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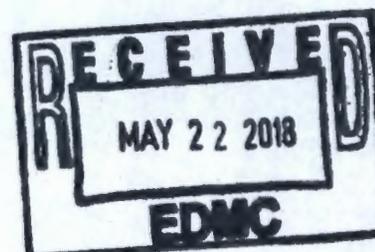
CONTRACT NO. DE-AC06-09RL14728

ATTACHMENT 1

**Contract Deliverable CD0182
November 2016**

**2016 ANNUAL SITEWIDE INSTITUTIONAL CONTROL ASSESSMENT
MISSION SUPPORT ALLIANCE**

Consisting of 31 pages,
including this cover page



**2016 ANNUAL SITEWIDE INSTITUTIONAL CONTROL ASSESSMENT
MISSION SUPPORT ALLIANCE**

This document presents the results of the institutional control (IC) assessment conducted by the Mission Support Alliance, LLC (MSA) Long-Term Stewardship (LTS) Program in 2016. The MSA LTS program is responsible for managing the areas and segments shown in yellow in Figure 1. In 2007, the River Corridor was divided into six geographic areas, commonly referred to as geographic decision areas, to organize the remedial investigation/feasibility study (RI/FS) process and support development of six RODs. These geographic decision areas encompass both the 100 Area and 300 Area National Priorities List (NPL) sites and are as shown in Figure 1. Although later RODs may have altered the boundaries of some of the areas, the boundaries shown in Figure 1 have been used for defining the boundaries of the MSA LTS Program.

The six geographic decision areas are:

- 100-B/C Area
- 100-D/H Area
- 100-F/Isolated Unit (IU)-2/IU-6 Area
- 100-K Area
- 100-N Area
- 300 Area (including 400 Area waste sites and nearby 600 Area waste sites).

The 100-F/IU-2/IU-6 Area includes the 100-F, 100-IU-2, and 100-IU-6 OUs and separate subareas, referred to as "segments." This division facilitates planning and implementation because of the large size of this area.

Institutional controls (IC) listed in decision documents for each segment/area managed by the MSA LTS Program were assessed. DOE/RL-2001-41, *Sitewide Institutional Controls Plan for Hanford CERCLA Response Actions and RCRA Corrective Actions*, lists the ICs based on the cleanup decision documents applicable to the area managed by the LTS Program. The results of the assessment are summarized in the following tables.

**1.0 ICs for Area Covered by the Record of Decision for the 100-FR-1,
100-FR-2, 100-FR-3, 100-IU-2, and 100-IU-6 Operable Units**

The record of decision (ROD) for the *100-FR-1, 100-FR-2, 100-FR-3, 100-IU-2 and 100-IU-6 operable units* (referred to as the 100-F ROD in this document) was published in September 2014. This ROD covers waste sites in Segment 1, Segment 3, Segment 4, 100-F/IU-2/IU-6 Area, 100-IU-2 and Segment 4A Areas, and 100-F Area. The IC assessment results are presented in Table 1.



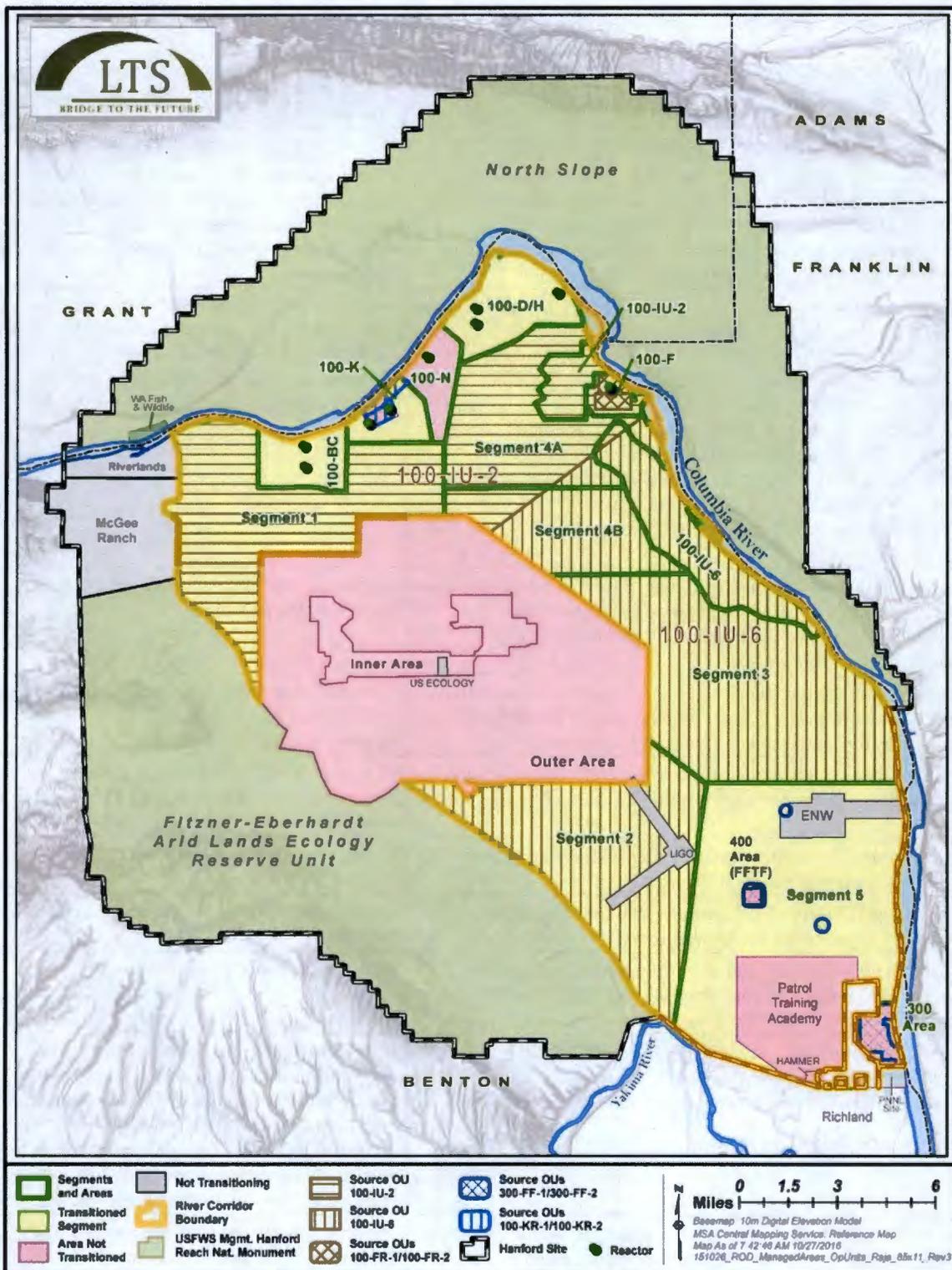


Figure 1. LTS-Managed Areas and Segments.

Table 1. Assessment of Institutional Controls Listed in *Record of Decision for 100-FR-1, 100-FR-2, 100-FR-3, 100-IU-2, and 100-IU-6.* (2 Sheets)

Institutional Controls for 100-FR-1, 100-FR-2, and 100-FR-3 Operable Units	
Institutional Controls Requirement	Institutional Control Status
ICs are required before, during, and after the active phase of remedial action implementation where ICs are needed to protect human health and the environment. ICs are used to control access to residual contamination in soil and groundwater above standards for unlimited use and unrestricted exposure.	ICs required to control access to residual contamination in soil and groundwater above standards for unlimited use and unrestricted exposure are in place. The remedial action is complete.
No later than 180 days after the ROD is signed, DOE shall update the Sitewide Institutional Controls Plan to include the ICs required by this ROD and specify the implementation and maintenance actions that will be taken, including periodic inspections. The revised Sitewide Institutional Controls Plan shall be submitted to U.S. Environmental Protection Agency (EPA) and the Washington State Department of Ecology (Ecology) for review and approval as a Tri-Party Agreement primary document. The DOE shall comply with the Sitewide Institutional Controls Plan as updated and approved by EPA and Ecology.	The Sitewide Institutional Control Plan was revised within 180 days and submitted to EPA and Ecology for review and approval. The approved plan was published as DOE/RL-2001-41, Rev. 8, in March 2015.
In the event that land is transferred out of federal ownership, deed restrictions (proprietary controls such as easements and covenants) are required that are legally enforceable against subsequent property owners.	No land has been transferred from the area covered by the ROD in 2016.
In the event of any unauthorized access (e.g., trespassing), DOE shall report such incidents to the Benton County Sheriff's Office for investigation and evaluation of possible prosecution.	No unauthorized access to the area covered by the ROD was reported during the reporting period.
Activities that would disrupt or lessen the performance of any component of the remedies are prohibited.	No activities that would disrupt or lessen the performance of any remedy component have taken place.
Signage and access control to waste sites with contamination above cleanup levels will be provided.	Signage and access controls are in place (Figures 2 and 3).
Maintain the integrity of any current or future remedial or monitoring system such as monitoring wells.	The monitoring wells are maintained by CHPRC.
Prohibit the development and use of property for residential housing, elementary and secondary schools, child care facilities, and playgrounds until cleanup levels are met.	The property has not been developed.
DOE shall employ and maintain an excavation permit program for protection of human health against unacceptable exposure, and protection of environmental and cultural resources.	The DOE excavation permit program is in place as defined in DOE-0344, <i>Hanford Site Excavating, Trenching and Shoring Procedure</i> . Excavation at the locations with ICs is controlled by the excavation permitting process. No excavation occurred during the assessment period at locations with the ICs.
The DOE shall report on the effectiveness of ICs for all OUs that are the subject of this ROD in an annual report, or on an alternative reporting frequency specified by the lead regulatory agency. Such reporting may be for OUs individually or may be part of the Hanford Sitewide ICs report.	The annual IC assessment is reported every September at the unit managers meeting.

