



## Department of Energy

West Valley Demonstration Project

### POLICY, PROCEDURE AND PLAN

NO: QP-450-01 REV: 2 DATE: 10/22/2020

SUBJECT: Management of Environmental  
Media - Phase 1 Decommissioning  
of the West Valley Demonstration  
Project

APPROVED:   
DOE-WVDP Director

#### 1.0 PURPOSE

The purpose of this policy is to establish the guidelines for managing environmental media such as surface soil, subsurface soil, streambed sediment, groundwater, vegetation, and fauna that is to be excavated, pumped, removed, or trapped, as applicable, during the execution of Phase 1 Decommissioning activities and other site operations within the West Valley Demonstration Project (WVDP) premises.

#### 2.0 SCOPE

This policy applies to Department of Energy (DOE) WVDP staff and to DOE-WVDP contractors and their subcontractors involved with implementing Phase 1 Decommissioning activities and other WVDP site operations. Phase 1 Decommissioning activities are described in the *Phase 1 Decommissioning Plan for the West Valley Demonstration Project, Revision 2 (DP)*. WVDP site operations other than the Phase 1 Decommissioning activities identified in the DP may also require the management of environmental media, such as soil to be excavated within the project premises.

#### 3.0 REQUIREMENTS & REFERENCES

##### 3.1 Requirements

- 3.1.1 DOE O 435.1 Chg. 1 (PgChg) – Radioactive Waste Management
- 3.1.2 DOE M 435.1-1 Chg. 2 (Admin Chg) – Radioactive Waste Management Manual
- 3.1.3 West Valley Demonstration Project Act of 1980 (Public Law 96-368)
- 3.1.4 Phase 1 Decommissioning Plan for the West Valley Demonstration Project, Revision 2, U.S. Department of Energy, West Valley, New York, December, 2009
- 3.1.5 Phase 1 Characterization Sampling and Analysis Plan for the West Valley Demonstration Project, Revision 1, U.S. Department of Energy, West Valley, New York, June 2011
- 3.1.6 DOE O 458.1 Chg. 4 (LtdChg) – Radiation Protection of the Public and the Environment

##### 3.2 References

- 3.2.1 QP-253-02 – Glossary of Terms and Definitions
- 3.2.2 USEPA Region II Administrative Order on Consent, Docket No. II RCRA 3008(h) – 92-0202

- 3.2.3 6 NYCRR Part 371 - Identification and Listing of Hazardous Waste
- 3.2.4 6 NYCRR Part 373-3 - Hazardous Waste Permit Application (RCRA Part A Permit) February 3, 2010
- 3.2.5 Phase 1 Final Status Survey Plan for the West Valley Demonstration Project

#### **4.0 DEFINITIONS**

See QP-253-02, "Glossary of Terms and Definitions."

#### **5.0 RESPONSIBILITIES**

- 5.1 DOE-WVDP Director – Responsible for ensuring that this environmental media management policy is implemented at the WVDP. The DOE-WVDP Director is the Field Element Manager for the WVDP.
- 5.2 DOE-WVDP Deputy Director - Responsible for oversight of WVDP contractors performing work associated with the implementation of this environmental media management policy. Ensures that the implementation of this policy is performed consistent with DOE, Federal, state, and local safety, health, quality assurance, and environmental requirements, regulations, and laws.
- 5.3 DOE-WVDP Regulatory Strategy and Environmental Compliance Team – Responsible for ensuring that the management of environmental media generated under this policy meets the requirements of the WVDP Act, DOE Orders, Federal regulations and statutes such as the National Environmental Policy Act (NEPA), Resource Conservation and Recovery Act (RCRA), and U.S. Nuclear Regulatory Commission (NRC) regulations, New York State regulations such as the State Environmental Quality Review Act (SEQRA), and West Valley specific requirements such as the Phase 1 Decommissioning Plan for the West Valley Demonstration Project.
- 5.4 DOE-WVDP Project Managers– Responsible for the management and oversight of the field activities associated with the implementation of this environmental media management policy. Makes regular visits to assigned project work areas for purposes of monitoring and verifying progress status and completion.

#### **6.0 GENERAL INFORMATION**

The Phase 1 Decommissioning of the WVDP will involve the removal and off-site disposal of structures such as the Main Plant Process Building and Vitrification Facility, and the excavation and disposal of large volumes of contaminated and non-contaminated soil within the project premises. Phase 1 Decommissioning activities are described in the DP. WVDP site operations other than the Phase 1 Decommissioning activities identified in the DP may also require the excavation of soil within the project premises. Examples of WVDP site operations that may require excavation of soil include maintenance of site infrastructure, and construction activities such as the construction of buildings and concrete storage pads within the WVDP project premises. DOE-WVDP considers an excavation as any action resulting in man-made cuts, cavities, trenches, or depressions in the existing ground surface, formed by removal of material.

As described in the DP, Phase 1 Decommissioning activities are confined to the WVDP premises (Attachment A) and include removal and off-site disposal of the following:

- The Main Plant Process Building, Vitrification Facility, 01-14 Building, Utility Room/Utility Room Expansion, and the Plant Office Building in Waste Management Area (WMA) 1;
- Soil underlying the Main Plant Process Building and Vitrification Facility in WMA 1 including the source area of the North Plateau Plume, which is referred to as the WMA 1 excavation (Attachment B);
- The neutralization pit, interceptors, solvent dike, Lagoons 1, 2, and 3, and associated soils in WMA 2 which is referred to as the WMA 2 excavation (Attachment C);
- Lagoons 4 and 5;
- Gravel and concrete pads across the project premises, including those located over the non-source area of the North Plateau Groundwater Plume; and
- Balance of Site Facilities.

Phase 1 Decommissioning does not include the underground waste storage tanks in WMA 3, the Construction Demolition and Debris Landfill (CDDL) in WMA 4, the NRC-licensed Disposal Area (NDA) in WMA 7, or the subsurface contamination at depths greater than 1 meter (3.3 ft.) below grade associated with the non-source area of the North Plateau Groundwater Plume. These Phase 2 areas will be addressed during Phase 2 Decommissioning of the WVDP.

