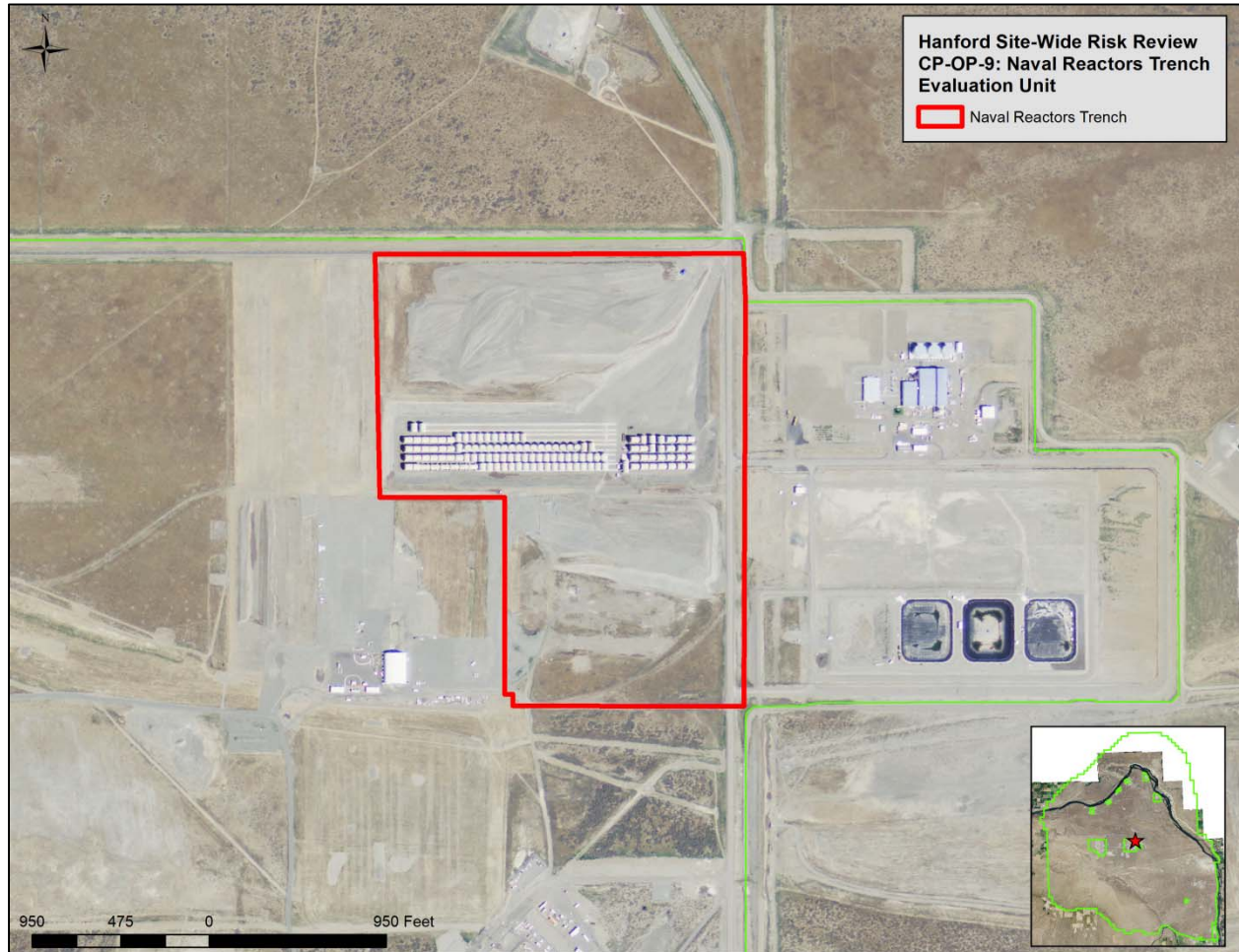


Figure K.58. CP-OP-9 (Naval Reactors Trench) Site Location Map

CP-OP-9 Naval Reactors Trench

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-OP-9, Naval Reactors Trench EU located within the 200-East Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be

considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

Small portions of the CP-OP-9, Naval Reactors Trench EU have been inventoried for archaeological resources under two cultural resource reviews: HCRC#88-300-038b (Chatters and Cadoret 1990), and HCRC#89-200-023 (Minthorn 1990). Neither of these cultural resource reviews resulted in the identification of any cultural resources within the CP-OP-9, Naval Reactors Trench EU. It is unknown if an NHPA Section 106 review has been completed specifically for the remediation of the CP-OP-9, Naval Reactors Trench EU. It is very unlikely that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), because soils in the entire EU appear to have been extensively disturbed by Hanford Site activities.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU¹⁰²

- No cultural resources are known to exist within the CP-OP-9, Naval Reactors Trench EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- One archaeological isolate, associated with the Native American Precontact and Ethnographic Landscape has been documented within 500 meters of the EU. While this isolate has not been formally evaluated for listing in the National Register of Historic Places, it should be noted that isolates are typically considered not eligible.

Closest Recorded TCPs

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-OP-9, Naval Reactors Trench EU.

Historic Map and Aerial Photograph Indicators

Historic United States Geological Survey (USGS) maps (USGS 1916) do not show any manmade or otherwise cultural features within or in the vicinity of the EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps indicates that lands within this EU were owned by the Northern Pacific Railway Co., Washington State, and the United States in and prior to 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial imagery is available for the north half of this EU and does not show evidence of any cultural use or development of this land (e.g. roads, trails, utilities, farms, buildings, irrigation features, etc.). This information suggests a low potential for the presence of archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape within the EU.

¹⁰² Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

Geomorphology Indicators

The geomorphology within the CP-OP-9, Naval Reactors Trench EU consists of Pleistocene outburst flood deposits with pockets of Holocene dune sands, suggesting a moderate potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface components of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the area indicates that the EU has undergone extensive ground disturbances and earthworks operations due to Hanford Site activities. This disturbance suggests a low potential for intact archaeological resources to be present in the EU. Archaeological resources, if present, would likely be limited to areas of intact or undisturbed soils.

Summary of Cultural Resources Review

Two cultural resource inventory surveys cover portions of the CP-OP-9, Naval Reactors Trench EU, each with negative results. It is unknown if an NHPA Section 106 review has been completed specifically for the remediation of the CP-OP-9, Naval Reactors Trench EU. No cultural resources are known within the EU. Although not all of the EU appears to have been inventoried for cultural resources, it is highly unlikely that intact archaeological material is present in the EU, which has been extensively disturbed by Hanford Site activities.