Table 1. Assessment of Institutional Controls Listed in *Record of Decision for 100-FR-1, 100-FR-2, 100-FR-3, 100-IU-2, and 100-IU-6.* (2 Sheets)

Institutional Controls for 100-FR-1, 100-FR-2, and 100-FR-3 Operable Units	
Institutional Controls Requirement	Institutional Control Status
Measures necessary to ensure continuation of ICs shall be taken before any lease or transfer of any land subject to ICs. DOE will provide notice to Ecology and EPA at least 6 months before any transfer or sale of land subject to ICs so the lead regulatory agency can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for DOE to notify Ecology and EPA at least 6 months before any transfer or sale, DOE will notify Ecology and EPA as soon as possible, but no later than 60 days before the transfer or sale of any property subject to ICs. In addition to the land transfer notice and discussion provisions, DOE further agrees to provide Ecology and EPA with similar notice, within the same time frame, as to federal-to-federal property transfer. DOE shall provide a copy of the executed deed or transfer assembly to Ecology and EPA.	No plans are in place to transfer land in the area covered by this ROD.
DOE shall notify EPA and Ecology immediately upon discovery of any activity inconsistent with the specific ICs.	No activities inconsistent with the ICs have been discovered.
Institutional Controls Component Unique to 100-FR-1 and 100-FR-2 Operable Units	
Exposure to contamination deeper than 4.6 m (15 ft) bgs is not anticipated. Where contamination at depth exceeds the residential or industrial use CULs, ICs are required to ensure future activities do not bring this contamination to the surface or otherwise result in exposure to contaminant concentrations that exceed the CULs.	Excavation at the locations with ICs is controlled by the excavation permitting process. No excavation occurred during the assessment period at locations with the ICs.
Prohibit irrigation over or near waste site 116-F-14 that represents an unacceptable surface water protection risk.	Irrigation over or near waste site 116-F-4 is prohibited and has not taken place.
Institutional Controls Component Unique to 100-FR-3 Operable Unit	
DOE shall employ and maintain an excavation permit program limiting 100-FR-3 groundwater access and use to research purposes and for monitoring and treatment in areas where groundwater is above cleanup levels.	DOE excavation permit program is in place as defined in DOE-0344, <i>Hanford Site Excavating, Trenching and Shoring Procedure</i> . Excavation at the locations with ICs is controlled by the excavation permitting process. No excavation at the waste sites occurred during the assessment period at locations with the ICs.
Prevent access or use of the groundwater for drinking water purposes until cleanup levels are met.	Access to groundwater is controlled through the excavation permitting process. Access to groundwater monitoring wells is controlled by the Groundwater Monitoring Program.

Bgs = below ground surface.	IC = institutional control.
CHPRC = CH2M HILL Plateau Remediation Company.	OU = operable unit
CUL = cleanup level.	ROD = record of decision.
DOE = U.S. Department of Energy.	Tri-Party Agreement = <i>Hanford Federal Facility Agreement and Consent Order</i> .



Figure 2. Warning Sign at the Entrance of 100-F Area.



Figure 3. 100-F Area Riverside Warning Signs.

1.1 ICs for Waste Sites Listed in the ROD for the 100-FR-1, 100-FR-2, 100-FR-3, 100-IU-2, and 100-IU-6 Operable Units

The 2014 ROD for the 100-FR-1, 100-FR-2, 100-FR-3, 100-IU-2, and 100-IU-6 operable units (OU) identified control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]) as ICs for waste sites listed in Table 2. Compliance with the IC was attained by reviewing excavation permits issued for the 100-F Area. The review found that no excavation permits were issued for the waste site locations.

Table 2. 100-F Area Waste Sites with Institutional Controls. (2 sheets)

Waste Site	Operable Unit	Institutional Controls	Source of Requirements	Institutional Controls Review Finding
100-F-10	100-FR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	100-F ROD	No excavation permit issued for the waste site.
100-F-19:1	100-FR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft])	100-F ROD	No excavation permit issued for the waste site
100-F-19:2	100-FR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	100-F ROD	No excavation permit issued for the waste site
100-F-19:3	100-FR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	100-F ROD	No excavation permit issued for the waste site
100-F-29	100-FR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	100-F ROD	No excavation permit issued for the waste site
100-F-34	100-FR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	100-F ROD	No excavation permit issued for the waste site
116-F-2	100-FR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	100-F ROD	No excavation permit issued for the waste site
116-F-6	100-FR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft])	100-F ROD	No excavation permit issued for the waste site
116-F-9	100-FR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	100-F ROD	No excavation permit issued for the waste site
116-F-12	100-FR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft])	100-F ROD	No excavation permit issued for the waste site
116-F-14	100-FR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft])	100-F ROD	No excavation permit issued for the waste site
118-F-8:3	100-FR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft])	100-F ROD	No excavation permit issued for the waste site
118-F-8:4	100-FR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft])	100-F ROD	No excavation permit issued for the waste site
UPR-100-F-1	100-FR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft])	100-F ROD	No excavation permit issued for the waste site
118-F-6	100-FR-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft])	100-F ROD	No excavation permit issued for the waste site

Table 2. 100-F Area Waste Sites with Institutional Controls. (2 sheets)

Waste Site	Operable Unit	Institutional Controls	Source of Requirements	Institutional Controls Review Finding
116-F-14	100-FR-1	Prohibit irrigation - waste site with groundwater/surface water protection risk if irrigation were applied	100-F ROD	The site 116-F-4 was not irrigated. Such action requires completion of the Environmental Activity Screening form. No such form was requested. Site visit did not show any sign of irrigation

2.0 ICs for the MSA LTS Program-Managed 100-K Area

A portion of the 100-K Area has been transitioned to MSA (Figure 1). Remedial actions for 100-K Area waste sites are identified in the following six decision documents.

- EPA/AMD/R10-97/044, *Amendment to the Interim Action Record of Decision for the 100-BC-1, 100-DR-1, and 100-HR-1 Operable Units, Hanford Site, Benton County, Washington, April 1997*. The IC requirement is to have ICs and long-term monitoring for sites where waste is left in place. Such sites have ICs that are identified in the decision document and monitored.
- EPA/ROD/R10-99/039, *Interim Action Record of Decision for the 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-1, 100-FR-2, 100-HR-1, 100-HR-2, 100-KR-1, 100-KR-2, 100-IU-2, 100-IU-6, and 200-CW-3 Operable Units, Hanford Site, Benton County, Washington, (100 Area Remaining Sites ROD), July 1999*. The IC assessment results are presented in Table 3.
- EPA/ROD/R10-00/121, *Interim Action Record of Decision for the 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-2, 100-HR-2, and 100-KR-2, Operable Units, Hanford Site, Benton County, Washington (100-Area Burial Grounds), September 2000*. The IC assessment results are presented in Table 4.
- *Explanation of Significant Differences for the 100 Area Remaining Sites Interim Remedial Action Record of Decision, 100-BC-1, 100-BC-2 100-DR-1, 100-DR-2, 100-FR-1, 100-FR-2, 100-HR-1, 100-HR-2, 100-KR-1, 100-KR-2, 100-IU-2, 100-IU-6, and 200-CW-3 Operable Units, Hanford Site, Benton County, Washington, April 2004*. The IC listed in this document changes the annual IC assessment report date from March 30 to September 30. The IC assessment is reported to EPA and Ecology every September at the unit managers meeting.
- *Explanation of Significant Differences for the 100 Area Remaining Sites Record of Decision, Hanford Site, Benton County, Washington, August 2009*. No ICs are identified in this document.
- *100 Area "Plug-In" and Candidate Waste Sites for Fiscal Year 2010 – Annual Listing of Waste Sites Plugged into the Remove, Treat and Dispose Remedy in the 1999 Interim Action Record of Decision for the 100 Area, March 2011*. No ICs are identified in this document.

The IC assessment results for the MSA LTS Program-managed 100-K Area are presented in Tables 3 and 4.

Table 3. Assessment of Institutional Controls Listed in *Interim Action Record of Decision for the 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-1, 100-FR-2, 100-HR-1, 100-HR-2, 100-KR-1, 100-KR-2, 100-IU-2, 100-IU-6, and 200-CW-3 Operable Units. (2 Sheets)*

Institutional Controls Requirement	Institutional Controls Status
DOE will continue to use a badging program to control access to the associated sites for the duration of the interim action. Visitors entering the sites associated with the Interim Action ROD are required to be escorted at all times.	DOE has an active badging program to control access to Hanford Site. Visitors entering the sites associated with the Interim Action ROD are escorted at all times.
DOE will use the onsite excavation permit process to control land use (e.g., well drilling or excavation of soil) within the 100 Area operable units.	The DOE excavation permit program is in place as defined in DOE-0344, Hanford Site Excavating, Trenching and Shoring Procedure. Excavation at the locations with ICs is controlled by the excavation permitting process. No excavation occurred during the assessment period at locations with the ICs."
DOE will maintain existing signs prohibiting public access.	DOE warning signs are posted along the primary roads to the Hanford Areas (Figure 4). In addition, "No Trespassing" signs are posted along the perimeter of the Hanford Site, including along the Columbia River (Figure 5), and on the public roadways that pass through the Hanford Site as warning notices that unauthorized entry upon any facility, or real property in the custody of DOE-RL, which has been subject to the provisions contained in 10 CFR 860, "Trespassing on Department of Energy Property," is prohibited (Figure 6)."
DOE will provide notification to EPA and Ecology upon discovery of any trespass incidents.	DOE transmits copies of the annual ICs assessment to EPA and Ecology. The assessment includes a report on the trespassing incidents. The IC assessment report was presented at the UMM in September 2016.
Trespass incidents will be reported to the Benton County Sheriff's Office for investigation and evaluation for possible prosecution.	Trespassing incidents are reported to the Benton County Sherriff's Office. No trespassing incidents were reported in MSA LTS Program-managed areas.
DOE will add access restriction language to any land transfer, sale, or lease of property that the U.S. Government considers appropriate while ICs are compulsory.	Not applicable. No land transfer has occurred in MSA LTS managed Areas.
Until final remedy selection, DOE shall not delete or terminate any IC requirements established in this Interim Action ROD unless EPA and Ecology have provided written concurrence on the deletion or termination and appropriate documentation has been placed in the Administrative Record.	No ICs are deleted or terminated.