In this policy, Phase 1 areas refer to the entire project premises with the exception of the Phase 2 areas identified above.

The DP identified wide area Derived Concentration Guideline Levels (DCGL<sub>w</sub>) for 18 radionuclides of interest (ROI) that meet the U.S. Nuclear Regulatory Commission (NRC) unrestricted release criteria (25 mrem/year) for surface soil and streambed sediment within the project premises, and for subsurface soil in the WMA 1 and WMA 2 excavations. Wide area cleanup goals (CG<sub>w</sub>) were also developed for surface soil, subsurface soil, and streambed sediment for the 18 ROI that are more conservative than the 25 mrem/year DCGL<sub>w</sub> (Attachment D).

The CG<sub>w</sub> were developed for individual ROI to guide Phase 1 remediation in Phase 1 areas of the project premises. In areas with multiple ROI, a sum-of-the-fractions (SOF) approach as described in NUREG-1575, Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM), will be taken to evaluate if soil and sediment meet the NRC unrestricted release criteria. The DCGL<sub>w</sub> and CG<sub>w</sub> for surface soil, subsurface soil, and streambed sediment may be revised if additional soil and sediment data collected during Phase 1 sampling activities indicates that the original conceptual models require revision.

The *Phase 1 Characterization Sampling and Analysis Plan for the West Valley Demonstration Project, Revision 1*, (CSAP) also identified 12 potential radionuclides of interest (PROI) which are listed in Attachment E. However, DCGL<sub>w</sub> and CG<sub>w</sub> have not been developed for the 12 PROI. If soil characterization activities find the 12 PROI to be significant dose contributors, DCGL<sub>w</sub> and CG<sub>w</sub> will be developed for the 12 PROI.

Phase 1 Decommissioning activities and WVDP site operations may also require the management of other environmental media, such as groundwater, surface water, streambed sediment, vegetation, and fauna. This policy identifies the management options for environmental media that will be generated during the implementation of Phase 1 Decommissioning activities and WVDP site operations.

## **7.0 PROCEDURE**

Environmental media covered under this policy includes surface soil, subsurface soil, streambed sediment, groundwater, vegetation, and fauna. The offsite disposal of environmental media described in this policy will be in accordance with requirements in DOE O 458.1, DOE O 435.1, DOE M 435.1-1 (as identified in Section 3.1), and all applicable Federal, state, and local requirements. It is the intent of DOE-WVDP that in situ soils be sampled and characterized prior to or during excavation depending on the nature and timing of the excavation activity. For planned construction projects and major soil remediation excavation projects with long scheduled lead times, in situ soils will be sampled and characterized prior to

excavation. For site maintenance operations requiring immediate excavation, in situ soils will be sampled during excavation.

## 7.1 Management of Surface Soil to be Excavated within the Project Premises

Phase 1 Decommissioning activities and other WVDP site operations may require the excavation of surface soil within the project premises. The DP defines surface soils as soil extending from the ground surface down to a depth of 1 meter (3.3 feet). Surface soil also includes the soil/sediment within shallow drainage ditches within the project premises and those portions of Erdman Brook and Franks Creek located in broad flat, U-shaped valleys as described in the DP.

### 7.1.1 Management of Surface Soil to be Excavated in Phase 1 Areas of the Project Premises

Phase 1 Decommissioning activities will include the removal of gravel pads, concrete pads and their associated foundations, and soils underlying these pads to a maximum depth of 0.67 meters (2 ft).

DOE-WVDP may decide to remediate surface soil within Phase 1 areas of the project premises during Phase 1 Decommissioning where radiological contamination does not extend deeper than 1 meter. However, DOE-WVDP may decide to delay the remediation of surface soil in Phase 1 areas to Phase 2 Decommissioning.

Surface soils to be excavated from Phase 1 areas as part of Phase 1 Decommissioning activities and other WVDP site operations **SHALL** be characterized in accordance with approved contractor procedures for radiological parameters, including the 18 ROI and 12 PROI identified in Attachment E, and **SHALL** be managed in the following manner:

- Surface soil to be excavated within the proposed Phase 1 WMA 1 (Attachment B) and WMA 2 (Attachment C) excavations to support WVDP site operations upon DOE-WVDP review and approval, may be returned to the excavation, staged in a pile, or re-used within the boundaries of the proposed WMA 1 and WMA 2 excavations. The surface soil and subsurface soil within the proposed Phase 1 WMA 1 and WMA 2 excavations will eventually be excavated and disposed of at offsite disposal facilities during the completion of Phase 1 Decommissioning.
- Surface soil to be excavated in Phase 1 areas outside of the proposed WMA 1 and WMA 2 excavations that exceeds the Phase 1 surface soil  $CG_w$  (Attachment D) **SHALL** be packaged and disposed of at an authorized offsite disposal facility within one (1) year of generating the excavated soil, or managed as otherwise authorized by the DOE-WVDP Field Element Manager.

If the surface soil to be excavated does not exceed the Phase 1 surface soil  $CG_w$  pending DOE-WVDP review and approval, it may either be returned to the excavation, staged in a pile in the immediate vicinity of the excavation, or re-used onsite. For all on-site soil replacement/staging/ re-use requests, the DOE contractor SHALL, at a minimum, provide DOE-WVDP the following information: volume, texture, and radiological characterization data of soil to be replaced/staged/ re-used, the proposed relocation area and its associated surface soil radiological characterization data, schedule, equipment requirements, and cost. DOE-WVDP may also request additional information at its discretion.

The final disposition of these replaced, staged, and re-used soils **SHALL** be fully documented, including their radionuclide inventory. The surface soils in the area where these excavated soils will be staged or used will also be characterized for the radiological parameters identified in Attachment E. This information will be preserved in a retrievable system that will allow a future determination as to where these soils were replaced, staged, or re-used in the event their removal is required during Phase 2 Decommissioning.