Cultural resources within 500 meters of the CP-OP-9 Naval Reactors Trench EU include one archaeological isolate, associated with the Native American Precontact and Ethnographic Landscape. While this isolate has not been formally evaluated for listing in the National Register of Historic Places, it should be noted that isolates are typically considered not eligible.

Historic maps and aerial imagery of the EU suggest a low potential for the presence of archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape within the EU. Geomorphology data suggests a moderate potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape within the CP-OP-9, Naval Reactors Trench EU. However, extensive ground disturbance within the EU further indicates a very low potential for intact cultural resources at or below ground surface. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Because only portions of the EU have been inventoried for archaeological resources, it may be appropriate to conduct surface archaeological investigations prior to the initiation of remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and the B-Reactor Museum Association) may be necessary to provide input on indirect effects to both

recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References¹⁰³

Chatters JC and NA Cadoret. 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington.**

DOE-RL (Department of Energy, Richland Operations Office). 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)*. Richland, Washington.

Minthorn, P.E., 1990, *Letter to E.T. Trost Regarding Cultural Resources Review of the Effluent Retention and Treatment Complex (ERTC), HCRC#89-200-023*, Pacific Northwest National Laboratory, Richland, Washington.**

Parker, P and T King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department, 1943, *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

¹⁰³ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: 242-A Evaporator
 ID: CP-OP-10
 Group: Operations
 Operable Unit Cross-Walk: NA
 Related EU: CP-TF-5
 Sites & Facilities: Operations and D&D of the 242-A evaporator.



Figure K.59. CP-OP-10 (242-A Evaporator) Site Location Map

CP-OP-10 242-A Evaporator

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The 242-A Evaporator EU is located within the 200-East Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be

considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

The CP-OP-10, 242-A Evaporator EU has not been inventoried for archaeological resources and it is unknown if an NHPA Section 106 review has been completed specifically for remediation of the 242-A Evaporator EU. It is unlikely that intact archaeological material is present within the EU (both on the surface and in the subsurface), particularly because the soils in the 242-A Evaporator EU appear to be heavily disturbed by the 242-A Evaporator itself.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU¹⁰⁴

- There are no known archaeological sites, inventoried historic buildings, or TCPs located within the CP-OP-10, 242-A Evaporator EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500-meters of the CP-OP-10, 242-A Evaporator EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)* (DOE-RL 1998), all documentation requirements have been completed for this property.
- There are 12 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District located within 500-meters of the 242-A Evaporator EU (all 12 are contributing within the Manhattan Project and Cold War Era Historic District, 6 with individual documentation required, and 6 with no additional documentation required). In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)* (DOE-RL 1998), all documentation requirements have been completed for these properties. These include:

Table K.65. National Register-eligible Manhattan Project and Cold War Era buildings located within 500-meters of the 242-A Evaporator EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|---|--|--|-------------------------------------|
| 202-A | Plutonium-Uranium Extraction Facility (PUREX) | A.5 | Contributing Property Recommended for Individual Documentation | ExHPIF |

¹⁰⁴ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

| | | | | |
|---------|--|-----|---|------|
| 241-AW | Waste Storage Tank Farm (Double Shell) | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2701-AB | PUREX Badge House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 2707-AR | Change House | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 293-A | Dissolver Off-Gas Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 294-A | Exhaust Air Filter Building | A.5 | Contributing Property Recommended for Individual Documentation | HPIF |
| 212-A | Fission Product Load Out Station | A.6 | Contributing Property w/ no additional documentation requirements | |
| 242A/AB | Evaporator Building/Evaporator Control | A.6 | Contributing Property w/ no additional documentation requirements | |
| 244-AR | Sludge Storage Vault | A.6 | Contributing Property w/ no additional documentation requirements | |
| 271-CR | Aqueous Make-up and Control House | A.6 | Contributing Property w/ no additional documentation requirements | |
| 275-EA | Carpenter Shop Storage Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 291-A | PUREX Exhaust Stack | A.6 | Contributing Property w/ no additional documentation requirements | |

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-OP-10, 242-A Evaporator EU.

Historic Map and Aerial Photograph Indicators

Historic United States Geological Survey (USGS) maps (USGS 1916) do not show any manmade or otherwise cultural features within or in the vicinity of the EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps indicates that lands within the EU were owned by the United States in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial imagery is not available for this EU. This information suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU.

Geomorphology Indicators

The geomorphology within the CP-OP-10, 242-A Evaporator EU is primarily Pleistocene outburst flood deposits suggesting a low potential for Native American Precontact landscape associated archaeological resources to be present within the surface subsurface component of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that the EU has been entirely disturbed by building construction and buried utilities. This disturbance suggests a very low potential for intact archaeological resources to be present in the EU.

Summary of Cultural Resources Review

No cultural resources have been documented within the CP-OP-10, 242-A Evaporator EU. The 242-A Evaporator EU does not appear to have been inventoried for archaeological resources and it is unknown if an NHPA Section 106 review has been completed specifically for remediation of the CP-OP-10, 242-A Evaporator EU. It is unlikely that intact archaeological material is present in the EU, which has been extensively disturbed by building and utilities construction.

Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District with documentation required have been recorded within 500 meters of the EU. Additionally, 12 National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District have been recorded within 500 meters of the EU (all 12 are contributing within the Manhattan Project and Cold War Era Historic District, 6 with documentation required, and 6 with no additional documentation required). All National-Register-eligible Manhattan Project and Cold War Era buildings have been documented as described in the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998).

Historic maps indicate a low potential for the presence of archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape within the EU. Geomorphology indicates a very low potential for the presence of Native American Precontact and Ethnographic cultural resources to be present within the CP-OP-10, 242-A Evaporator EU. Further, extensive ground disturbance within the EU suggests little to no potential for intact cultural resources at or below ground surface.

Because the CP-OP-10 has not been formally inventoried for cultural resources, it may be appropriate to conduct archaeological surface inventories prior to the initiation of any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and the B-Reactor Museum Association) may be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References¹⁰⁵

Chatters JC and NA Cadoret. 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington.**

DOE-RL (Department of Energy, Richland Operations Office). 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)*. Richland, Washington.