Table 3. Assessment of Institutional Controls Listed in *Interim Action Record of Decision for the 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-1, 100-FR-2, 100-HR-1, 100-HR-2, 100-KR-1, 100-KR-2, 100-IU-2, 100-IU-6, and 200-CW-3 Operable Units.* (2 Sheets)

Institutional Controls Requirement	Institutional Controls Status
<p>DOE will evaluate the implementation and effectiveness of institutional controls for the 100 Area operable units on an annual basis. DOE shall submit a report to EPA and Ecology by March 30 of each year summarizing the results of the evaluation for the preceding calendar year. At a minimum, the report shall contain an evaluation of whether or not the institutional controls requirements continue to be met and a description of any deficiencies discovered and measures taken to correct problems.</p>	<p>The implementation and effectiveness of the ICs are evaluated every year. The March 30 date was changed to September 30 in the Explanation of Significant Differences for the 100 Area Remaining Sites Interim Action Record of Decision for 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-1, 100-FR-2, 100-HR-1, 100-HR-2, 100-KR-1, 100-KR-2, 100-IU-2, 100-IU-6, and 200-CW-3 Operable Units. The Sitewide Institutional Control Plan (DOE/RL-2001-41) requires the contractors to provide an annual update on the effectiveness of the ICs to EPA and Ecology at the area UMM every September.</p>

DOE = U.S. Department of Energy.
 Ecology = Washington State Department of Ecology.
 EPA = U.S. Environmental Protection Agency.
 IC = institutional control.

LTS = long-term stewardship.
 MSA = Mission Support Alliance, LLC.
 ROD = record of decision.
 UMM = unit managers meeting.



Figure 4. Warning Sign in the 100-K Area.



Figure 5. No Trespassing Sign along the Columbia River.



Figure 6. Warning Sign along the State Route 240.

Table 4. Assessment of Institutional Controls listed in EPA/ROD/R10 00/121, Interim Action Record of Decision for the 100-BC-1, 100-BC-2, 100 DR-1, 100 DR-2, 100 FR-2, 100-HR-2, and 100-KR-2, Operable Units, Hanford Site, Benton County, Washington (100-Area Burial Grounds). (3 sheets)

Institutional Controls Requirement	Institutional Controls Status
DOE will continue to use a badging program to control access to the associated sites for the duration of the interim action. Visitors entering the sites associated with the Interim Action ROD are required to be escorted at all times	DOE has an active badging program to control access to the Hanford Site. Visitors entering the sites associated with the Interim Action ROD are escorted at all times.
Well drilling is prohibited, except for monitoring or remediation wells authorized in documents approved by EPA and/or the Ecology. Groundwater use is prohibited, except for monitoring and treatment, as approved by EPA or Ecology	Excavation permit review did not show unauthorized well drilling in the MSA LTS program managed 100-K Area.
No intrusive work is allowed on or near the waste sites covered in this ROD without prior approval of EPA or Ecology.	Excavation permit review did not show intrusive work conducted near the waste sites.
DOE shall maintain signs that warn river users of potential hazards along the shoreline from 100 Area waste sites.	The warning signs are in place (Figures 7 and 8)
DOE shall post and maintain in good condition "No Trespassing" signs along the 100 Area shoreline.	The "No Trespassing" signs along the 100 Area shoreline are in place (Figures 5 and 9)
DOE shall maintain signs along access roads that warn Site visitors and workers of potential hazards from 100 Area waste sites.	The required signs are in place (Figures 4, 10, and 11).
DOE shall report trespass incidents to the Benton County Sheriff's Office for investigation and evaluation for possible prosecution.	DOE reports trespassing incidents on the Hanford Site to Benton County Sheriff's Office. No trespassing incidents were reported in the 100-K Area.

Table 4. Assessment of Institutional Controls listed in EPA/ROD/R10 00/121, Interim Action Record of Decision for the 100-BC-1, 100-BC-2, 100 DR-1, 100 DR-2, 100 FR-2, 100-HR-2, and 100-KR-2, Operable Units, Hanford Site, Benton County, Washington (100-Area Burial Grounds). (3 sheets)

Institutional Controls Requirement	Institutional Controls Status
<p>DOE shall submit a Sitewide IC plan that includes the applicable ICs for the 100 Area OUs. This Sitewide plan will be submitted to EPA and Ecology for approval as a primary document under the Tri-Party Agreement by July 2001. This plan shall be updated by DOE periodically at the request of EPA or Ecology. At a minimum, the plan shall contain the following:</p> <p>A comprehensive facility-wide list of all areas or locations covered by any and all decision documents at the Hanford Site that have or should have ICs for protection of human health or the environment. The information on the list will include, at a minimum, the location of the area, the objectives of the restriction or control, the timeframe that the restrictions apply, and the tools and procedures DOE will use to implement the restrictions or controls and to evaluate the effectiveness of these restrictions or controls.</p> <p>Cover, and legally bind where appropriate, all entities and persons, including, but not limited to, employees, contractors, lessees, agents, licensees, and visitors. In areas where DOE is aware of routine trespassing, trespassers also must be covered.</p> <p>Cover all activities, and reasonably anticipated future activities, including, but not limited to, any future soil disturbances, routine and non-routine utility work, well placement and drilling, recreational activities, Hanford Reach National Monument-related uses, groundwater withdrawals, paving, construction, renovation work on structures, Tribal use, or other activities.</p> <p>Include a tracking mechanism that identifies all land areas under restriction or control.</p> <p>Include a process to promptly notify EPA and Ecology before any making anticipated change in land-use designation, restriction, land users, or activity for any ICs required by a decision document.</p>	<p>The Sitewide IC Plan, DOE/RL-2001-41, was published in 2001. It is revised within 180 days of the publication of a decision document that specifies ICs. Revision 8, the current version of the Sitewide IC Plan, was published March 17, 2015.</p>
<p>DOE will notify EPA and Ecology immediately upon discovery of any activity that is inconsistent with the OU-specific IC objectives for the Site, or of any change in the land use or land-use designation of a site. DOE will work together with EPA and Ecology to determine a plan of action to rectify the situation, except in the case where DOE believes the activity creates an emergency situation, DOE can respond to the emergency immediately upon notification to EPA and Ecology and need not wait for EPA or Ecology input to determine a plan of action. DOE also will identify deficiencies with the IC process, evaluate how to correct the process to avoid future problems, and implement these changes after consulting with EPA and Ecology.</p>	<p>No activities inconsistent with the OU-specific ICs have been discovered.</p>
<p>DOE will identify a point of contact for implementing, maintaining, and monitoring ICs for the 100 Area, as well as for the Hanford Site.</p>	<p>DOE has a person responsible for maintaining and monitoring ICs in the MSA LTS Program-managed area. There are other DOE persons who are responsible for maintaining and monitoring ICs managed by other contractors in the 100 Area.</p>

Table 4. Assessment of Institutional Controls listed in EPA/ROD/R10 00/121, Interim Action Record of Decision for the 100-BC-1, 100-BC-2, 100 DR-1, 100 DR-2, 100 FR-2, 100-HR-2, and 100-KR-2, Operable Units, Hanford Site, Benton County, Washington (100-Area Burial Grounds). (3 sheets)

Institutional Controls Requirement	Institutional Controls Status
<p>DOE will comply with TPA requirements to request and obtain funding to institute and maintain ICs as a compliance requirement under the TPA. NOTE: This is an existing TPA requirement.</p>	<p>Funding is requested for maintaining and monitoring ICs through the DOE Long-Term Stewardship Program.</p>
<p>DOE will notify EPA and Ecology at least 6 months before any transfer, sale, or lease of any property subject to ICs required by a CERCLA decision document so that EPA and Ecology can be involved in discussions to ensure that appropriate provisions are included in the conveyance documents to maintain effective ICs. If it is not possible for DOE to notify EPA and Ecology at least 6 months before any transfer, sale, or lease, then DOE will notify EPA and Ecology as soon as possible, but no later than 60 days before the transfer, sale, or lease of any property subject to ICs.</p>	<p>No property has been transferred, sold, or leased in the MSA LTS Program-managed areas during the reporting period.</p>
<p>DOE will not delete or terminate any ICs unless EPA and Ecology have concurred in the deletion or termination.</p>	<p>No ICs have been deleted or terminated.</p>
<p>DOE will evaluate the implementation and effectiveness of ICs for the Hanford Site and the 100 Area OUs on an annual basis. The annual IC monitoring report shall be written by DOE and submitted to EPA and Ecology as a primary document under the TPA. The report shall be consistent with the requirements established in the Sitewide IC plan. Justification will be provided for any information that is not included as required by the Sitewide plan. The annual monitoring report will be due on September 30 of each year and will summarize the results of the evaluation for the preceding calendar year. In addition, after the comprehensive Sitewide approach is well established and DOE has demonstrated its effectiveness, the frequency of future monitoring reports may be modified subject to approval by EPA and Ecology. The IC monitoring report, at a minimum, must contain the following: A description of how DOE is meeting the Sitewide IC requirements. A description of how DOE is meeting the OU-specific objectives, including results of visual field inspections of all areas subject to OU-specific restrictions.</p>	<p>The ICs are evaluated on the annual basis and reported to EPA and Ecology at the UMM in every September as required by the Sitewide IC Plan.</p>
<p>EPA and Ecology review of the IC monitoring report will follow existing procedures for agency review of primary documents.</p>	<p>This requirement is the responsibility of the EPA and Ecology.</p>

DOE = U.S. Department of Energy.
 Ecology = Washington State Department of Ecology.
 EPA = U.S. Environmental Protection Agency
 IC = institutional control.