Replacement, staging, and re-use of soil on-site **SHALL** be in compliance with all applicable Federal and New York regulations and DOE Orders. Excavated soil will not be staged or re-used in areas of the WVDP that have been released in accordance with requirements identified in the Phase 1 Final Status Survey Plan for the WVDP (FSSP).

### **7.1.2 Management of Surface Soil to be Excavated in Phase 2 Areas of the Project Premises**

Surface soil within Phase 2 areas of the project premises will not be remediated during Phase 1 Decommissioning. However, surface soil may be excavated in Phase 2 areas to support other WVDP site operations.

Phase 2 DCGL<sub>w</sub> and CG<sub>w</sub> have not been developed for surface soils in Phase 2 areas. However, surface soils to be excavated from these areas **SHALL** be characterized for the 18 ROI and 12 PROI identified in Attachment E and **SHALL** be managed in the following manner:

- Surface soil excavated from Phase 2 areas may be returned to the excavation. Any excess soil which cannot be returned to the original excavation as a result of new infrastructure additions, **SHALL** be characterized in accordance with approved contractor procedures, packaged, and disposed of at an authorized offsite disposal facility within one (1) year of generating the excavated soil, or managed as otherwise authorized by the DOE-WVDP Field Element Manager.

### **7.1.3 DOE Actions in Response to Surface Soils Exceeding the Phase 1 Surface Soil CG<sub>w</sub>**

In the event that soil characterization activities identify surface soils that exceed the Phase 1 surface soil CG<sub>w</sub>, DOE-WVDP will utilize the terms of the Consent Decree in New York, et al v. United States, et al, No. 06-CV-810 (W.D.N.Y.) in order to make an evaluation as to the allocation of Future Remedy Costs between the parties.

## **7.2 Management of Subsurface Soil to be Excavated within the Project Premises**

The DP defines subsurface soil as soil located at depths greater than one meter (3.3 feet) below the ground surface. During the latter stages of Phase 1 Decommissioning, a large volume of surface and subsurface soil will be excavated from the proposed WMA 1 (Attachment B) and WMA 2 (Attachment C) excavations after the Main Plant Process Building and Vitrification Facility have been demolished to grade. The WMA 1 and WMA 2 excavations will extend into the Lavery till to depths up to 50 feet below grade in the North Plateau of the WVDP.

### **7.2.1 Management of Subsurface Soil to be Excavated from the WMA 1 and WMA 2 Excavations**

Subsurface soil to be excavated from the proposed WMA 1 (Attachment B) and WMA 2 (Attachment C) excavations **SHALL** be characterized for the 18 ROI and 12 PROI identified in Attachment E and **SHALL** be managed in the following manner:

- In the event that WVDP site operations require the excavation of subsurface soil from within the proposed WMA 1 and WMA 2 excavations before the start of the Phase 1 WMA 1 and WMA 2 soil excavation work (i.e., Phase 1B), all subsurface soil may be returned to the excavation and covered with surface soil removed from the excavation. Any excess soil which cannot be returned to the original excavation as a result of new infrastructure additions, **SHALL** be characterized in accordance with approved contractor procedures, packaged, and disposed of at an authorized offsite disposal facility within one (1) year of generating the excavated soil, or managed as otherwise authorized by the DOE-WVDP Field Element Manager. The surface soil and subsurface soil within the WMA 1 and WMA 2 excavations will eventually be excavated and disposed of at offsite disposal facilities during the completion of Phase 1 Decommissioning.
- All subsurface soil excavated from the Phase 1 WMA 1 and WMA 2 excavations during the later stages of Phase 1 Decommissioning after the Main Plant Process Building and Vitrification Facility have been demolished to grade (i.e., Phase 1B), **SHALL** be characterized in accordance with approved contractor procedures for radiological and chemical parameters to meet the designated disposal facility's waste acceptance criteria (WAC). The excavated soil **SHALL** be packaged and disposed of at an authorized offsite disposal facility within one (1) year of generating the excavated soil, or managed as otherwise authorized by the DOE-WVDP Field Element Manager.

#### 7.2.2 Management of Subsurface Soils to be Excavated from Phase 1 Areas Outside of the WMA 1 and WMA 2 Excavations

Phase 1 Decommissioning activities do not include the removal of any subsurface soil in Phase 1 areas outside of the proposed WMA 1 (Attachment B) and WMA 2 (Attachment C) excavations. However, subsurface soil may need to be excavated in Phase 1 areas outside of the proposed WMA 1 and WMA 2 excavations to support WVDP site operations and construction activities.

Phase 1 CG<sub>w</sub> have not been developed for subsurface soils in Phase 1 areas outside of the proposed WMA 1 and WMA 2 excavations. However, subsurface soils to be excavated from these areas **SHALL** be characterized for the 18 ROI and 12 PROI identified in Attachment E and **SHALL** be managed in the following manner:

- Subsurface soil to be excavated during WVDP site operations in Phase 1 areas outside of the WMA 1 and WMA 2 excavations **SHALL** be characterized for the 18 ROI and 12 PROI identified in Attachment E in accordance with approved contractor procedures. Soil that exceeds the Phase 1 surface soil CG<sub>w</sub> **SHALL** be packaged and disposed of at an authorized offsite disposal facility within one (1) year of generating the excavated soil, or managed as otherwise authorized by the DOE-WVDP Field Element Manager.

If the subsurface soil to be excavated does not exceed the Phase 1 surface soil CG<sub>w</sub> it may either be, pending DOE-WVDP review and approval, returned to the excavation, staged in a pile in the immediate vicinity of the excavation, or re-used onsite. For all on-site soil replacement/staging/ re-use

requests, the Phase 1 Decommissioning contractor SHALL, at a minimum, provide DOE-WVDP the following information: volume, texture, and radiological characterization data of the soil to be replaced/staged/ re-used, the proposed relocation area and its associated surface soil radiological characterization data, schedule, equipment requirements, and cost. DOE-WVDP may also request additional information at its discretion.