Parker, P and T King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

¹⁰⁵ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: ETF/LERF
 ID: CP-OP-11
 Group: Operations
 Operable Unit Cross-Walk: NA
 Related EU: CP-OP-11, CP-OP-12, CP-OP-13
 Sites & Facilities: Effluent Treatment Facility (ETF) and Liquid Effluent Retention Facility (LERF)

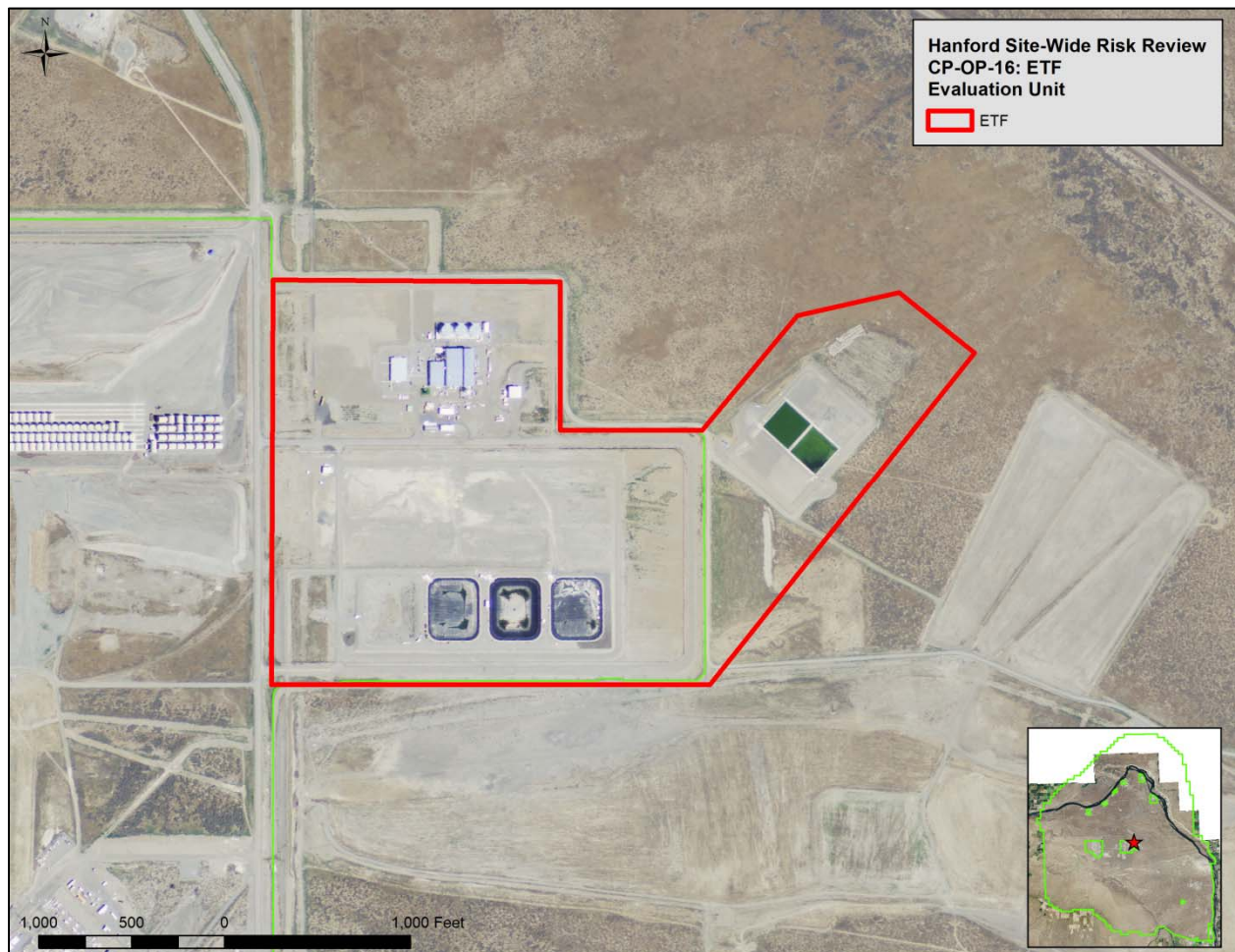


Figure K.60. CP-OP-11 (ETF/LERF) Site Location Map

CP-OP-11 ETF/LERF

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-OP-11, ETF/LERF EU is located within the 200-East Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-

West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

The entire CP-OP-11, ETF/LERF EU has been inventoried for archaeological resources under two cultural resource reviews, including HCRC# 89-200-023 (Minthorn 1990) and HCRC#2014-600-002 (Dage, Mendez and Clark 2014). These cultural resource reviews did not result in the identification of any cultural resources within the CP-OP-11, ETF/LERF EU. An NHPA Section 106 review was completed for the installation of the ETF/LERF and documented in the *Cultural Resources Review of the Effluent Retention and Treatment Complex (ERTC), HCRC#89-200-023* (Minthorn 1990). It is very unlikely that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), because soils in the entire EU appear to have been extensively disturbed by Hanford Site activities.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU¹⁰⁶

- No cultural resources are known within the CP-OP-11, ETF/LERF EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, are located within 500-meters of the CP-OP-11, ETF/LERF EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)* (DOE-RL 1998), all documentation requirements have been completed for this property.
- One archaeological isolate associated with the Native American Precontact and Ethnographic Landscape has been documented within 500 meters of the EU. While this isolate has not been formally evaluated for listing in the National Register, it should be noted that isolates are typically considered not eligible.

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-OP-11, ETF/LERF EU.

Historic Map and Aerial Photograph Indicators

Historic United States Geological Survey (USGS) maps (USGS 1916, 1924) do not show any manmade or otherwise cultural features within of in the vicinity of the EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps indicates that the area was owned by Washington State, Benton County, the United States, and the Northern Pacific

¹⁰⁶ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker and King 1998).

Railway Co. prior to 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial imagery is available for the north half of the EU, and does not indicate any cultural use of the EU, although a trail appears visible just to the northeast of the EU. This information suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Ethnographic Landscape to be present within the EU.

Geomorphology Indicators

The geomorphology within the CP-OP-11, ETF/LERF EU consists of Pleistocene outburst flood deposits with Holocene dune sands, suggesting a moderate potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface components of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that the EU has undergone extreme ground disturbances by roads, buildings, waste sites, facilities, utilities and other Hanford Site activities. The extent of these disturbances suggests a low potential for intact archaeological resources to be present in the EU. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Summary of Cultural Resources Review

The entire CP-OP-11, ETF/LERF EU has been inventoried for archaeological resources as part of two cultural resource survey efforts. In addition, an NHPA Section 106 review was completed for the installation of the ETF and documented in the *Cultural Resources Review of the Effluent Retention and Treatment Complex (ERTC), HCRC#89-200-023* (Minthorn 1990). No cultural resources were identified as part of these survey efforts. No documented cultural resources are present within the EU. It is highly unlikely that intact archaeological material is present in the EU, which has been extensively disturbed by Hanford Site activities.