OU = operable unit.
 ROD = record of decision.
 TPA = Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement).
 UMM = unit managers meeting.



Figure 7. 100-B Area Riverside Warning Signs.



Figure 8. 100-H Area Riverside Warning Signs.



Figure 9. No Trespassing Sign in the 100-F Area along the Columbia River Shoreline.



Figure.10. 100-H Area Warning Sign.



Figure 11. Warning Sign at the Entrance of 100-B Area.

2.1 100-K Area Waste Sites

The closure verification packages listed in Table 5 identified “control drilling or excavation into the deep zone (i.e., below 4.6 m [15 ft])” as ICs for waste sites listed in the MSA-managed 100-K Area. Compliance with the IC was attained by reviewing all excavation permits issued for the 100-K Area. The review found that no excavation permits were issued for the waste site locations. Table 5 summarizes the assessment results.

Table 5. Institutional Controls Assessment of Waste Sites in the MSA Managed 100-K Area.

Waste Site	Operable Unit	Institutional Controls	Requirement Source	Institutional Controls Status
116-K-1	100-KR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2003-00024	No excavation permit issued for the waste site.
116-K-2	100-KR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2006-00001	No excavation permit issued for the waste site.
118-K-1	100-KR-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2013-00002	No excavation permit issued for the waste site.

3.0 Segment 5

ICs for Segment 5 are identified in the *Record of Decision for 300-FF-2 and 300-FF-5, and Record of Decision Amendment for 300-FF-1, November 2013 (300 Area ROD)*.

The assessment focused only on the portion of Segment 5 that was covered by the 300-Area ROD. The IC assessment results are presented in Table 6.

Table 6. Assessment of Institutional Controls Listed in 300 Area ROD and Applicable to Segment 5.

Institutional Controls Requirement	Institutional Controls Status
DOE shall employ and maintain an excavation permit program for protection of human health against unacceptable exposure, and protection of environmental and cultural resources.	Excavation is controlled by an excavation permitting process. No waste sites with drilling or excavation restrictions exist in Segment 5.
In the event of any unauthorized access (e.g., trespassing), DOE shall report such incidents to the Benton County Sheriff's Office for investigation and evaluation of possible prosecution.	Trespassing incidents are reported to the Benton County Sherriff's Office.
DOE shall report on the effectiveness of ICs for 300-FF-2 and 300-FF-5 in an annual report, or on an alternative reporting frequency specified by the lead regulatory agency. Such reporting may be for 300-FF-2 and 300-FF-5 alone or may be part of the Hanford Sitewide ICs report.	MSA annually conducts IC assessment and presents the results at the UMM in September of every year.

DOE = U.S. Department of Energy.
IC = institutional control.

MSA = Mission Support Alliance, LLC.
UMM = unit managers meeting.

4.0 100-B/C Area

Remedial actions for 100-B/C Area waste sites are identified in the following 10 decision documents:

- *Interim Action Record of Decision for the 100-BC-1, 100-DR-1 and 100-HR-1 Operable Units, Hanford Site, Benton County, Washington.* The IC assessment results are presented in Table 7.
- *Amendment to the Interim Action Record of Decision for the 100-BC-1, 100-DR-1, and 100-HR-1 Operable Units, Hanford Site, Benton County, Washington.* This decision document requires that ICs and long-term monitoring will be required for sites where wastes are left in place.
- *Interim Action Record of Decision for the 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-1, 100-FR-2, 100-HR-1, 100-HR-2, 100-KR-1, 100-KR-2, 100-IU-2, 100-IU-6, and 200-CW-3 Operable Units, Hanford Site, Benton County, Washington known as the "100 Area Remaining Sites ROD."* The IC assessment results are presented in Table 3.
- *Interim Action Record of Decision for the 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-2, 100-HR-2, and 100-KR-2, Operable Units, Hanford Site, Benton County, Washington (100 Area Burial Grounds).* The ICs are addressed in Table 4.
- *Explanation of Significant Differences for the 100 Area Remaining Sites Interim Remedial Action Record of Decision, 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-1, 100-FR-2, 100-HR-1, 100-HR-2, 100-KR-1, 100-KR-2, 100-IU-2, 100-IU-6, and 200-CW-3 Operable Units, Hanford Site, Benton County, Washington.* The IC requirement revised the reporting date from March 30 to September 30.
- *Explanation of Significant Difference for the Interim Action Record of Decision for the 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-2, 100-HR-2, and 100-KR-2 Operable Units (100 Area Burial Grounds), Hanford Site, Benton County, Washington.* The IC assessment results are presented in Table 8.

- *Explanation of Significant Differences for the 100 Area Remaining Sites Record of Decision, Hanford Site, Benton County, Washington.* No ICs were identified in this document.
- *100 Area "Plug-In" and Candidate Waste Sites for Fiscal Year 2010 – Annual Listing of Waste Sites Plugged into the Remove, Treat and Dispose Remedy in the 1999 Interim Action Record of Decision for the 100 Area.* No ICs were identified in this document.
- *100 Area "Plug In" and Candidate Waste Sites for Calendar Year 2012 – Annual Listing of Waste Sites Plugged into the Remove, Treat and Dispose Remedy in the 1999 Interim Action Record of Decision for the 100 Area Remaining Sites.* No ICs were identified in this document.
- *Record of Decision, Hanford 100 Area Superfund Site 100-FR-1, 100-FR-2, 100-FR-3, 100-IU-2, and 100-IU-6 Operable Units.* The IC assessment results are presented in Table 1.

The ICs listed in the decision documents were assessed. The assessment results are presented in Tables 7 and 8.

Table 7. Institutional Controls Requirements Listed in Interim Action Record of Decision for the 100-BC-1, 100-DR-1 and 100-HR-1 Operable Units, Hanford Site, Benton County, Washington.

Institutional Controls Requirement	Institutional Control Status
The U.S. Department of Energy will control access and use of the Hanford Site for the duration of the cleanup, including restrictions on the drilling of new groundwater wells in the existing plumes or their paths. It is expected that institutional controls will be enforced until the remedial action objectives have been attained.	Access to the Hanford Site is controlled through barricades and warning signs. Use of the Hanford Site is controlled through the site evaluation and excavation permitting processes. Construction of new groundwater wells is controlled through the regulatory approval and excavation permitting processes.

Table 8. Assessment of Institutional Controls Listed Explanation of Significant Difference for the Interim Action Record of Decision for the 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-2, 100-HR-2, and 100-KR-2 Operable Units (100 Area Burial Grounds), Hanford Site, Benton County, Washington.

Institutional Controls Requirement	Institutional Controls Status
A report is required every 5 years to document effectiveness of the institutional controls, which must include identification of any deficiencies and corrective actions taken or to be taken.	The effectiveness of the institutional controls is evaluated every 5 years and published in <i>Sitewide Institutional Controls Plan for Hanford CERCLA Response Actions</i> (DOE/RL-2001-41, as amended). The last report (2006-2010) can be found in DOE/RL-2001-41, Rev.8.
Institutional controls are required to be maintained in accordance with both the Burial Ground Record of Decision and the <i>Sitewide Institutional Controls Plan for Hanford CERCLA Response Actions</i> (DOE/RL-2001-41, as amended).	The ICs are maintained as required by <i>Sitewide Institutional Controls Plan for Hanford CERCLA Response Actions</i> (DOE/RL-2001-41, as amended).

Table 8. *Assessment of Institutional Controls Listed Explanation of Significant Difference for the Interim Action Record of Decision for the 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-2, 100-HR-2, and 100-KR-2 Operable Units (100 Area Burial Grounds), Hanford Site, Benton County, Washington.*

Institutional Controls Requirement	Institutional Controls Status
Irrigation of 118-B-1 burial ground is prohibited. The duration of institutional controls required is 140 years (Year 2147).	No irrigation at 118-B-1 burial ground. Irrigating a site would require completing an environmental activity screening (EAS) form. No EAS form was completed for 118-B-1 burial ground.
Institutional Controls to prevent drilling or excavation into the deep zone are required (CVP-2007-00006)	Drilling at the Hanford Site is requires excavation permit. The MSA LTS Program review excavation permits to ensure that drilling is prevented into the deep zones.

IC = institutional control.
LTS = long-term stewardship.

MSA = Mission Support Alliance, LLC.