The final disposition of these replaced, staged, and re-used soils **SHALL** be fully documented, including their radionuclide inventory. The surface soils in the area where these excavated soils will be staged or used will also be characterized for the radiological parameters identified in Attachment E. This information will be preserved in a retrievable system that will allow a future determination where these soils were placed, staged, or re-used in the event their removal is required during Phase 2 Decommissioning.

Replacement, staging, and re-use of soil on-site **SHALL** be in compliance with all applicable Federal and New York regulations and DOE Orders. Excavated subsurface soil will not be staged or re-used in areas of the WVDP that have been released in accordance with requirements identified in the FSSP.

### 7.2.3 Management of Subsurface Soils to be Excavated from Phase 2 Areas

Phase 2 DCGL<sub>w</sub> and CG<sub>w</sub> have not been developed for subsurface soils. However, subsurface soils to be excavated from Phase 2 areas during WVDP site operations **SHALL** be characterized for the 18 ROI and 12 PROI identified in Attachment E and **SHALL** be managed in the following manner:

- Subsurface soil excavated from Phase 2 areas may be returned to the excavation and covered with surface soil removed from the excavation. Any excess soil which cannot be returned to the original excavation as a result of new infrastructure additions, **SHALL** be characterized in accordance with approved contractor procedures, packaged, and disposed of at an authorized offsite disposal facility within one (1) year of generating the excavated soil, or managed as otherwise authorized by the DOE-WVDP Field Element Manager.

### 7.2.4 DOE Actions in Response to Subsurface Soils Exceeding the Phase 1 Surface Soil CG<sub>w</sub>

In the event that soil characterization activities identify subsurface soils that exceed the Phase 1 surface soil CG<sub>w</sub>, DOE-WVDP will utilize the terms of the Consent Decree in New York, et al v. United States, et al, No. 06-CV-810 (W.D.N.Y.) in order to make an evaluation as to the allocation of Future Remedy Costs between the parties.

## 7.3 Management of Streambed Sediment within the Project Premises

Streambed sediment refers to the sediment within Erdman Brook and Franks Creek within the project premises. Streambed sediment does not refer to the soil/sediment within the shallow drainage ditches within the project premises which are considered surface soil. Any soil excavated from these drainage ditches during Phase 1 Decommissioning will be managed as surface soil or as subsurface soil if the excavation is deeper than 1 meter (3.3 ft).

### 7.3.1 Management of Streambed Sediment during Phase 1 Decommissioning

There are currently no plans to excavate streambed sediment from Erdman Brook or Frank's Creek as part of Phase 1 Decommissioning. If DOE-WVDP decides to excavate streambed sediment as part of Phase 1 Decommissioning, the DP **SHALL** require revision.

### 7.3.2 Management of Streambed Sediment to be Excavated During Other WVDP Site Operations

Streambed sediment within the project premises may need to be excavated to support WVDP site operations such as the removal of streambed sediment from the area of the Parshall flume located where Franks Creek exits the project premises.

Streambed sediment to be excavated to support WVDP site operations **SHALL** be managed in the following manner:

- All streambed sediment excavated to support WVDP site operations **SHALL** be characterized for the 18 ROI and 12 PROI identified in Attachment E and the radiological and chemical parameters to meet the designated disposal facility's WAC, packaged, and disposed of at an authorized offsite disposal facility within one (1) year of generating the excavated streambed sediment, or managed as otherwise authorized by the DOE-WVDP Field Element Manager.

## 7.4 Management of Groundwater within the Project Premises

WVDP site operations and Phase 1 Decommissioning actions have the potential for generating significant volumes of groundwater that may contain radiological or chemical constituents. Potential sources of this groundwater include:

- Dewatering operations associated with the large WMA 1 and WMA 2 excavations;
- Continued operation of the NDA Interceptor Trench; and
- Continued operation of the WMA 3 dewatering well.

The WVDP currently monitors groundwater quality within the project premises in accordance with the long-term groundwater monitoring requirements of the WVDP's Resource Conservation and Recovery Act (RCRA) 3008(h) Administrative Order on Consent and the 6NYCRR Part 373-3 Hazardous Waste Permit Application (RCRA Part A Permit).

All groundwater collected within the project premises during Phase 1 Decommissioning activities and other WVDP site operations **SHALL** be characterized in accordance with approved contractor procedures for radiological and chemical parameters to evaluate the management of this groundwater.

- The source of the collected groundwater within the project premises **SHALL** be identified and the groundwater analyzed for the radiological and chemical parameters as approved by DOE-WVDP for that source location.
- The radiological and chemical concentrations in the collected groundwater will be compared to on-site background groundwater concentrations in the appropriate hydrological unit (i.e. Sand and Gravel Unit, Weathered Lavery till, etc.) to determine management options including:
  - Groundwater with radiological concentrations exceeding site background concentrations **SHALL** be transferred to the Low-Level (liquid) Waste Treatment Facility (LLW2), or its replacement, for treatment before discharge through the



State Pollutant Discharge Elimination System (SPDES) permitted discharge to Erdman Brook.

- Groundwater with radiological concentrations within site background concentrations will be directed to the SPDES-permitted discharge to Erdman Brook without treatment at the LLW2 or its replacement.
- At present, process knowledge and groundwater data does not indicate the presence of RCRA-listed or characteristic waste in groundwater within the project premises. If chemical sampling results indicate the presence of chemical parameters of concern, an evaluation will be made of the need to manage the groundwater as a RCRA hazardous or mixed-waste.

## 7.5 Management of Vegetation within the Project Premises

This policy applies to vegetation within the project premises that requires removal to complete planned Phase 1 Decommissioning activities or other WVDP site operations. However, this policy does not apply to routine site landscaping activities such as lawn mowing or brush trimming within the project premises. Vegetation refers to aquatic and terrestrial plant life including, but not limited to, grasses, bushes, cattails, and trees within the project premises.

### 7.5.1 Management of Vegetation Requiring Removal

Vegetation within the project premises requiring removal to complete WVDP site operations or planned Phase 1 Decommissioning activities **SHALL** be radiologically surveyed in accordance with approved contractor procedures to determine the need for radiological control.