Segments of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District with documentation required have been recorded within 500 meters of the CP-OP-11, ETF/LERF EU. All National-Register-eligible Manhattan Project and Cold War Era properties have been documented as described in the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56). In addition, one archaeological isolate associated with the Native American Precontact and Ethnographic Landscape has been recorded within 500 meters of the EU. While this isolate has not been formally evaluated for listing in the National Register of Historic Places, it should be noted that isolates are typically considered not eligible.

Historic maps and aerial imagery suggest a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the CP-OP-11, ETF/LERF EU. Geomorphology suggests a moderate potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the CP-OP-11, ETF/LERF EU. However, extensive ground

disturbance within the EU may negate this potential, suggesting a low potential for intact cultural resources at or below ground surface. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Because of the potential for intact archaeological resources, it may be appropriate to conduct surface and subsurface archaeological investigations prior to the initiation of any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and the B-Reactor Museum Association) may be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References¹⁰⁷

Chatters JC and NA Cadoret. 1990. *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site*. Pacific Northwest Laboratory, Richland, Washington.**

Dage, C, K Mendez and K Clark. 2014. *Cultural Resources Review for the Installation of Four Wells at the Purgewater Modutank Area in the 600 Area of the Hanford Site, Benton County, Washington (HCRC#2014-600-002)*, CH2M HILL, Inc., Richland, Washington.**

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Parker, P and T King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

USGS (United States Geological Survey). 1924. Hanford Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department, 1943, *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

¹⁰⁷ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: TEDF
 ID: CP-OP-12
 Group: Operations
 Operable Unit Cross-Walk: NA
 Related EU: NA
 Sites & Facilities: Operations and closure of the Treated Effluent Disposal Facility (TEDF).



Figure K.61. CP-OP-12 (TEDF) Site Location Map

CP-OP-12: TEDF

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-OP-12, TEDF (Treated Effluent Disposal Facility) EU is located in the 600 Area of the Hanford Site, just east of the 200 East Area. Most of the EU has been inventoried for cultural resources under HCRC# 90-600-006 (Gard 1990) and 98-200-022 (Hale 1998). Much of the EU is extensively disturbed from the installation of the two TEDF disposal ponds, suggesting a low potential for intact archaeological resources to be present within the surface and subsurface components of the EU.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU¹⁰⁸

- No archaeological sites, buildings, and/or TCPs are known to be located within the EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- One archaeological isolate dating to the Pre-Hanford Early Settlers/Farming Landscape has been recorded within 500 meters of the CP-OP-12, TEDF EU. This isolate has not been evaluated for listing in the National Register of Historic Places, however it should be noted that isolates are typically considered not eligible.

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-OP-12, TEDF EU.

Historic Map and Aerial Photograph Indicators

Historic United States Geological Survey (USGS) topographic maps (USGS 1924) do not show any development in the area of the CP-OP-12, TEDF EU. Ownership information provided on the 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the EU were owned by both private and public entities including Walter Maxson et al, as trustees, Benton County, A.F. Brown, as Trustee and James E Bane (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs confirm that this area was undeveloped. This information suggests a low potential for the presence of archaeological resources associated with the Pre-Hanford Early-Settlers/Farming Landscape within the EU boundary.

Geomorphology Indicators

The geomorphology within the CP-OP-12, TEDF EU is comprised of Pleistocene outburst flood deposits overlaid by Holocene dune sands (especially in the southern portion of the EU), suggesting a moderate potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape within the surface and subsurface component of this EU. Archaeological resources, if present, would likely be limited to areas of intact or undisturbed soils.

Ground Disturbance Indicators

Examination of 2012 aerial imagery indicates that the EU has been heavily disturbed from the installation of the TEDF disposal ponds and associated infrastructure. Pockets of undisturbed

¹⁰⁸ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (a) rooted in the history of a community, and (b) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

soil do appear to exist around the perimeter of the EU, suggesting a moderate degree of potential for intact archaeological resources to exist within these isolated undisturbed areas.

Summary of Cultural Resources Review

Almost the entirety of the CP-OP-12, TEDF EU has been inventoried for archaeological resources. No archaeological sites, buildings or TCPs have been recorded within the EU boundary as part of these survey efforts. Most of the EU is heavily disturbed from the installation of the TEDF disposal ponds and associated infrastructure, suggesting a low potential for the presence of intact archaeological resources within the surface and subsurface components of this EU.

There is one archeological isolate, associated with the Pre-Hanford Early Settlers/Farming Landscape, has been recorded within 500 meters of the EU. While this resource has not been formally evaluated for listing in the National Register of Historic Places, it should be noted that isolates are often considered not eligible.

Historic maps and aerial imagery indicate that the area was relatively undeveloped, suggesting a low potential for the presence of archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape within the EU. Geomorphology indicates a moderate potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the EU boundary. Archaeological resources, if present, would likely be limited to areas of intact, undisturbed Holocene dune sand deposits. Extensive ground disturbance across most of the EU, however, may negate this moderate potential.

Because of the potential for intact archaeological deposits within the CP-OP-12, TEDF EU, it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups who may have an interest in the areas (e.g. East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References¹⁰⁹

Gard, H. 1990. *Cultural Resources Review of the Liquid Effluent Retention Facility, Disposal Surface Site Evaluation, HCRC# 90-600-006*. Pacific Northwest National Laboratory, Richland, Washington.**

¹⁰⁹ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Hale, L.L. 1998. *Cultural Resources Review of the TWRS Mitigation Planning Support – Phase One Project (HCRC# 98-200-022)*. Pacific Northwest National Laboratory, Richland, Washington. **

Parker, P and T King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

USGS (United States Geological Survey). 1924. Hanford Quadrangle, 1:62500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

Evaluation Unit: SALDS
 ID: CP-OP-13
 Group: Operations
 Operable Unit Cross-Walk: NA
 Related EU: NA
 Sites & Facilities: Operations and closure of the State Approved Land Disposal Sites (SALDS).



Figure K.62. CP-OP-13 (SALDS) Site Location Map

CP-OP-13: SALDS

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-OP-13, SALDS (State-Approved Land Disposal Site) EU is located in the 600 Area of the Hanford Site, just north of the 200 West Area. Most of the EU has been inventoried for cultural resources under two previous survey efforts including, HCRC# 90-200-010 (Gard and Chatters 1990) and HCRC# 2002-600-012b (Prendergast and Stapp 2002). It is unknown if an NHPA Section 106 review has been completed specifically for the remediation of the CP-OP-13, SALDS EU. While the central portion of the site has been disturbed from SALDS installation and

operations, pockets of undisturbed areas do appear around the margins of the EU, suggesting a moderate potential for intact surface and subsurface archaeological resources.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU¹¹⁰

- No archaeological sites/isolates, buildings and/or Traditional Cultural Properties (TCPs) are currently known to exist within the EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- A segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within 500 meters of the SALDS EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.
- No additional archaeological sites/isolates, buildings and/or Traditional Cultural Properties (TCPs) are currently known to exist within 500 meters of the EU.