5.0 100-D/H Area

Remedial actions for 100-D/H Area waste sites are identified in the following nine decision documents:

- *Interim Action Record of Decision for the 100-BC-1, 100-DR-1, and 100-HR-1 Operable Units, Hanford Site, Benton County, Washington.* The IC assessment results are presented in Table 7.
- *Amendment to the Interim Action Record of Decision for the 100-BC-1, 100-DR-1, and 100-HR-1 Operable Units, Hanford Site, Benton County, Washington.* The IC assessment results are presented in Table 8.
- *Interim Action Record of Decision for the 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-1, 100-FR-2, 100-HR-1, 100-HR-2, 100-KR-1, 100-KR-2, 100-IU-2, 100-IU-6, and 200-CW-3 Operable Units, Hanford Site, Benton County, Washington, known as the "100 Area Remaining Sites ROD."* The IC assessment results are presented in Table 3.
- *Interim Action Record of Decision for the 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-2, 100-HR-2, and 100-KR-2 Operable Units, Hanford Site, Benton County, Washington (100 Area Burial Grounds).* The IC assessment results are presented in Table 4.
- *Explanation of Significant Differences for the 100 Area Remaining Sites Interim Remedial Action Record of Decision, 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-1, 100-FR-2, 100-HR-1, 100-HR-2, 100-KR-1, 100-KR-2, 100-IU-2, 100-IU-6, and 200-CW-3 Operable Units, Hanford Site, Benton County, Washington.* This document changed the reporting date for the annual institutional controls from March 30 to September 30. No institutional controls were added.
- *Explanation of Significant Differences for the 100 Area Remaining Sites Record of Decision, Hanford Site, Benton County, Washington.* This document addressed the "plug-in" approach. No ICs are identified in this document.

- *100 Area "Plug In" and Candidate Waste Sites for Fiscal Year 2010 – Annual Listing of Waste Sites Plugged into the Remove, Treat and Dispose Remedy in the 1999 Interim Action Record of Decision for the 100 Area.* No ICs are identified in this document.
- *100 Area "Plug In" and Candidate Waste Sites for Calendar Year 2011 – Annual Listing of Waste Sites Plugged into the Remove, Treat and Dispose Remedy in the 1999 Interim Action Record of Decision for the 100 Area Remaining Sites.* No ICs are identified in this document.
- *100 Area "Plug In" and Candidate Waste Sites for Calendar Year 2012 – Annual Listing of Waste Sites Plugged into the Remove, Treat and Dispose Remedy in the 1999 Interim Action Record of Decision for the 100 Area Remaining Sites.* No ICs are identified in this document.

5.1 100-B/C Area and 100-D/H Area Waste Sites with ICs

The 100-B/C Area and 100-D/H Area have several waste sites with ICs identified in the closeout verification package (CVP) or Letter 05-AMRC-0078, "Data Revisions in Institutional Controls (IC) Field of Waste Information Data System (WIDS)," from the U.S. Department of Energy (DOE) to the U.S. Environmental Protection Agency and the Washington State Department of Ecology, dated January 4, 2005. Compliance with the IC was attained by reviewing excavation permits issued for the 100-B/C and 100-D/H Areas. The review found that no excavation permits were issued for the waste site locations in these areas. The assessment results are presented in Table 9.

Table 9. 100-B/C and 100-D/H Waste Sites with Institutional Controls. (8 Sheets)

Waste Site	Operable Unit	Institutional Control	Source of Requirement	Institutional Controls Review Finding
100-B-5	100-BC-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2003-00014	No excavation permit issued for the waste site.
100-B-8:1	100-BC-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2003-00022	No excavation permit issued for the waste site.
100-B-8:2	100-BC-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2003-00019	No excavation permit issued for the waste site.
100-B-14:1	100-BC-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	WSRF-2004-005	No excavation permit issued for the waste site.
100-B-21:4	100-BC-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	WSRF-2009-041	No excavation permit issued for the waste site.
100-C-6:1	100-BC-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2003-00022	No excavation permit issued for the waste site.
100-C-6:2	100-BC-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2003-00019	No excavation permit issued for the waste site.
100-C-6:3	100-BC-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2003-00019,	No excavation permit issued for the waste site.
100-C-6:4	100-BC-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2003-00019	No excavation permit issued for the waste site.
100-C-9:1	100-BC-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	WSRF-2004-012	No excavation permit issued for the waste site.

Table 9. 100-B/C and 100-D/H Waste Sites with Institutional Controls. (8 Sheets)

Waste Site	Operable Unit	Institutional Control	Source of Requirement	Institutional Controls Review Finding
100-C-9:3	100-BC-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	WSRF-2004--014	No excavation permit issued for the waste site.
100-C-9:4	100-BC-2	ICs are required to prevent an inhalation exposure pathway (which would be created if the sealed underground pipes are breached).	WSRF-2004-015	No excavation permit issued for the waste site.
116-B-1	100-BC-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	Letter 05-AMRC-0078, "Data Revisions in Institutional Controls (IC) Field of Waste Information Data System (WIDS)" and CVP-99-00012	No excavation permit issued for the waste site.
116-B-2	100-BC-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	Letter 05-AMRC-0078, "Data Revisions in Institutional Controls (IC) Field of Waste Information Data System (WIDS)" and CVP-99-00015	No excavation permit issued for the waste site.
116-B-3	100-BC-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	Letter 05-AMRC-0078, "Data Revisions in Institutional Controls (IC) Field of Waste Information Data System (WIDS)" and CVP-99-00013	No excavation permit issued for the waste site.
116-B-4	100-BC-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	Letter 05-AMRC-0078, "Data Revisions in Institutional Controls (IC) Field of Waste Information Data System (WIDS)" and CVP-99-00014	No excavation permit issued for the waste site.
116-B-6A	100-BC-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-99-00011	No excavation permit issued for the waste site.
116-B-7	100-BC-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	Letter 05-AMRC-0078, "Data Revisions in Institutional Controls (IC) Field of Waste Information Data System (WIDS)" and CVP-2002-00003	No excavation permit issued for the waste site.

Table 9. 100-B/C and 100-D/H Waste Sites with Institutional Controls. (8 Sheets)

Waste Site	Operable Unit	Institutional Control	Source of Requirement	Institutional Controls Review Finding
116-B-11	100-BC-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	Letter 05-AMRC-0078, "Data Revisions in Institutional Controls (IC) Field of Waste Information Data System (WIDS)" and CVP-99-00001	No excavation permit issued for the waste site.
116-B-12	100-BC-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	Letter 05-AMRC-0078, "Data Revisions in Institutional Controls (IC) Field of Waste Information Data System (WIDS)" and CVP-99-00008	No excavation permit issued for the waste site.
116-B-16	100-BC-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-99-00011	No excavation permit issued for the waste site.
116-C-1	100-BC-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	Letter 05-AMRC-0078, "Data Revisions in Institutional Controls (IC) Field of Waste Information Data System (WIDS)"	No excavation permit issued for the waste site.
116-C-2A	100-BC-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-99-00019	No excavation permit issued for the waste site.
116-C-2B	100-BC-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-99-00019	No excavation permit issued for the waste site.
116-C-2C	100-BC-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-99-00019	No excavation permit issued for the waste site.
116-C-3	100-BC-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	Letter 05-AMRC-0078, "Data Revisions in Institutional Controls (IC) Field of Waste Information Data System (WIDS)"	No excavation permit issued for the waste site.
116-C-5	100-BC-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	Letter 05-AMRC-0078, "Data Revisions in Institutional Controls (IC) Field of Waste Information Data System (WIDS)" and	No excavation permit issued for the waste site.
118-B-1	100-BC-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2007-00006	No excavation permit issued for the waste site.

Table 9. 100-B/C and 100-D/H Waste Sites with Institutional Controls. (8 Sheets)

Waste Site	Operable Unit	Institutional Control	Source of Requirement	Institutional Controls Review Finding
118-B-1	100-BC-2	Irrigation is prohibited at the 118-B-1 for 140 years, except as authorized to support revegetation activities as authorized by the Burial Grounds ROD or other EPA-approved documents.	<i>Explanation of Significant Difference for the Interim Action Record of Decision for the 100 BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-2, 100-HR-2, and 100-KR-2 Operable Units (100 Area Burial Grounds), Hanford Site, Benton County, Washington</i>	Evaluation of the irrigation activity by the environmental compliance officer while completing the environmental screening form
118-B-6	100-BC-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	Letter 05-AMRC-0078, "Data Revisions in Institutional Controls (IC) Field of Waste Information Data System (WIDS)" and CVP-2006-00002	No excavation permit issued for the waste site.
118-C-1	100-BC-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2006-00011	No excavation permit issued for the waste site.
118-C-3:2	TBD	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	Letter 05-AMRC-0078, "Data Revisions in Institutional Controls (IC) Field of Waste Information Data System (WIDS)" and CVP-98-00009	No excavation permit issued for the waste site.
128-B-3	100-BC-2	Institutional controls are required on the river embankment area to prevent activities that would mobilize residual contaminants to travel to groundwater or the river.	WSRF-2006-058	No excavation permit issued for the waste site.
132-B-6	100-BC-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	Letter 05-AMRC-0078, "Data Revisions in Institutional Controls (IC) Field of Waste Information Data System (WIDS)" and CVP-2002-00003	No excavation permit issued for the waste site.
132-C-2	100-BC-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	Letter 05-AMRC-0078, "Data Revisions in Institutional Controls (IC) Field of Waste Information Data System (WIDS)" and CVP-2002-00003	No excavation permit issued for the waste site.
100-D-5	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-00034	No excavation permit issued for the waste site.

