

DOE/EA-1915

MITIGATION ACTION PLAN

PROPOSED CONVEYANCE OF LAND AT THE HANFORD SITE, RICHLAND, WASHINGTON

AGENCY: U.S. Department of Energy Richland Operations Office

ACTION: Mitigation Action Plan

SUMMARY: This Mitigation Action Plan (MAP) is an integral part of the Finding of No Significant Impact (FONSI) for the United States Department of Energy's (DOE) *Environmental Assessment for Proposed Conveyance of Land at the Hanford Site, Richland, Washington* (DOE/EA-1915). The Proposed Action would convey 1,641 acres of land on the Hanford Site, located in Richland, Benton County, Washington, from DOE ownership to the Tri-City Development Council (TRIDEC) for the purpose of economic development, pursuant to the *National Defense Authorization Act of 2015* (NDAA; Public Law 113-291), Section 3013.

In the Environmental Assessment (EA), DOE considered mitigation measures to avoid, minimize, rectify, or compensate for potential adverse environmental effects associated with the Proposed Action. DOE has made the decision to implement mitigation measures in the table below to better achieve an environmentally-preferable outcome.

Mitigation measures for the Proposed Action will be implemented through three mechanisms:

1) incorporation of applicable mitigation measures into the deed as deed restrictions and covenants, 2) performance of the agreed upon stipulations in the Memorandum of Agreement (MOA) resulting from the National Historic Preservation Act (NHPA) Section 106 process, and 3) completion of additional mitigation measures identified in this MAP by DOE. The three mechanisms (deed, MOA, and DOE additional mitigation measures) are interrelated and may contain exact or similar language. For example, many of the mitigation measures that are in the deed are also reflected in the MOA. It should also be noted that the mitigation measures in the MOA which address the adverse effects to specific individual historic properties and traditional cultural properties are not spelled out in detail in the MAP but are instead incorporated by reference. For further reference, the list of deed restrictions is included in the EA as Table 5-2, and the MOA is included in the EA as Appendix K.

As a means of enforcement, the deed includes a requirement for the Grantee¹ to submit an annual report to DOE regarding compliance with deed restrictions and any challenges encountered during the previous year. This information will be used in DOE's annual report on implementation of the MAP, which will be posted on DOE's National Environmental Policy Act (NEPA) website.

¹ The term "Grantee" means DOE's designated Community Reuse Organization, Tri-City Development Council, "TRIDEC," and includes the following partners of TRIDEC: the City of Richland, the County of Benton and the Port of Benton.

If you have any general questions about the MAP, please contact:

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MITIGATION MEASURES: The table below provides mitigation measures and implementation mechanisms.

Resource	Mitigation Measure Mechanism		
	DOE	Deed	MOA
Geology	To prevent disturbance to area hydrologic conditions that might affect transport of contaminants in the groundwater, the deed will prohibit mining.	Grantee is prohibited from mining the premises including extraction or production of any coal, oil, gas, geothermal steam, associated geothermal resources, aggregate and any other minerals.	Same as deed
Water	To prevent disturbance to area hydrologic conditions that might affect transport of contaminants in the groundwater, the deed will prohibit access to groundwater.	Grantee is prohibited from extracting, permitting to be extracted, consuming or otherwise accessing or utilizing any groundwater below the surface of the premises.	
	To enable DOE to conduct long-term groundwater monitoring, the deed will reserve DOE's right to access and operate its systems.	<ul style="list-style-type: none"> • Grantee is prohibited from altering, destroying or otherwise tampering with grantor's established roads or other access routes to all groundwater monitoring wells. • Grantee is prohibited from developing an alternate access road or other access route to all groundwater monitoring wells without receiving grantor's written permission, which will not unreasonably be withheld. • Grantee is prohibited from tampering with or damaging grantor's groundwater monitoring or remediation systems located on the premises. • Grantee is prohibited from access closer than twenty (20) feet around the periphery of grantor's groundwater monitoring wells and remediation systems, as delineated on the ground by grantor. The designated twenty (20) feet around each groundwater well and all remediation systems is for grantor's exclusive access only. • Grantee is prohibited from narrowing or shortening the minimum required width of ten (10) feet for the full length of all roads or other access routes or approved alternate access routes to grantor's groundwater wells. The designated roads or access routes to or from grantor's groundwater wells are non-exclusive in nature such that such roads and routes may be accessed by grantee, with the exception of the twenty (20) feet radius around each groundwater well, which is for grantor's access only. 	
	To prevent disturbance to water table conditions that might adversely affect the movement or other transportation of	Grantee is prohibited from placement of swales, ponds, and other storm water drainage facilities in the area between the following two lines: (a) line 1,969 feet (600	