- If the vegetation is not in a radiologically posted buffer area or contamination area, the vegetation **SHALL** be removed and relocated to the DOE-WVDP approved natural vegetation decay area within the project premises.
- If the vegetation is in a radiologically posted buffer area or contamination area, the vegetation **SHALL** be disposed of at an appropriate offsite radioactive waste disposal facility as putrescible radioactive waste in accordance with approved contractor procedures and with the disposal facility's WAC, or managed as otherwise authorized by the DOE-WVDP Field Element Manager.

## 7.6 Management of Animals within the Project Premises

This policy applies to animals within the project premises, including nuisance animals requiring removal from the project premises. Animals include mammals, birds (and their associated nests), and reptiles within the project premises. This policy **SHALL** apply to animals that have been captured alive or found dead within the project premises.

The capturing and handling of live and dead animals within the project premises **SHALL** be performed by New York State Department of Environmental Conservation licensed Nuisance Wildlife Control Operators (NWCO) trained in all aspects of animal control activities. The capturing, handling, and disposition of animals within the project premises **SHALL** be performed in accordance with approved contractor procedures.

### 7.6.1 Disposition of Live Trapped Animals

Live trapped animals within the project premises **SHALL** be radiologically surveyed in accordance with approved contractor procedures to determine the need for radiological control.

- If the live animal is not radiologically contaminated the animal **SHALL** be relocated and released to property outside the project premises in accordance with an approved contractor procedure. If the trapped animal is a cat or dog, attempts will be made to find the owner. If the owner cannot be found, the cat or dog will be sent to a local animal shelter. If a local animal shelter cannot be found to accept the cat or dog, the animal will be euthanized by a veterinarian and disposed of properly.
- If the live animal is radiologically contaminated and requires radiological control precautions, a decision will be made by contractor personnel to decontaminate the animal. If the animal cannot be decontaminated, it **SHALL** be euthanized by a veterinarian or a WVDP NWCO and disposed of at an appropriate offsite radioactive waste disposal facility as putrescible radioactive waste. If the animal can be decontaminated, and it is a dog or a cat, attempts will be made to find the owner. If the owner cannot be found, the decontaminated cat or dog will be sent to a local animal shelter. If a local animal shelter cannot be found to accept the cat or dog, the animal will be euthanized by a veterinarian, WVDP NWCO, or offsite Humane Society and disposed of properly. Decontaminated animals other than dogs or cats will be relocated and released to property outside the project premises.

### 7.6.2 Disposition of Dead Animals

Dead animals found within the project premises **SHALL** be radiologically surveyed in accordance with approved contractor procedures to determine the need for radiological control.

- If the animal is not radiologically contaminated and was not in a radiologically posted buffer area or contamination area, the carcass **SHALL** be relocated to the DOE-WVDP approved natural decay area within the project premises.
- If radiologically contaminated and requiring radiological control precautions, the animal **SHALL** be bagged, packaged, and disposed of at an appropriate offsite radioactive waste disposal facility as putrescible radioactive waste.

## 8.0 RECORDS MAINTENANCE

- 8.1 All records generated as a result of this policy **SHALL** be prepared, maintained, and stored in accordance with QP-241-01, "Identification and Control of DOE-WVDP General and Quality Assurance Records."

## 9.0 FORMS/TEMPLATES USED

None.