Table 9. 100-B/C and 100-D/H Waste Sites with Institutional Controls. (8 Sheets)

Waste Site	Operable Unit	Institutional Control	Source of Requirement	Institutional Controls Review Finding
100-D-6	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-200-00034	No excavation permit issued for the waste site.
100-D-18	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-00001	No excavation permit issued for the waste site.
100-D-19	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-00003	No excavation permit issued for the waste site.
100-D-23	100-DR-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2003-00018	No excavation permit issued for the waste site.
100-D-25	100-DR-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	Letter 05-AMRC-0078, "Data Revisions in Institutional Controls (IC) Field of Waste Information Data System (WIDS)" CVP-99-00006	No excavation permit issued for the waste site.
100-D-46	100-DR-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-00010	No excavation permit issued for the waste site.
100-D-48:1	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-00003	No excavation permit issued for the waste site.
100-D-48:2	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-00005	No excavation permit issued for the waste site.
100-D-48:3	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-00034	No excavation permit issued for the waste site.
100-D-48:4	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-00033	No excavation permit issued for the waste site.
100-D-49:1	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-00003	No excavation permit issued for the waste site.
100-D-49:2	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-00005	No excavation permit issued for the waste site.
100-D-49:3	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-00034	No excavation permit issued for the waste site.
100-D-50:1	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	WSRF-2012-101 with RSVP	No excavation permit issued for the waste site.
100-D-50:6	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	WSRF-2013-011 with RSVP	No excavation permit issued for the waste site.
100-D-53	100-DR-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2003-00018	No excavation permit issued for the waste site.
100-D-54	100-DR-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2003-00018	No excavation permit issued for the waste site.
100-D-64	100-DR-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2003-00018	No excavation permit issued for the waste site.
100-D-86:3	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	WSRF-2015-016 with RSVP	No excavation permit issued for the waste site.

Table 9. 100-B/C and 100-D/H Waste Sites with Institutional Controls. (8 Sheets)

Waste Site	Operable Unit	Institutional Control	Source of Requirement	Institutional Controls Review Finding
100-H-1	100-HR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-00029	No excavation permit issued for the waste site.
100-H-5	100-HR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-00028	No excavation permit issued for the waste site.
100-H-21	100-HR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-00029	No excavation permit issued for the waste site.
100-H-22	100-HR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-00029	No excavation permit issued for the waste site.
100-H-33	100-HR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	WSRF-2011-099	No excavation permit issued for the waste site.
116-D-1A	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-00010	No excavation permit issued for the waste site.
116-D-1B	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-00010	Evaluation of excavation permit
116-D-6	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-00009	Evaluation of excavation permit
116-D-7	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-99-00007	Evaluation of excavation permit
116-D-8	100-DR-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	WSRF-2009-015 with RSVP	Evaluation of excavation permit
116-DR-1&2	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-00002	Evaluation of excavation permit
116-DR-6	100-DR-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-00014	Evaluation of excavation permit
116-DR-9	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	Letter 05-AMRC-0078, "Data Revisions in Institutional Controls (IC) Field of Waste Information Data System (WIDS)." CVP-99-00006	Evaluation of excavation permit
116-H-1	100-HR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-00026	Evaluation of excavation permit
116-H-7	100-HR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-00027	Evaluation of excavation permit
118-D-6:2	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2005-00003	Evaluation of excavation permit
118-D-6:3	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2005-00003	Evaluation of excavation permit
118-D-6:4	100-HR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	WSRF-2010-071 with RSVP	Evaluation of excavation permit
118-H-6:2	100-HR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2006-00003	Evaluation of excavation permit

Table 9. 100-B/C and 100-D/H Waste Sites with Institutional Controls. (8 Sheets)

Waste Site	Operable Unit	Institutional Control	Source of Requirement	Institutional Controls Review Finding
118-H-6:3	100-HR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2006-00003	Evaluation of excavation permit
118-H-6:6	100-HR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2006-00003	Evaluation of excavation permit
122-DR-1:2	100-DR-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2003-00018	Evaluation of excavation permit
122-DR-1:4	100-DR-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2003-00018	Evaluation of excavation permit
122-DR-1:5	100-DR-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2003-00018	Evaluation of excavation permit
126-H-2	100-HR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	WSRF-2006-006 with RSVP	Evaluation of excavation permit
132-D-2	100_DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	WSRF-2005-024 with RSVP	Evaluation of excavation permit
132-D-3	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	WSRF-2005-033 with RSVP	Evaluation of excavation permit
132-D-4	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2005-00003	Evaluation of excavation permit
132-DR-1	100-DR-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	WSRF-2005-035 with RSVP	Evaluation of excavation permit
132-DR-2	100-DR-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2003-00018	Evaluation of excavation permit
132-H-2	100-HR-2	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	WSRF-2006-049 with RSVP	Evaluation of excavation permit
1607-H2	100-HR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-0024	Evaluation of excavation permit
UPR-100-D-2	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-00005	Evaluation of excavation permit
UPR-100-D-3	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	Cvp-2000-00005	Evaluation of excavation permit
UPR-100-D-4	100-DR-1	Control drilling or excavation into deep zone (i.e., below 4.6 m [15 ft]).	CVP-2000-00003	Evaluation of excavation permit

EPA = U.S. Environmental Protection Agency.
IC = institutional control.

ROD = record of decision.
RSVP = Remaining Sites Verification Package

MSA LTS is mandatory signatory on all excavation permits. Twenty Nine excavation permits were reviewed for compliance with IC requirements. No violation of IC requirements was found.

6.0 300 Area ICs Managed by the MSA LTS Program

MSA manages ICs at the 3709A (300 Fire Station), 3709B, 3507, and 339A. The ICs were identified in DOE Memorandum, AMRP: RFG/14-AMRP-0264, "Recommendations for Proposed Irrigation and Recharge Control for 3709A, 3709B, 3220, 3212, 3507, and 339A,

Hanford Site 300 Area,” from E. F. Guercia to File, dated August 14, 2014. These ICs were the result of publication of *Record of Decision for 300-FF-2 and 300-FF-5, and Record of Decision Amendment for 300-FF-1*. Mr. Rudy Guercia of DOE provided directional limitations to MSA for the 300 Area hydrant flushing (email from Rudy Guercia to Joy Shoemake, MSA, “300 Area Fire Hydrants, Steam Pit 4 Inflows and the Industrial Waste Water Permit,” dated July 30, 2014. The DOE memorandum lists specific ICs for building 3709A. The assessment of the ICs is presented in Table 10.

Table 10. Assessment of Institutional Controls listed in DOE Memorandum, AMRP: RFG/14-AMRP-0264, “Recommendations for Proposed Irrigation and Recharge Control for 3709A, 3709B, 3220, 3212, 3507, and 339A, Hanford Site 300 Area,” from E. F. Guercia to File, dated August 14, 2014. (2 Sheets)

Institutional Controls Requirement	Institutional Controls Status
The area north of the marked area can be irrigated (Figure 4). This area is currently irrigated by above ground sprinkler heads and hoses. The irrigation will be kept to a minimum, with run times nominally about 1 hour before the hose and the sprinkler heads are moved to the next location.	The area has not been irrigated since the summer of 2015. It was completely dry (Figures 12 and 13). The sprinklers in the other areas are used for less than one hour as needed.
If the below ground sprinkler system is repaired, irrigation should follow the same guidelines as described above.	Each sprinkler station was limited to an hour as needed.
The lawn and trees on the west sides of building 3709A (Figure 14) will be irrigated in the same manner as the eastern lawn.	The sprinklers on the west side are used for less than one hour as needed.
The fire hydrant #1 will not be tested.	Fire hydrant #1 was not tested in 2016.
Fire trucks shall be washed on the driveway (Figure 15)	The fire trucks are washed on the north driveway.
Periodic training activities under current operational readiness requirements will continue unless directed otherwise.	Periodic training activities continue.
No new surface discharge will be implemented that would enhance groundwater discharge	No new surface discharges have been implemented.
Directional limitations for 300 Area hydrant flows directed by email from Rudy Guercia, DOE.	The directional limitations have been incorporated in the work packages for the hydrant flows. The limitations will be followed during hydrant testing.

DOE = U.S. Department of Energy, Richland Office



Figure 12. Green Area before "No Irrigation" IC Implementation.



Figure 13. Area After "No Irrigation" IC was Applied.



Figure 14. Lawn and Trees on the West Side of Building 3709A.



Figure 15. North Driveway Where Fire Trucks Are Washed.

3709B, 3507, and 339A Buildings

No new discharges have been implemented at buildings 3709B (exercise building), 3507 (associated with telecommunications tower), and 339A (339A). Other ICs are not applicable to these buildings.

7.0 Sitewide Institutional Controls Assessment

7.1 Fences and Signage

The fence along State Route 240 was inspected and the fence was found to have broken wire strands in four places. The wire strands were fixed.

The MSA LTS Program conducted a riverside signs assessment from the Columbia River (Figure 16). Eighty “No Trespassing” signs could not be seen from the Columbia River. MSA LTS has initiated a project to identify and replace the missing signs.



Figure 16. No Trespassing Sign along the Columbia River.

7.2 Trespassing Incidents

The MSA Safeguard and Security group is responsible for reporting Sitewide trespassing incidents to the Benton County Sheriff's Office. Five reportable trespassing incidents occurred from October 2015 to September 2016. Details of the incidents are official use only and are not discussed in this assessment.

MSA-1105355.5

CONTRACT NO. DE-AC06-09RL14728

ATTACHMENT 2

**Contract Deliverable CD0182
November 2016**

**2016 ANNUAL INSTITUTIONAL CONTROL ASSESSMENT
CH2M HILL PLATEAU REMEDIATION COMPANY**

Consisting of 16 pages,
including this cover page

**2016 ANNUAL SITEWIDE INSTITUTIONAL CONTROL ASSESSMENT
CH2M HILL PLATEAU REMEDIATION COMPANY**

1.0 100-K Area

The 100-K Area institutional control assessment is discussed in this section.

1.1 Background and Introduction

The 100-K Basins Interim Remedial Action Record of Decision calls for Institutional Controls that will minimize the potential for human exposure to hazardous substances that will be addressed by the remedial action. The specific controls are identified in the work plans that implement the remedial action decision. This assessment checklist identifies the required controls and provides an evaluation of whether the control has been implemented and whether the implementation has been effective in minimizing the potential for human exposure to hazardous substances.