Closest Recorded TCP

There are 2 recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-OP-13, SALDS EU.

Historic Map and Aerial Photograph Indicators

Historic United States Geological Survey (USGS) topographic maps (USGS 1916) do not show any development in the area of the CP-OP-13, SALDS EU. One historic road is in the vicinity of the EU, but there is no indication that any features from this time period existed within the EU itself, or within adjacent areas. Ownership information provided on the 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the EU were owned by the State of Washington (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs confirm that this area was undeveloped. This information suggests that there is a low potential for archaeological resources associated with the Pre-Hanford Early-Settlers/Farming Landscape to be present within the EU boundary.

Geomorphology Indicators

The geomorphology within the CP-OP-13, SALDS EU is comprised of Pleistocene outburst flood deposits, suggesting a low potential for archaeological resources associated with the Native

¹¹⁰ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (a) rooted in the history of a community, and (b) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

American Precontact Landscape to be present within the surface and subsurface component of this EU. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Ground Disturbance Indicators

Examination of 2012 aerial imagery indicates that the perimeter of the CP-OP-13, SALDS EU remains relatively undisturbed. Surface disturbances from SALDS installation and operations are evident within the central portion of the EU boundary. There is a low potential for intact archaeological resources to exist within these disturbed portions of the EU. A slight potential exist for archaeological resources to be present in the perimeter areas that contain intact or undisturbed soils.

Summary of Cultural Resources Review

Most of the CP-OP-13, SALDS EU has been inventoried for archaeological resources. To date, no archaeological resources have been observed or recorded with the surveyed portions of the EU. It is unknown if an NHPA Section 106 review has been completed specifically for the remediation of the CP-OP-13, SALDS EU. No additional buildings and/or Traditional Cultural Properties (TCPs) are currently known to exist within the EU

A segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District (with documentation required) is located within 500 meters of the CP-OP-13, SALDS EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)* (DOE-RL 1998), all documentation requirements have been completed for this property.

Historic maps and aerial imagery indicate that the area was largely undeveloped, suggesting a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU. Geomorphology indicates a low potential for the presence of Native American Precontact and Ethnographic cultural resources to be present within the EU boundary. A review of recent aerial imagery of the area indicates that portions of the EU, specifically around the perimeter of the EU, remain relatively undisturbed. Resources, if present, would likely be limited to these areas of intact or undisturbed soils.

Because of the potential for intact archaeological deposits within portions of the CP-OP-13, SALDS EU, it may be appropriate to conduct surface (and possibly subsurface) archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups who may have an interest in the areas (e.g. East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References¹¹¹

DOE-RL (Department of Energy, Richland Operations Office). 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)*. Richland, Washington.

Gard, H. & J.C. Chatters. 1990. *Cultural Resources Review for Soil Column Disposal Site Evaluations; Sites 1, 2, 3 (HCRC# 1990-200-010)*. Pacific Northwest National Laboratory, Richland, Washington**

Parker, P. and T. King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

Prendergast, E. & D.C. Stapp. 2002. *Cultural Resources Review of Soil Waste EIS Rail Spur to the Wrap Facility (HCRC# 2002-600-012B)*. Pacific Northwest National Laboratory, Richland, Washington.**

USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

¹¹¹ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: WTP
 ID: CP-OP-14
 Group: Operations
 Operable Unit Cross-Walk: NA
 Related EU: NA
 Sites & Facilities: Waste Treatment Plant Operations and D&D. Includes new tanks (if needed), preconditioning, 4 major facilities, and interim storage elements.