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	groundwater contaminants or changes to the water table under existing landfills and disposal facilities, the deed will limit the location of stormwater drainage facilities.	meters) north of the centerline of Horn Rapids Road, and (b) line 15,781 feet (4,810 meters) north of the centerline of Horn Rapids Road.	
	To prevent disturbance to area hydrologic conditions that might affect transport of contaminants in the groundwater, the deed will limit the depth of excavations.	Any ground disturbance performed by the grantee resulting from construction activities, construction or installation of any piping or utility system component, drilling, digging or other any excavation, of whatsoever nature and type, on any portion of the premises is prohibited below a depth of twenty (20) feet (6.1 meters) from the surface of the ground, and prohibited within 6.6 feet (2 meters) of the groundwater whichever is most restrictive, except upon the express written permission of the grantor.	
Ecological	Enhance native vegetation communities to benefit migratory bird and pollinator habitats by planting native forbs at the 120-acre 100 C-7 backfill and re-vegetation site.		
	Collaborate with tribal nations to include an appropriate mixture of native shrubs, grasses and forbs in re-vegetation projects identified in the MOA for the land conveyance project.		
	Identify the swale habitats located in the PAAL and described in the EA for protection within the larger area designated for industrial uses under the Comprehensive Land Use Plan. Provide administrative protection from disturbance from future projects or management actions consistent with the CLUP management plans, including the Hanford Biological Resources Management Plan (BRMP). Identify the swale habitats as BRMP Level 4 habitat based upon the documented intensity of pollinator use and unique vegetation assemblages.		
	Conduct a Pollinator Habitat study for the Hanford Site, focusing on identifying pollinator species and the plants and habitats they require for their life cycle. The study shall provide data and recommendations needed to carry out habitat enhancement, proper management, and collaboration with other agencies and institutions to ensure this valuable resource is protected. Following the initial study, incorporate pollinator and habitat surveys into the Hanford Site ecological monitoring program.		
	To protect migratory birds and pollinators, the deed will prohibit Concentrated Solar Power technology on the conveyed lands.	Grantee is prohibited from constructing and operating a CSP Solar Farm System on the premises.	Same as deed
	Install burrowing owl boxes in a location to be determined in consultation with the U.S. Fish and Wildlife Service and the Washington Department of Fish and Wildlife, for the		

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	purposes of supporting new colonies or enhancing existing colony habitat on the Hanford Site.		
	To protect migratory birds and their habitats, the deed will include a covenant that bird-friendly building design would be incorporated into buildings, structures, and improvements to the extent it is reasonably practical to do so.	Grantee covenants that it will incorporate bird-friendly building design into grantee's design for buildings, structures and improvements on the premises to the extent it is reasonably practical to do so.	
	To minimize the potential for wildfire, the deed will include a covenant requiring special consideration for the placement of combustible materials.	Grantee agrees that within the immediate landscaped area (from the structure to approximately 30 feet), special consideration should be given that any combustible materials (e.g., lawn furniture, litter, and construction materials) should be removed or reduced in an effort to protect property (e.g., wildlands, buildings, and equipment) by minimizing fire risk.	
Historic Properties and Cultural	Through the NHPA process, DOE has completed NHPA Section 106 consultation with all consulting parties and has reached an MOA that includes measures to avoid, minimize, or mitigate potential adverse effects to historic properties, traditional cultural properties (TCPs) and cultural resources. (See Appendix K of the EA, "Memorandum of Agreement.") Furthermore, the MOA contains the language to be used for various deed restrictions related to development of the site, which would mitigate potential effects (see also deed restrictions and covenants table above). Through the MOA, DOE has agreed to implement a number of general mitigation measures that will apply to the transferred land parcels. DOE will also implement specific mitigation measures for the individual historic properties, TCPs, and cultural resources as indicated in the MOA. Not all mitigation requires funding, but DOE will fund mitigation as agreed to and will allow tribes to use cooperative agreement funds as indicated in the MOA. The MOA addresses who is responsible for these mitigation measures and when these measures will be implemented. DOE will continue to consult with tribes regarding the land conveyance as tribes may determine topics for consultation under DOE's Native American Indian Policy and Order 144.1, Department of Energy	Grantor requires Grantee's acoustic and noise signature on the premises will not exceed current Washington State standards and exemptions for Class C industrial areas. ²	Same as deed
		The Grantee, its successors and assigns, covenants and agrees to restrict or prohibit activities on the premises that generate vibration in excess of the PNNL Vibration Standard and the LIGO Vibration Standard described below: (1) <u>PNNL Vibration Standard</u> . The parties are in agreement that, after the date of this conveyance, vibration impacts arising from the premises shall be limited such that: a. Any Heavy Reciprocating Machinery must be at least three (3) kilometers from the PNNL Site boundary b. Any Balanced Non-Reciprocating Industrial Machinery must be at least one (1) kilometer from the PNNL Site boundary c. Activities on the premises that result in vibrations created by continuous and/or routine blasting are prohibited. To the extent any uncertainty arises with respect to the application of this vibration standard for non-routine blasting, Article 12, Periodic Discussions and Development Plans, of Exhibit I of this Quitclaim Deed shall be utilized to mitigate those non-routine blasting activities. (2) <u>LIGO Vibration Standard</u> . The parties are in agreement that, after the date of this conveyance, vibration (dependent on frequency) emanating from the premises shall be consistent with non-reciprocating power plant machinery or balanced industrial machinery operating above 300 RPM (5Hz) or must meet the following specifications below 300 RPM (5 Hz):	Same as deed

² The noise, vibration, and EMF standards may be revised or removed if the Grantor, Grantee, PNNL, LIGO, and Tribes agree.