Institutional Control Category	Institutional Controls Requirement	2016 Status
Entry Restrictions	Continue the current badging program and access controls for the duration of the interim action. Visitors entering the sites associated with this interim action are required to be escorted at all times.	The badging and other entry restrictions remain in place and appear to be effective.
	Utilize the onsite excavation permit process to control intrusive activities such as well drilling and excavation of soil.	The excavation permit process remains in place as an effective control.
Warning Notices	Maintain existing signs prohibiting public access.	No trespassing signs are in place along the river. Large warning signs are present at the entrance to the 100-K area and at the former location of the 181KW and 181KE buildings along the river (Figures 1 through 6). The signs are effective controls.
Miscellaneous Provision	Provide notification to the lead regulator upon discovery of any trespass incidents.	Security forces continue to patrol the area and report trespass. MSA manages this function.
Miscellaneous Provision	Report trespass incidents to the Benton County Sheriff's Office for investigation and evaluation for possible prosecution.	DOE reports trespass incidents to appropriate authorities.
Land-Use Management	Take the necessary precautions to add access restriction language to any land transfer, sale, or lease of property that the U.S. Government considers appropriate while institutional controls are compulsory. The lead regulator will have to approve any access restrictions prior to transfer, sale, or lease.	No land transfers have taken place in 100-K. The controls remain in place as managed by MSA.

Miscellaneous Provision	Until final remedy selection, institutional control requirements will not be deleted or terminated unless the lead regulator has provided written concurrence on the deletion or termination and appropriate documentation has been placed in the Administrative Record.	No institutional control requirements were modified.
Miscellaneous Provision	The implementation and effectiveness of institutional controls will be evaluated and reported in accordance with DOE/RL-2001-41, Sitewide Institutional Controls Plan for Hanford CERCLA Response Actions.	The assessment of the implementation and effectiveness of the institutional controls were evaluated and reported.
Warning Notices Entry Restrictions	Current access controls include signs along the river, non-continuous fencing, and locked access to buildings containing the primary hazards, and routine security patrols.	Signs along the river are in place, buildings are locked, and there are routine security patrols. A non-continuous fence is in place. Fencing and/or signs are present at locations where access is most likely to occur.



Figure 1. Approaching Main Entrance to 100-K.



Figure 2. Signage to main entrance to 100-K.



Figure 3. Southwest fence line of 100-K.



Figure 4. West fence line at 100-K.



Figure 5. Warning signs at the former 100-KW Intake Structure.



Figure 6. Warning signs at the former 100-KE Intake Structure.



Figure 7. Taken on the North West side of the KW Reactor.



*Figure 8. East fence line at 100-K.



Figure 9. Southeast gate entrance to 100-K.

2.0 Central Plateau

The Central Plateau institutional control assessment is discussed in this section.

2.1 Background and Introduction

The 200 Area Central Plateau Records of Decision calls for Institutional Controls that will minimize the potential for human exposure to hazardous substances that will be addressed by the remedial action. The specific controls are identified in the work plans that implement the remedial action decision. This assessment identifies the required controls and provides an evaluation of whether the control has been implemented and whether the implementation has been effective in minimizing the potential for human exposure to hazardous substances.

Table 1. Institutional Controls Requirements Listed in Record of Decision for Final Remedial Action for Hanford 200 Area, 200-UP-1 Operable Unit (Required through time of completion of the remedy.)

Institutional Controls Category	Institutional Controls Requirement	2016 Status
Entry Restrictions	The DOE shall control access to 200-UP-1 OU Groundwater to prevent unacceptable exposure of humans to contaminants, except as otherwise authorized in lead regulatory agency approved documents.	No findings, access controls still in place.
Land-Use Management	Visitors entering any site areas of the 200-UP-1 OU will be required to be badged and escorted at all times.	No findings, work plans are being/have been submitted for approval.
Land-Use Management	No intrusive work shall be allowed in the 200-UP-1 OU unless the lead regulatory agency has approved the plan for such work and that plan is followed.	No findings, no unauthorized wells have been drilled.
Groundwater-Use Management	The DOE shall prohibit well drilling in the 200-UP-1 OU, except for monitoring, characterization, or remediation wells authorized in EPA approved documents.	No findings, no unauthorized well drilling.
Groundwater-Use Management	Groundwater use at the 221-U Facility site is prohibited, except for limited research purposes and monitoring and treatment authorized in EPA approved documents.	No findings, no unauthorized groundwater use has occurred.
Warning Notices	The DOE shall post and maintain warning signs along pipelines conveying untreated groundwater that caution site visitors and workers of potential hazards from the 200-UP-1 OU.	No findings.
Miscellaneous Provision	In the event of any unauthorized access (e.g. trespassing), DOE shall report such incidents to the Benton County Sheriff's Office for investigation and evaluation of possible prosecution.	No findings, no unauthorized access or trespass.
Land-Use Management	Activities that would disrupt or lessen the performance of the any component of the remedy are to be prohibited, except as otherwise authorized in lead regulatory agency approved documents.	No findings, no activities have been implemented that would disrupt/lessen performance of the interim remedy
Miscellaneous Provision	The DOE shall prohibit activities that would damage the remedy components (e.g. extraction wells, piping, treatment plant, and monitoring wells), except as otherwise authorized in lead regulatory agency approved documents.	No findings.

Table 1. Institutional Controls Requirements Listed in Record of Decision for Final Remedial Action for Hanford 200 Area, 200-UP-1 Operable Unit (Required through time of completion of the remedy.)

Institutional Controls Category	Institutional Controls Requirement	2016 Status
Land-Use Management	The DOE will prevent the development and use of property above the 200-UP-1 OU for residential housing, elementary and secondary schools, childcare facilities, and playgrounds.	No findings.
Miscellaneous Provision	The DOE shall report on the effectiveness of ICs for the 200-UP-1 OU interim remedy in an annual report, or on an alternative reporting frequency specified by the lead regulatory agency. Such reporting may be for the 200-UP-1 OU alone or may be part of the Hanford Site wide report.	No findings, included in annual report.
Land-Use Provision	Measures that are necessary to ensure continuation of ICs shall be taken before any lease or transfer of any land above the 200-UP-1 OU. DOE will provide notice to Ecology and EPA at least 6 months before any transfer or sale of 200-UP-1 OU or any land above the 200-UP-1 OU so that the lead regulatory agency can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for DOE to notify Ecology and EPA at least 6 months before any transfer or sale, DOE will notify Ecology and EPA as soon as possible, but no later than 60 days before the transfer or sale of any property subject to ICs. In addition to the land transfer notice and discussion provisions, DOE further agrees to provide Ecology and EPA with similar notice, within the same time frames, as to federal-to-federal transfer of property. DOE shall provide a copy of the executed deed or transfer assembly to Ecology and EPA.	No findings, no transfer/sale of land has taken place.
Miscellaneous Provision	DOE shall notify EPA and Ecology immediately upon discovery of any activity inconsistent with the OU-specific institutional control objectives for the Site.	No findings, no inconsistent activity discovered.

Table 2. Institutional Controls Requirements (Required through the Time of Completion of Remedy Construction) Listed in Record of Decision for 221-U Facility (Canyon Disposition Initiative).

Institutional Controls Category	Institutional Controls Requirement	2016 Status
Entry Restrictions	DOE shall control access to prevent unacceptable exposure of humans to contaminants at the 221-U Facility site addressed in the scope of this ROD until remedy construction is complete. Visitors entering any site areas are required to be badged and escorted at all times. See Figure 7 of the 221-U Facility ROD (US EPA 2005) for a site map showing the extent of the 221-U Facility site and the boundaries of the land-use controls. A more detailed map will be developed and included in the RD/RA work plan to be approved by EPA and Ecology.	No findings, access controls still in place.
Land-Use Management	No intrusive work shall be allowed at the 221-U Facility site unless the EPA and Ecology have approved the plan for such work and that plan is followed.	No findings, work plans are being/have been submitted for approval.
Land-Use Management	DOE shall prohibit well drilling at the 221-U Facility site except for monitoring, characterization, or remediation wells authorized in EPA-and Ecology-approved documents.	No findings, no unauthorized wells have been drilled.
Groundwater-Use Management	Groundwater use at the 221-U Facility site is prohibited, except for limited research purposes and monitoring and treatment authorized in EPA-and Ecology-approved documents. This prohibition applies until drinking water standards are achieved and EPA and Ecology authorize removal of restrictions. Decision documents for the 200-UW-1 Source Operable Unit and 200-UP-1 Groundwater Operable Unit as well as the Sitewide institutional controls plan will contain the institutional controls and implementing details prohibiting well drilling and groundwater use in the U Plant Area and portions of the 200 West Area as defined in those decision documents.	No findings, no unauthorized groundwater use has occurred.
Warning Notices	DOE shall post and maintain warning signs along access roads to caution site visitors and workers of potential hazards from the 221-U Facility site.	No findings, warning signs are in place.
Miscellaneous Provision	In the event of any unauthorized access to the site, such as trespass, DOE shall report such incidents to the Benton County Sheriff's Office for investigation and evaluation of possible prosecution.	No findings, no unauthorized access to the site has occurred.

Table 3. Institutional Controls Requirements Listed in Record of Decision Hanford 200 Area 200-ZP-1 OU Superfund Site Benton County, Washington (2 Sheets).