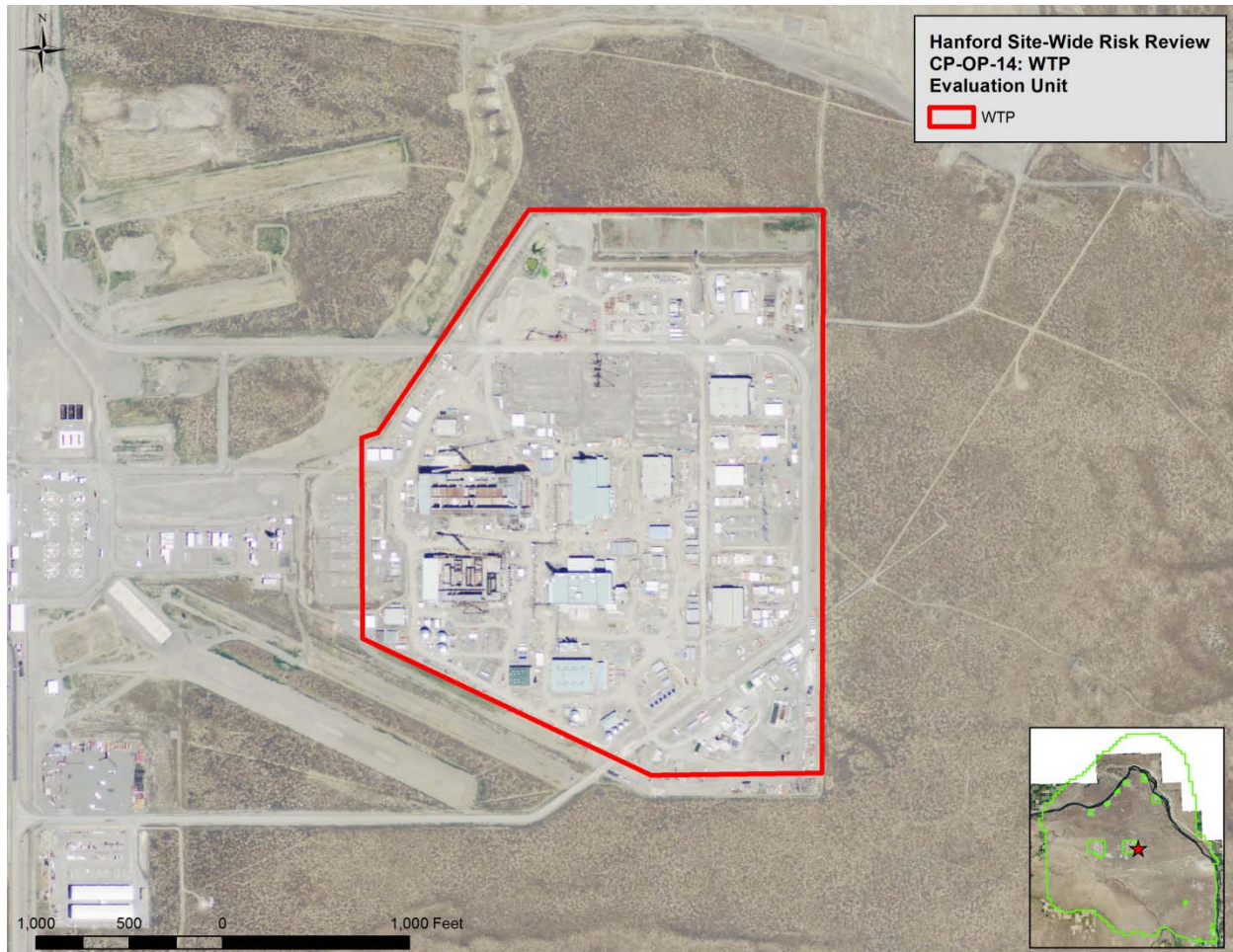


Figure K.63. CP-OP-14 (WTP) Site Location Map

CP-OP-14 WTP

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-OP-14, WTP EU is located within the 200-East Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this archaeological survey

was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

The entire EU has been inventoried for archaeological resources under eight cultural resource reviews: HCRC#87-200-046 (Chatters 1987), HCRC#88-200-055 (Cadoret 1988), HCRC#92-200-008 (Gard and Chatters 1992), HCRC#94-600-060 (Nickens 1994), and HCRC#98-200-022 (Hale 1998), HCRC#2003-200-044 (Kennedy 2003), HCRC#2011-200-063 (Clark and Mendez 2011), and HCRC#2012-600-031a (Gilmour, Solimano and Daniels 2013). None of these cultural resource reviews resulted in the identification of any cultural resources within the CP-OP-14, WTP EU. It is unknown if an NHPA Section 106 review has been completed specifically for the CP-OP-14, WTP EU, however a cultural resources review was completed in 2011 for the expansion of the WTP: *Waste Treatment Plant South Expansion, 200 West Area, Hanford Site, Benton County, Washington (HCRC#2011-200-063)* (Clark & Mendez 2011). It is unlikely that intact archaeological material is present (both on the surface and in the subsurface), because the surface soils in the EU appear to have been entirely disturbed by the WTP and Hanford Site facilities themselves.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU¹¹²

- There are no known archaeological sites, inventoried historic buildings, or TCPs located within the CP-OP-14, WTP EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- One documented archaeological site associated with the Manhattan Project and Cold War Era Landscape is located within 500 meters of the EU. This site has been evaluated in terms of its National Register Eligibility and was determined not eligible. Additionally, one archaeological isolate associated with the Native American Precontact and Ethnographic Landscape is located within 500 meters of the EU. While this isolate has not been formally evaluated for listing in the National Register of Historic Places, it should be noted that isolates are typically considered not eligible.
- There are no National Register-eligible buildings that are contributing properties within the Manhattan Project and Cold War Era Historic District that are located within 500 meters of the CP-OP-14, WTP EU.

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-OP-14, WTP EU.

¹¹² Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

Historic Map and Aerial Photograph Indicators

Historic United States Geological Survey (USGS) maps (USGS 1916, 1924) do not show any manmade or otherwise cultural features within or in the vicinity of the EU. Ownership information provided on 1943 Hanford Engineer Works Real Estate maps indicates that the lands within the EU were owned by Benton County and the United States in 1943 (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial imagery is not available for this EU. This information suggests a low potential for archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape to be present within the EU.

Geomorphology Indicators

The geomorphology within the CP-OP-14, WTP EU is primarily Pleistocene outburst flood deposits with the potential for Holocene dune sands present at the north and south edges of the EU, suggesting a low potential for Native American Precontact landscape associated archaeological resources to be present within the surface and subsurface components of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that the EU has been extensively disturbed by Hanford Site activities. This disturbance suggests a very low potential for intact archaeological resources to be present in the EU. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Summary of Cultural Resources Review

Eight cultural resource inventory surveys have been conducted within the CP-OP-14, WTP EU, providing 100% survey coverage of the EU, all with negative results within the EU. No cultural resources have been documented within the CP-OP-14 WTP EU. It is unknown if an NHPA Section 106 review has been completed specifically for the remediation of the CP-OP-14, WTP EU. It is unlikely that intact archaeological material is present in the EU, which has been extensively disturbed by building and utilities construction.

One archaeological site, associated with the Manhattan Project and Cold War Era Historic District, and one archaeological isolate associated with the Native American Precontact and Ethnographic Landscape have been recorded within 500 meters of the CP-OP-14 WTP EU. The archaeological site has been formally evaluated and was determined not eligible for inclusion in the National Register of Historic Places. The isolate has not been formally evaluated for the National Register, however, it should be noted that isolates are typically considered not eligible.

Historic maps indicate a low potential for archaeological resources associated with the Pre-Hanford Early Settler/Farming Landscape to be present within the EU. Geomorphology indicates a low potential for the presence of Native American Precontact and Ethnographic cultural resources to be present within the CP-OP-14, WTP EU. Further, extensive ground disturbance within the EU suggests low potential for intact cultural resources at or below ground surface.

Although there is a low potential, it may be appropriate to conduct surface archaeological investigations prior to the initiation to any remediation activities within the CP-OP-14, WTP EU. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups associated with these landscapes (e.g. East Benton Historical Society, the Franklin County Historical Society and the Prosser Cemetery Association, the Reach, and the B-Reactor Museum Association) may be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References¹¹³

- Cadoret, NA. 1988. *Letter to E.T. Trost Regarding Cultural Resources Review of the Grout Facilities Complex Multipurpose Facility, HCRC#88-200-055*, Pacific Northwest National Laboratory, Richland, Washington.**
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- Clark, C and K Mendez. 2011. *Waste Treatment Plant South Expansion, 200 West Area, Hanford Site, Benton County, Washington (HCRC#2011-200-063)*. CH2M HILL, Inc., Richland, Washington.**
- DOE-RL (Department of Energy, Richland Operations Office). 1998. *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan (DOE/RL-97-56)*. Richland, Washington.
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- Gilmour, DM, PS Solimano, and MA Daniels. 2013. *Cultural Resources Survey Report for the U.S. Department of Energy's Proposed Esquatzel Route for the Cascade Natural Gas Pipeline Project in Benton and Franklin Counties, Washington (HCRC#2012-600-031a)*, Willamette Cultural Resources Associated, Ltd., Portland, Oregon.**
- Hale, L. 1998. *Cultural Resources Review of the TWRS Mitigation Planning Support – Phase I Project, HCRC#98-200-022*, Pacific Northwest National Laboratory, Richland, Washington.**
- Kennedy, EP. 2003. *Letter to C. Johnson regarding Cultural Resources Review of Retrieval, Treatment and Disposal of Tank Waste and Closure of Single Shell Tanks (Tank Closure)*

¹¹³ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Environmental Impact Statement (EIS) (HCRC#2003-200-044), Pacific Northwest National Laboratory, Richland, Washington.**

Nickens, PR. 1994. *Cultural Resources Review of the Tank Waste Remediation Systems Complex (TWRS): Site B Project, HCRC#94-600-060*. Pacific Northwest National Laboratory, Richland, Washington.**

Parker, P and T King. 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service. Washington, D. C.