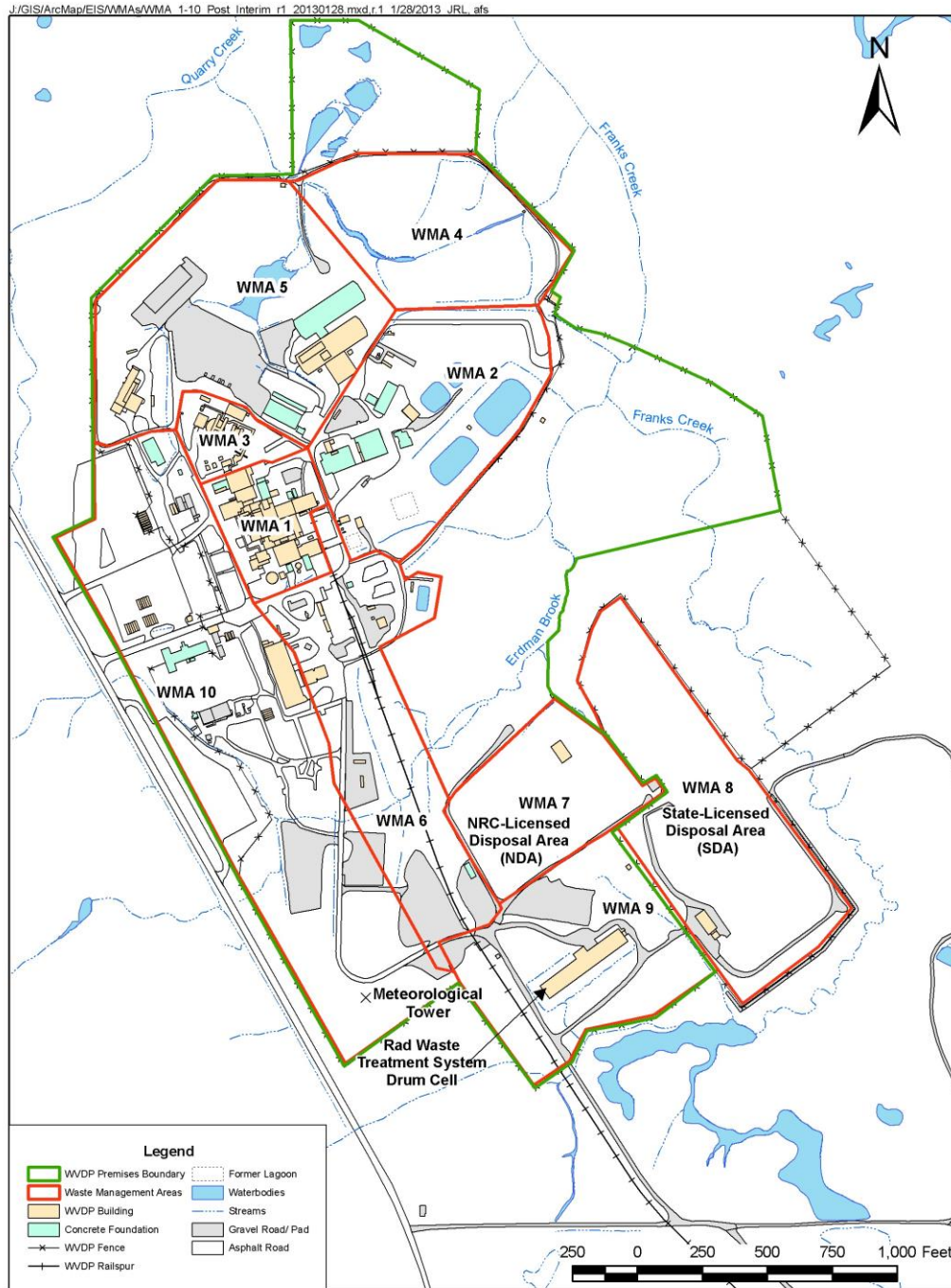
## 10.0 ATTACHMENTS

- 10.1 Attachment A - WVDP Waste Management Areas (WMA).

- 10.2 Attachment B - Proposed Extent of the WMA 1 Excavation during Phase 1 Decommissioning.
- 10.3 Attachment C - Proposed Extent of the WMA 2 Excavation during Phase 1 Decommissioning.
- 10.4 Attachment D - Surface Soil, Subsurface Soil, and Streambed Sediment Cleanup Goals (CG<sub>w</sub>) for use during Phase 1 Decommissioning (pCi/g).
- 10.5 Attachment E – Listing of Radionuclides of Interest (ROI) and Potential Radionuclides of Interest (PROI)

### Attachment A

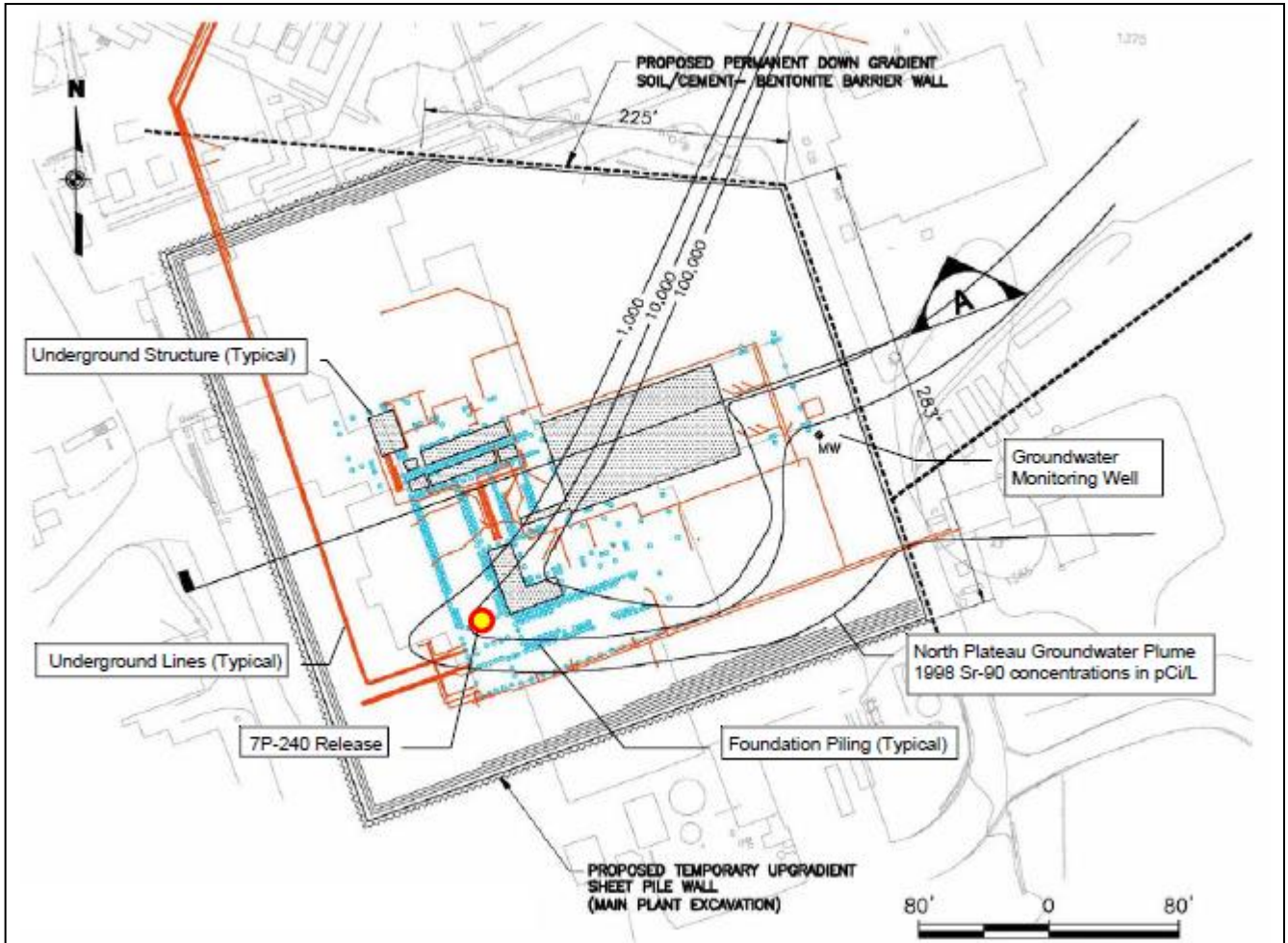
## WVDP Waste Management Areas (WMA)