Institutional Controls Category	Institutional Controls Requirement	2016 Status
Entry Restrictions	The DOE shall control access to prevent unacceptable exposure of humans to contaminants in the 200-ZP-1 OU groundwater addressed in the scope of this ROD until the remedy is complete. Visitors entering any site areas of the 200-ZP-1 OU will be required to be badged and escorted at all times.	No findings, access controls are in place.
Land-Use Management	No intrusive work shall be allowed in the 200-ZP-1 OU unless EPA has approved the plan for such work and that plan is followed.	No findings, work plans are being/have been submitted for approval.
Land-Use Management	The DOE shall prohibit well drilling in the 200-ZP-1 OU, except for monitoring, characterization or remediation wells authorized in EPA approved documents.	No findings, no unauthorized wells have been drilled.
Groundwater-Use Management	Groundwater use in the 200-ZP-1 OU is prohibited, except for limited research purposes, monitoring, and treatment authorized in EPA approved documents. The <i>Sitewide Institutional Controls Plan</i> will contain the institutional controls and implementing details prohibiting well drilling and groundwater use in the 200-ZP-1 OU, as defined in the Decision document for the 200-ZP-1 OU.	No findings, no unauthorized groundwater use has occurred.
Warning Notices	The DOE shall post and maintain warning signs along pipelines conveying untreated groundwater that caution site visitors and workers of potential hazards from the 200-ZP-1 OU groundwater.	No findings, signs have been/will be installed along pipelines. (Figures 10-13)
Miscellaneous Provision	In the event of any unauthorized access to the site (e.g., trespassing), DOE shall report such incidents to the Benton County Sheriff's Office for investigation and evaluation of possible prosecution.	No findings, no unauthorized access to the site has occurred.
Land-Use Management	Activities that would disrupt or lessen the performance of the pump-and-treat, MNA (Monitored Natural Attenuation), and flow-path control components of the remedy are to be prohibited.	No findings, no activities have been implemented that would disrupt/lesson performance of remedy.
Land-Use Management	The DOE shall prohibit activities that would damage the pump-and-treat, MNA, and flow-path control components (e.g., extraction wells, injection wells, piping, treatment plant, or monitoring wells).	No findings, no activities have been implemented that would damage the remedy components.
Miscellaneous Provision	The DOE shall report on the effectiveness of institutional controls for the 200-ZP-1 OU remedy in an annual report, or on an alternative reporting frequency specified by EPA. Such reporting may be for this OU alone or may be part of a Hanford sitewide report.	No findings.

Table 3. Institutional Controls Requirements Listed in Record of Decision Hanford 200 Area 200-ZP-1 OU Superfund Site Benton County, Washington (2 Sheets).

Institutional Controls Category	Institutional Controls Requirement	2016 Status
Land-Use Management	The DOE will provide notice to EPA at least six months prior to any transfer or sale of the any land above the 200-ZP-1 OU so EPA can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective institutional controls. If it is not possible for DOE to notify EPA at least six months prior to any transfer or sale, then the DOE will notify EPA as soon as possible but no later than 60 days prior to the transfer or sale of any property subject to institutional controls. In addition to the land transfer notice and discussion provisions above, the DOE further agrees to provide EPA with similar notice, within the same time frames, as to federal-to-federal transfer of property. The DOE shall provide a copy of executed deed or transfer assembly to EPA.	No findings, no transfer/sale of land has taken place.
Land -Use Management	The DOE will prevent the development and use of property above the 200-ZP-1 groundwater OU for residential housing, elementary and secondary schools, childcare facilities and playgrounds.	No findings, no property development has taken place.
Land -Use Management	Land use controls will be maintained until cleanup levels are achieved and the concentrations of hazardous substances in groundwater are at such levels to allow for unrestricted use and exposure and EPA authorizes the removal of restrictions.	No findings, land use controls are still in place.



Figure 10. Warning Sign Southwest of 221-U Plant



Figure 11. Warning Sign East of 200 West P&T.



Figure 12. Warning sign at Camden and 23rd Street.



Figure 13. Beloit and 23rd Street.

Table 4. Institutional Controls Requirements (Required through the Time of Completion of Remedy Construction) Listed in Record of Decision for 200-CW-2 and 200-PW-1, 200-PW-3, and 200-PW-6 Operable Units.

Institutional Controls Category	Institutional Controls Requirement	2016 Status
Entry Restrictions	DOE shall controls access to prevent unacceptable exposure of humans to contaminants in the 200-CW-5 and 200-PW-1, 200-PW-3, and 200-PW-6 OU's. Visitors entering any of these OUs will be required to be badged and escorted at all time.	No findings, access controls still in place.
Warning Notices	DOE shall post and maintain warning signs at the waste sites in these OUs that caution visitors and workers of potential hazards from contaminants below the ground surface.	No findings, warning signs are in place.
Miscellaneous Provision	In the event of any unauthorized access to the site, such as trespass, DOE shall report such incidents to the Benton County Sheriff's Office for investigation and evaluation of possible prosecution.	No findings, no unauthorized access to the site has occurred.
Land-Use Management	DOE shall prohibit activities that are not industrial in nature, and prohibit drilling, excavation, or use of soil at these waste sites.	No findings.
Groundwater Use Management	DOE shall prohibit use of groundwater located beneath the 200-CW-5, 200-PW-1, 200-PW-3, and 200-PW-6 OUs for the foreseeable future until drinking water standards are achieved.	No findings, no use of groundwater as a drinking water standards.
Land-Use Management	DOE shall maintain the integrity of and prohibit activities that could damage or lessen the performance of required evapotranspiration caps and soil covers.	Not applicable at present time.

Table 4. Institutional Controls Requirements (Required through the Time of Completion of Remedy Construction) Listed in Record of Decision for 200-CW-2 and 200-PW-1, 200-PW-3, and 200-PW-6 Operable Units.

Institutional Controls Category	Institutional Controls Requirement	2016 Status
Miscellaneous Provision	DOE shall report annually on the effectiveness of ICs for the 200-CW-4 and 200-PW-1, 200-PW-3, and 200-PW-6 OUs as specified in the Hanford Sitewide Institutional Controls Plan or an alternative report reporting frequency specified by EPA.	No findings, ICs have been effective.
Land-Use Management	DOE will provide notice to EPA at least 6 months prior to any transfer or sale of any land in the 200-CW-1 and 200-PW-1, 200-PW-3, and 200-PW-6 so EPA can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for DOE to notify Ecology and EPA at least 6 months before any transfer or sale, DOE will notify Ecology and EPA as soon as possible, but no later than 60 days before the transfer or sale of any property subject to ICs. In addition to the land transfer notice and discussion provisions, DOE further agrees to provide Ecology and EPA with similar notice, within the same time frames, as to federal-to-federal transfer of property. DOE shall provide a copy of the executed deed or transfer assembly to Ecology and EPA.	Land has not been transferred or sold, no findings.
Land-Use Management	DOE will prevent the development and use of 200-CW-5, 200-PW-1, 200-PW-3, and 200-Pw-6 OUs for residential housing, elementary and secondary schools, childcare facilities, and playgrounds.	Development of land has not occurred, no findings.
Land-Use Management	Land-use controls will be maintained as long as the contamination remains at levels do not allow for unrestricted use and unlimited exposure and shall not be removed without the prior authorization of EPA.	Land use controls are still being maintained.

Table 5. *Institutional Controls Requirements Listed in EPA/ROD/R10-93/063 1993 Record of Decision 1100-EM-1, 1100-EM2, 1100-EM-3, and 1100-IU-1 Operable Units, Explanation of Significant Differences, Horn Rapids Landfill.*

Institutional Controls Category	Institutional Controls Requirement	2016 Status
Land-Use Management Entry Restrictions	Institutional controls are required to prevent human exposure to the landfill soil. DOE is responsible for establishing and maintaining land-use and access restrictions through fencing and signs.	No findings, land use access restriction still in place. Signage was update to reflect current requirements (Figure 12).
Land-Use management	Use of the landfill property or residential housing, elementary and secondary schools, or childcare facilities is prohibited the remedial activity without the lead agency's concurrence.	No findings, no activities have occurred.
Land-Use Management	In addition, measures necessary to ensure the continuation of this restriction will be taken in the event of any transfer or lease of the property before the final remedy is selected. A copy of the notification in a land-use plan will be given to any prospective purchaser/transfer before any transfer or lease. DOE will provide the Washington State Department of Ecology and U.S. Environmental Protection Agency notification at least six months prior to any transfer, sale or lease of the landfill property.	No findings.



Figure 12. Warning Sign at the Horn Rapids Landfill.

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ATTACHMENT 3

**Contract Deliverable CD0182
November 2016**

**2016 ANNUAL INSTITUTIONAL CONTROL ASSESSMENT
WASHINGTON CLOSURE HANFORD**

Consisting of 5 pages,
including this cover page

**2016 ANNUAL SITEWIDE INSTITUTIONAL CONTROL ASSESSMENT
WASHINGTON CLOSURE HANFORD**

Scope of Review:

Evaluation of River Corridor source waste sites:

- Trespass events at RCC waste sites
- Access control/entry restrictions
- Excavation control for active waste sites
- Field inspection of ICs
 - Required roadway signage on entrances to 300 Area Main Complex, 618-10, 100-F, and 300-288:2 Waste Site (Figure C-1, C-2, and C-3)
 - Shoreline signage inspected during August 2015 Columbia River RCRA Inspection.

Results:

- One public trespass event occurred, reported to Benton County Sherriff's Office as required by Sitewide IC Plan (Details of event are OOU)
- Badging system (access controls) in place and active
- Approved Excavation Permits in place and up to date for waste sites evaluated
- Required warning signs in place at roadway entrances
- Required shoreline signage in place at 100-H and 300 Area (Figure C-4)



Figure 1. 300 Area Main Complex Entrance.



Figure 2. 618-10 Entrance.



Figure 3. Warning Sign at 300-288:2 Entrance



Figure 4. 300 Area Shoreline Signs.



Figure 5. 100-D Shoreline Signs