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USGS (United States Geological Survey). 1924. Hanford Quadrangle, 1:62,500 Topographic Map. Reston, VA.

U.S. War Department. 1943. *Real Estate Engineer Works 1943 (maps)*. Washington D.C.

Evaluation Unit: 222-S Laboratory
 ID: CP-OP-15
 Group: Operations
 Operable Unit Cross-Walk: NA
 Related EU: NA
 Sites & Facilities: Operations and D&D of the 222-S Laboratory.



Figure K.64. CP-OP-15 (222-S Laboratory) Site Location Map

CP-OP-15: 222-S Laboratory

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-OP-15, 222-S Laboratory EU is located within the 200-West Area of the Hanford Site, an area known to have low potential to contain Native American Precontact and Ethnographic archaeological resources and Pre-Hanford Early Settlers/Farming resources. Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200-East and 200-West Areas. This report concluded that much of the 200-East and 200-West Areas can be

considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200-West Area.

None of the CP-OP-15, 222-S Laboratory EU has been inventoried for archaeological resources. It is unlikely that intact archaeological material is present in the areas that have not been inventoried for archaeological resources (both on the surface and in the subsurface), particularly because the soils in the 222-S Laboratory EU appear to be heavily disturbed from the installation of the laboratory, associated buildings and supporting infrastructure (roads, parking lots, etc.).

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU¹¹⁴

- No archeological sites or TCPS have been identified within the CP-OP-15, 222-S Laboratory EU.
- There are 3 National Register-eligible Manhattan Project and Cold War Era buildings located within the EU (all 3 are contributing within the Manhattan Project and Cold War Era Historic District, with no additional documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998) and building demolition is ongoing.

Table K.66. National Register-eligible Manhattan Project and Cold War Era buildings located within the CP-OP-15, 222-S Laboratory EU

| Building # | Building Name | Treatment Plan (DOE-RL 1998) Table Number | National Register Eligibility | Documentation Completed/Type |
|-------------------|--------------------------|--|---|-------------------------------------|
| 219-S | Waste Treatment Building | A.6 | Contributing Property w/ no additional documentation requirements | |
| 222-SB | HVAC Filter House | A.6 | Contributing Property w/ no additional documentation requirements | |
| 2704-S | Office Building | A.6 | Contributing Property w/ no additional documentation requirements | |

¹¹⁴ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (a) rooted in the history of a community, and (b) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- A segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within 500 meters of the 222-S Laboratory EU. In accordance with the 1998 *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property.
- There are three archaeological isolates (one associated with the Native American Precontact and Ethnographic Landscape and two associated with the Pre-Hanford Early Settlers/Farming Landscape) that have been identified within 500 meters of the EU. These isolates have not been evaluated for listing in the National Register of Historic Places, however it should be noted that isolates are typically considered not eligible.

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-OP-15, 222-S Laboratory EU.

Historic Map and Aerial Photograph Indicators

Historic United States Geological Survey (USGS) topographic maps (USGS 1916) do not show any development in the area of the CP-OP-15, 222-S Laboratory EU. One historic ethnohistoric trail/road is in the vicinity of the EU, but there is no indication that any features from this time period existed within the EU itself, or within adjacent areas. Ownership information provided on the 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the EU were owned by public entities, including the United States and Benton County (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photographs confirm that this area was undeveloped. This information suggests a low potential for the presence of archaeological resources associated with the Pre-Hanford Early-Settlers/Farming landscape within the EU boundary.

Geomorphology Indicators

The geomorphology within the CP-OP-15, 222-S Laboratory EU is comprised of Holocene dune sands, suggesting a high potential for Native American Precontact and Ethnographic landscape associated archaeological resources to be present within the surface and subsurface component of this EU. Archaeological resources, if present, would likely be limited to areas of intact or undisturbed soils.

Ground Disturbance Indicators

Examination of 2012 aerial imagery of the EU indicates that the EU is heavily disturbed by building construction, buried pipelines, surface grading, roads and waste sites. One small area in the northwest portion of the EU appears relatively undisturbed. The heavily disturbed nature in the remaining portion of the EU suggests a low potential for intact archaeological resources

to be present. It is possible but unlikely that pockets of undisturbed soils exist within these areas.

Summary of Cultural Resources Review

While none of the CP-OP-15, 222-S Laboratory EU has been inventoried for archaeological resources, it seems unlikely that intact archaeological material is present within the EU due to the extensive soil disturbance associated with building construction and associated infrastructure installation and maintenance activities.

Cultural resources known to be recorded within the CP-OP-15, 222-S Laboratory EU are limited to the 3 National Register-eligible buildings associated with the Manhattan Project/Cold War Era Historic District (all 3 are contributing within the Manhattan Project and Cold War Era Historic District, with no additional documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998) and building demolition is ongoing. These include the three buildings listed below:

Table K.67. National Register-eligible Manhattan Project and Cold War Era Buildings located within the CP-OP-15, 222-S Laboratory EU

| Building # | Building Name |
|------------|--------------------------|
| 219-S | Waste Treatment Building |
| 222-SB | HVAC Filter House |
| 2704-S | Office Building |

All National-Register-eligible Manhattan Project and Cold War Era buildings been documented as described in the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998).

A segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District is located within 500 meters of the CP-OP-15, 222-S Laboratory EU. Additionally there are three archaeological isolates identified within 500 meters of the EU, one associated with the Native American Precontact and Ethnographic Landscape, and two associated with the Pre-Hanford Early Settlers/Farming Landscape. None of these isolates have been formally evaluated for listing in the National Register of Historic Places, however it should be noted that isolate are typically considered not eligible.

Historic maps indicate a low potential for the presence of archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape within the EU. Geomorphology indicates a high potential for the presence of Native American Precontact and Ethnographic cultural resources to be present within the EU boundary. Extensive ground disturbance within most of the EU, however, may negate this moderate potential. Resources, if present, would likely be limited to areas of intact, undisturbed soils.