**Attachment B**

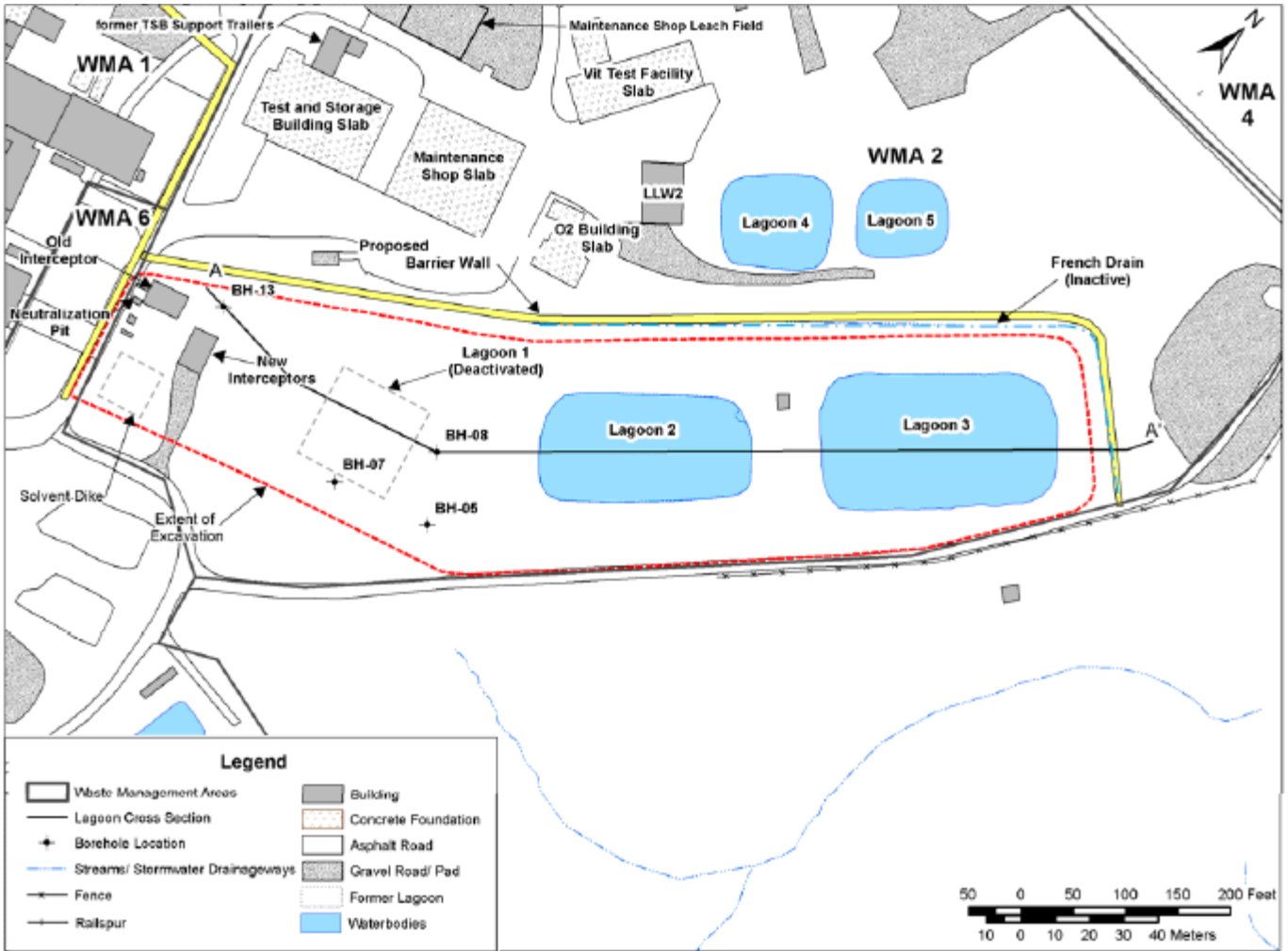
**Proposed Extent of the WMA 1 Excavation during Phase 1 Decommissioning**

(The proposed WMA 1 excavation is located within the area bounded by the upgradient sheet pile wall and the downgradient soil/cement bentonite barrier wall)



**Attachment C**

**Proposed Extent of the WMA 2 Excavation during Phase 1 Decommissioning.**



**Attachment D****Surface Soil, Subsurface Soil, and Streambed Sediment Cleanup Goals (CG<sub>w</sub>) for use during Phase 1 Decommissioning (pCi/g)**

<b>Nuclide</b>	<b>Surface Soil</b>	<b>Subsurface Soil</b>	<b>Streambed Sediment</b>
Am-241	2.6E+01	2.8E+03	1.0E+03
C-14	1.5E+01	4.5E+02	1.8E+02
Cm-243	3.1E+01	5.0E+02	3.1E+02
Cm-244	5.8E+01	9.9E+03	3.8E+03
Cs-137	1.4E+01	1.4E+02	1.0E+02
I-129	2.9E-01	3.4E+00	7.9E+01
Np-237	2.3E-01	4.5E-01	3.2E+01
Pu-238	3.6E+01	5.9E+03	1.2E+03
Pu-239	2.3E+01	1.4E+03	1.2E+03
Pu-240	2.4E+01	1.5E+03	1.2E+03
Pu-241	1.0E+03	1.1E+05	3.4E+04
Sr-90	3.7E+00	1.3E+02	4.7E+02
Tc-99	1.9E+01	2.7E+02	6.6E+04
U-232	1.4E+00	3.3E+01	2.2E+01
U-233	7.5E+00	8.6E+01	2.2E+03
U-234	7.6E+00	9.0E+01	2.2E+03
U-235	3.1E+00	9.5E+01	2.3E+02
U-238	8.9E+00	9.5E+01	8.2E+02

**Attachment E****Radionuclides of Interest (ROI) and Potential Radionuclides of Interest (PROI) at the WVDP**

<b>ROI</b>	<b>PROI</b>
Am-241	<b>Ac-227</b>
C-14	<b>Co-60</b>
Cm-243	<b>Cd-113m</b>
Cm-244	<b>Eu-154</b>
Cs-137	<b>H-3</b>
I-129	<b>Pa-231</b>
Np-237	<b>Ra-226</b>
Pu-238	<b>Ra-228</b>
Pu-239	<b>Sb-126</b>
Pu-240	<b>Sn-125</b>
Pu-241	<b>Th-229</b>
Sr-90	<b>Th-232</b>
Tc-99	
U-232	
U-233	
U-234	
U-235	
U-238	



**DEPARTMENT OF ENERGY**  
**WEST VALLEY DEMONSTRATION PROJECT**  
**RECORD OF REVISION**

**DOCUMENT**

If there are changes to the controlled document, the revision number increases by one. Indicate changes by one of the following:

- Placing a vertical black line in the margin adjacent to sentence or paragraph that was revised.
- Placing the words GENERAL REVISION at the beginning of the text.