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American Indian Tribal Government Interactions and Policy.		<p>a. In the frequency range from 0.3 Hz to 1.5 Hz, ground vibration levels as measured 100 meters from the source should not exceed 0.3 micrometers/sec/root (Hz). For example, in the frequency band from 0.5 Hz to 1.5 Hz this would be equivalent to a vibration level of 0.3 micrometers/sec RMS.</p> <p>b. In the frequency range from 1.5 Hz to 2.5 Hz, ground vibration levels as measured 100 meters from the source should not exceed 0.3 micrometers/sec/root (Hz). For example, in the frequency band from 1.5 Hz to 2.5 Hz this would be equivalent to a vibration level of 0.3 micrometers/sec RMS.</p> <p>c. In the frequency range from 2.5 Hz to 3.5 Hz, ground vibration levels as measured 100 meters from the source should not exceed 0.5 micrometers/sec/root (Hz). For example, in the frequency band from 2.5 Hz to 3.5 Hz this would be equivalent to a vibration level of 0.5 micrometers/sec RMS.</p> <p>d. In the frequency range from 3.5 Hz to 5 Hz, ground vibration levels as measured 100 meters from the source should not exceed 2.5 micrometers/sec/root (Hz). For example, in the frequency band from 3.5 Hz to 5 Hz this would be equivalent to a vibration level of 3 micrometers/sec RMS.</p> <p>e. These vibration levels should be compatible with operation of motor vehicles driven on smooth pavement. However trucks driven off-pavement, over pavement in poor repair, or over speed bumps would likely cause these vibration levels to be exceeded.</p> <p>f. Reciprocating power-plant machinery, rock crushers and heavy machinery would likely cause these vibration levels to be exceeded.²</p>	
		<p>Grantee agrees to restrict or prohibit activities on the premises that generate electrical field (EF) and magnetic (M) interferences in excess of the EF/M Interference Standard described below.</p> <p>EF/M Interference Standard. The parties are in agreement that, after the date of this deed transfer, all intentional radiators on the premises shall not exceed the Federal Communications Commission Standard at 47 CFR Part 15, Subpart C.²</p>	Same as deed
		<p>By acceptance of this deed, the Grantee covenants and agrees to restrict or prohibit activities on the premises that cause airborne radionuclide emissions in excess of the Natural Occurrences and Radionuclide Emissions Standards described below.</p> <p>Radionuclide Emissions Standard. The Grantee is prohibited from activities on the premises creating or otherwise causing emissions into the airborne environment arising from the possession, use or discharge from any fissionable material, fission products or activation products.</p>	
		<p>Grantee is required to provide access to the premises prior to its development to members of the Confederated Tribes</p>	Same as deed

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		and Bands of the Yakama Nation, Confederated Tribes of the Umatilla Indian Reservation, the Nez Perce Tribe and the Wanapum Band of Indians (collectively “tribes”) for tribal activities. An access agreement will be developed between the tribes and the land owners to facilitate access.	
		Grantee is required to comply with Washington State laws for cultural resource protection: (1) Indian Graves and Records Act (RCW 27.44); (2) Archaeological Sites and Resources Act (RCW 27.53); (3) Abandoned and Historic Cemeteries and Historic Graves Act (RCW 68.60); (4) Archaeological Excavation and Removal permit process (WAC 25-48); and (5) Human Remains (RCW 68.50).	Same as deed
		Grantor retains ownership of all pre-contact archeological materials. Grantee is required to return all pre-contact archeological material to grantor for relocation in consultation with tribes.	Same as deed
		Grantee is required to return any and all contaminated pre-contact artifacts or human remains found on the premises to grantor for tribal consultation and reburial on the Hanford Site.	Same as deed
		This restriction has been put in place to set forth the required protocol, in the event that Grantee does not comply with one or more deed restrictions of the Quitclaim Deed.	Same as deed
		The Grantee shall implement the Cultural Resource Protection Protocol. The Cultural Resource Protection Protocol can be amended as agreed to between Grantee and the tribes. (See Appendix K, MOA).	Same as deed
Visual	To carry out specific provisions of the MOA, the deed will include restrictions and covenants regarding the height and color of buildings and the use of native plants in landscaping.	<ol style="list-style-type: none"> 1. The Grantee agrees that the height of buildings that are constructed on the conveyed land will not exceed the height limits that are authorized pursuant to Chapter 23.28.030 of the Richland Municipal Code (RMC); as amended. Grantee agrees that it shall not seek a waiver of the height limitations contained in these provisions of the RMC by utilizing the variance provisions of RMC 23.70.150, or by application of any other process that may allow the Grantee to construct a building with a height greater than that explicitly allowed by RMC Chapter 23.28.030. 2. The Grantee agrees that buildings (including roofs) will be finished in colors that are non-reflective and that emulate those of the natural surroundings. 3. The Grantee agrees to xeriscaping utilizing native plants to lessen impacts to adjacent plant communities and eliminate need for supplemental watering. 	Same as deed