Because the CP-OP-15, 222-S Laboratory has not been inventoried for archaeological resources, and because pockets of undisturbed soil may exist (although it is unlikely), it may be appropriate to conduct surface and subsurface archaeological investigations in these areas prior to initiating a remediation activity. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups who may have an interest in the areas (e.g. East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References¹¹⁵

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USGS (United States Geological Survey). 1916. Coyote Rapids Quadrangle, 1:62500 Topographic Map. Reston, VA.

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¹¹⁵ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation

Evaluation Unit: WSCF
 ID: CP-OP-17
 Group: Operations
 Operable Unit Cross-Walk: 200-ZP-1
 Related EU: CP-GW-2
 Sites & Facilities: Waste Sampling and Characterization Facility and ancillary buildings and structures



Figure K.65. CP-OP-17 (WSCF) Site Location Map

CP-OP-17: WSCF

Cultural Resource Literature Reviews, Inventories and Potential for Cultural Resources

The CP-OP-17, WSCF (Waste Sampling and Characterization Facility) EU is located east of the 200 West Area, in the 600 area of the Hanford Site. Portions of the EU have been inventoried for cultural resources under HCRC# 88-200-022 (Hoover & Cadoret 1988), HCRC# 93-200-027 (Crist 1993), HCRC# 2012-600-007 (Clark & Mendez 2011) and HCRC# 2012-600-022 (Hay et al. 2012). The installation of the original WSCF facility and infrastructure was reviewed under HCRC# 88-200-022, *Cultural Resources Review of the Proposed Environmental Support Lab* and

HCRC# 88-200-022 (Hoover & Cadoret 1988), and the *Cultural Resources Review of the Waste Sampling and Characterization Facility*, HCRC# 93-200-027 (Crist 1993).

The CP-OP-17, WSCF EU is heavily disturbed from the installation of the WSCF facilities and supporting infrastructure. It is unlikely that intact archaeological resources are present in the surface and subsurface components of the EU.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU¹¹⁶

- One archaeological site associated with the Manhattan Project and Cold War Era Landscape is located within the boundary of the CP-OP-17, WSCF EU. This site has been determined a National Register-eligible property, and is considered a contributing property within the Manhattan Project and Cold War Era Historic District. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property. Direct impacts to contributing components of the archaeological site however have not been addressed and are dealt with on a project-by-project basis.
- No other archaeological sites/isolates, buildings and/or Traditional Cultural Properties (TCPs) are currently known to exist within the EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- One historic archaeological site associated with the Pre-Hanford Early-Settlers/Farming landscape is located within 500 meters of the CP-OP-17, WSCF EU. This site remains unevaluated for listing in the National Register of Historic Places.
- No additional archaeological sites, buildings and/or TCPs are known to be located within 500 meters of the EU.

Closest Recorded TCP

There are two recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-OP-17, WSCF EU.

Historic Map and Aerial Photograph Indicators

Historic United States Geological Survey (USGS) topographic maps (USGS 1916) show that the area in the vicinity of the CP-OP-17, WSCF EU remained undeveloped. Ownership information provided on the 1943 Hanford Engineer Works Real Estate maps state that the lands contained within the EU were owned by the United States of America (the 1943 Hanford Engineer Works Real Estate maps contain land ownership information on the Hanford Site just prior to the land being acquired by the US Government for the Manhattan Project in 1943) (U.S. War Department 1943). 1943 aerial photography of this area confirms that this area remained

¹¹⁶ Traditional cultural property has been defined by the National Park Service as “a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (a) rooted in the history of a community, and (b) are important to maintaining the continuity of that community’s traditional beliefs and practices” (Parker & King 1998).

undeveloped. This information suggests a low potential for the presence of resources associated with the Pre-Hanford Early-Settlers/Farming landscape within the EU boundary.

Geomorphology Indicators

The geomorphology within the CP-OP-17, WSCF EU is comprised of Pleistocene outburst flood deposits and gravels, suggesting a low potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface component of this EU.

Ground Disturbance Indicators

Examination of 2012 aerial imagery indicates that the EU has been heavily disturbed by the installation and operation of the WSCF facilities and infrastructure. A few small pockets of undisturbed sediments do appear to exist in the northwest and central portions of the EU. Archaeological resources, if present, would likely be limited to areas of intact or undisturbed soils.

Summary of Cultural Resources Review

Portions of the CP-OP-17, WSCF EU have been inventoried for cultural resources under four archaeological survey efforts. Two NHPA Section 106 reviews have been completed for the installation of WSCF facilities/infrastructure and are documented in the *Cultural Resources Review of the Proposed Environmental Support Lab* and HCRC# 88-200-022 (Hoover & Cadoret 1988), and the *Cultural Resources Review of the Waste Sampling and Characterization Facility*, HCRC# 93-200-027 (Crist 1993). One archaeological site, associated with the Manhattan Project and Cold War Era Landscape, is located within the boundary of the CP-OP-17, WSCF EU. This site has been determined a National Register-eligible property, and is considered a contributing property within the Manhattan Project and Cold War Era Historic District. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE/RL-97-56) (DOE-RL 1998), all documentation requirements have been completed for this property. Direct impacts to contributing components of the archaeological site however have not been addressed and are dealt with on a project-by-project basis.

One historic archaeological site associated with the Pre-Hanford Early-Settlers/Farming Landscape lies within 500 meters of the CP-OP-17, WSCF EU. This site remains unevaluated for listing in the National Register of Historic Places.

Review of historic maps and aerial imagery of the area shows that the area in the vicinity of the EU remained undeveloped, suggesting a low potential for the presence of resources associated with the Pre-Hanford Early-Settlers/Farming Landscape to be present within the EU boundary. The geomorphology within the CP-OP-17, WSCF EU suggests there is a low potential for archaeological resources associated with the Native American Precontact and Ethnographic Landscape to be present within the surface and subsurface component of this EU. Examination of recent aerial imagery indicates that the EU has been heavily disturbed by the installation and operation of the WSCF facilities and infrastructure. A few small pockets of undisturbed

sediments do appear to exist in the northwest and central portions of the EU. Archaeological resources, if present, would likely be limited to areas of intact or undisturbed soils.

Because of the potential for intact archaeological deposits within the CP-OP-17, WSCF EU, it may be appropriate to conduct surface archaeological investigations in these areas prior to initiating a remediation activity. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups who may have an interest in the areas (e.g. East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

References¹¹⁷

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¹¹⁷ **References available to qualified individuals at the Washington State Department of Archaeology and Historic Preservation