Rev. No.	Description of Changes	Revision On Page(s)	Dated
0	Original Issue		04/04/13
1	General Revision; Major Change	1,2,3,4,5,6, 7,8,9,12,16	10/21/14
	Section 1.0 - Added "to be" before "excavation".	1	
	Section 2.0 - Added Revision 2 to the Phase 1 Decommissioning Plan. - Deleted "the excavation of" and added "to be excavated".	1	
	Section 3.0 - Added reference 3.1.5 - Phase 1 Characterization - Sampling and Analysis Plan for the WVDP.	1	
	Section 6.0 - Added "and disposal" before "of large volumes". - Replaced "activities" with "of soil" after excavation.	2	
	- Changed "North Plateau Groundwater Plume" from lower to upper case. - Added "for the 18 ROI" after "streambed sediment". - Added paragraph identifying the Phase 1 CSAP and the 12 potential radionuclides of interest (PROI).	3	
	Section 7.0 - Added "It is the intent of DOE-WVDP that in situ soils be sampled and characterized prior to or during excavation depending on the nature and timing of the excavation activity. For planned construction projects and major soil remediation excavation projects with long scheduled lead times, in situ soils will be sampled and characterized prior to excavation. For site maintenance operations requiring immediate excavation, in situ soils will sampled during excavation". -Deleted "Excavated" added "to be Excavated" in the titles of Sections 7.1, 7.2, 7.2.1, 7.2.2, and 7.2.3. - Added "those" before "portions of Erdman Brook". - Added "to be Excavated" in the titles of Sections 7.1.1, 7.1.2, and 7.3.2. - Added "to be" before "excavated" throughout Section	3,4,5	

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Rev. No.	Description of Changes	Revision On Page(s)	Dated
	<p>7.0.</p> <ul style="list-style-type: none"> <li>- Replaced “those radiological parameters” with “the 18 ROI and 12 PROI”.</li> <li>- Re-located “upon DOE-WVDP review and approval” before “it may be returned to the excavation, staged in a pile, or re-used onsite” throughout Section 7.0.</li> <li>- Changed “staging/relocation/re-use” to “replacement/staging/re-use” in Sections 7.1.1 and 7.2.2.</li> <li>- Changed “staged/relocated/re-used” to “replaced/staged/re-used” in Sections 7.1.1 and 7.2.2.</li> <li>- Added “characterized for the 18 ROI and 12 PROI identified in Attachment E and SHALL be” in Sections 7.1.2, 7.2.1, 7.2.2, and 7.2.3.</li> <li>- Added “Section 7.1.3 DOE Actions in Response to Surface Soils Exceeding the Phase 1 Surface Soil CG<sub>w</sub>”.</li> <li>- Added “Section 7.2.3 DOE Actions in Response to Subsurface Soils Exceeding the Phase 1 Surface Soil CG<sub>w</sub>”.</li> <li>- Added “the 18 ROI and 12 PROI identified in Attachment E and the” in Section 7.3.2.</li> </ul> <p>Section 10.0</p> <ul style="list-style-type: none"> <li>- Added Section 10.5 Attachment E – Listing of Radionuclides of Interest (ROI) and Potential Radionuclides of Interest (PROI)</li> </ul>	11,16	
2	<p>General Revision: Minor Change</p> <p>Section 3.1 – Updated references to Directives</p> <ul style="list-style-type: none"> <li>- Added “(PgChg)” after DOE O 435.1 Chg. 1</li> <li>- Added “(Admin Chg)” after DOE M 435.1-1 Chg. 2</li> <li>- Changed DOE O 458.1 Chg. 3 to Chg.4</li> <li>- Added “(LtdChg)” after DOE O 458.1 Chg. 4</li> </ul> <p>Section 5.1</p> <ul style="list-style-type: none"> <li>- Added “The DOE-WVDP Director is the Field Element Manager for the WVDP”.</li> </ul> <p>Section 7.1</p> <ul style="list-style-type: none"> <li>- Added “U-shaped” between “flat valleys”.</li> </ul> <p>Section 7.2.1</p> <ul style="list-style-type: none"> <li>- Deleted “final major” and added “Phase 1”, “soil”, and (i.e., Phase 1B) in the first bullet</li> <li>- Deleted “major” and added “Phase 1” and (i.e., Phase 1B) in the second bullet</li> </ul> <p>Section 7.2.2</p> <ul style="list-style-type: none"> <li>- Inserted punctuation in the second paragraph of the first bullet</li> </ul> <p>Section 7.2.3</p> <ul style="list-style-type: none"> <li>- Deleted page break</li> </ul> <p>Section 7.2.4</p> <ul style="list-style-type: none"> <li>- Section number 7.2.3 was duplicated in R1. Corrected it</li> </ul>	1,2,4,6,7,8,9 1  2  4  6   7	10/22/2020

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Rev. No.	Description of Changes	Revision On Page(s)	Dated
	to read Section 7.2.4		
	Section 7.4 - Deleted "Continued operation of the North Plateau Pump and Treat System". - Deleted "It is assumed that operation of the North Plateau Pump and Treat System and the NDA Interceptor Trench will be terminated during Phase 1 Decommissioning"	8	
	Section 7.5.1 - Replaced "unless otherwise approved by DOE-WVDP" with "or managed as otherwise authorized by the DOE-WVDP Field Element Manager" in the second bullet.	9	