ROCKY FLATS SITE REGULATORY CONTACT RECORD 2019-03

Purpose: North Walnut Creek Stormwater Diversion and Soil Disturbance Review Plan

Contact Record Approval Date: July 30, 2019

Site Contacts and Affiliations: Scott Surovchak and Andy Keim, U.S. Department of Energy (DOE); Linda Kaiser, Patty Gallo, David Ward, and Ryan Wisniewski, Navarro Research and Engineering, Inc. (Navarro)

Regulatory Contacts and Affiliations: Lindsay Masters, Colorado Department of Public Health and Environment (CDPHE); Vera Moritz, U.S. Environmental Protection Agency (EPA)

Date of Consultation Meetings: May 23, 2019

Consultation Meeting Participants: Lindsay Masters, CDPHE; Vera Moritz, EPA; Scott Surovchak and Andy Keim, DOE; Linda Kaiser, Patty Gallo, David Ward, Ryan Wisniewski, John Boylan, George Squibb, Jeremy Wehner, Dana Santi, Navarro

Related Contact Records: None

Introduction. This project will be in the North Walnut Creek Drainage Basin upgradient of the Solar Ponds Plume Treatment System (SPPTS) and the North Walnut Creek Slump (NWCS) area that was regraded in 2017. The project involves the installation of a swale, a "low water" crossing, and rock crossings to improve the stormwater management. The swale will divert stormwater away from the SPPTS surface pad and the NWCS hillside and help to reduce erosion in those areas.

Discussion. The swale is planned to be approximately 1100 feet (ft) in length and will channel stormwater from west to east until it reaches the SPPTS access road at which point the stormwater will be directed in a northeastern direction away from the NWCS hillside as presented in Figure 1.

The swale will be constructed by digging a ditch approximately 6.5 feet (ft) wide and 2–3.5 ft deep. It will have sides that slope into the surface grade with contoured edges. Material generated from the ditch excavation will be placed on the downhill side (north) of the excavation to create a berm which will help to divert stormwater. A cross-section of the swale excavation is provided in Figure 2.

At the downhill end of the swale where stormwater will cross the SPPTS access road, a "low water" road crossing will be constructed. The road will be excavated about 1 foot deep along a 60–80 foot long section to allow stormwater from the swale to cross the road at low velocity and depth (Figure 3). A rock crossing to the east of the low water crossing along the SPPTS access road will also be installed. The rock crossing will be constructed by removing an approximate

2 ft wide by 1.5 ft depth of road base, creating a channel across the access road. The channel will then be filled with riprap rock back to grade. These installations will support the effectiveness of the swale and limit stormwater impacts to the surrounding area.

Surfaces that are disturbed as part of the installation will be managed in accordance with applicable laws and regulations. Specifically, DOE will manage stormwater to achieve compliance with applicable or relevant and appropriate requirements (ARARs) for stormwater, listed in Table 21 of the 2006 *Corrective Action Decision/Record of Decision* ("Storm Water Permit for Construction Activities" and "General Permits").

None of the activities associated with this project will take place in the Preble's Meadow Jumping Mouse (PMJM) Critical Habitat and Protection Area.

IC Evaluation: Institutional Controls (ICs) are listed in the Rocky Flats Legacy Management Agreement (RFLMA) Attachment 2, Table 4, including requirements for soil disturbance evaluation. The soil disturbance work is subject to ICs 2 and 3. Table 1 recaps these ICs.

Table 1. Institutional Controls

IC 2	Excavation, drilling, and other intrusive activities below a depth of three feet are prohibited, without prior regulatory review and approval pursuant to the Soil Disturbance Review Plan in RFLMA Attachment 2.
	Objective: Prevent unacceptable exposure to residual subsurface contamination. Rationale: Contaminated structures, such as building basements, exist in certain areas of the Central OU (Central Operable Unit), and the Comprehensive Risk Assessment did not evaluate the risks posed by exposure to this residual contamination. Thus, this restriction eliminates the possibility of unacceptable exposures. Additionally, it prevents damage to subsurface engineered components of the remedy.
IC 3	No grading, excavation, digging, tilling, or other disturbance of any kind of surface soils is permitted, except in accordance with an erosion control plan (including Surface Water Protection Plans submitted to EPA under the Clean Water Act) approved by CDPHE or EPA. Soil disturbance that will not restore the soil surface to preexisting grade or higher may not be performed without prior regulatory review and approval pursuant to the Soil Disturbance Review Plan in RFLMA Attachment 2.
	Objective: Prevent migration of residual surface soil contamination to surface water. Rationale: Certain surface soil contaminants, notably plutonium-239/240, were identified in the fate and transport evaluation in the Remedial Investigation as having complete pathways to surface water if disturbed. This restriction minimizes the possibility of such disturbance and resultant impacts to surface water. Restoring the soil surface to preexisting grade maintains the current depth to subsurface contamination or contaminated structures.

The required Soil Disturbance Review Plan (SDRP) for IC 2 (excavation to a depth of 3 ft or greater) and IC 3 (not restoring surface to preexisting grade) is in Attachment 1. The *Erosion Control Plan for Rocky Flats Property Central Operable Unit*, provides erosion control best-management practices that meet the requirements of IC 3.

Resolution: CDPHE, after reviewing information regarding the proposed soil disturbance and excavation and after consultation with EPA, approves proposed activities described in this Contact Record. CDPHE determined that the proposed activities are not anticipated to

compromise or impair the function of the remedy and are not expected to result in an unacceptable release or exposure to residual subsurface contamination. CDPHE also determined that the proposed project meets the rationale and objectives of IC 2 and 3.

DOE will not conduct the approved soil disturbance work until 10 calendar days after this Contact Record is posted on the Rocky Flats Site's website and stakeholders are notified of the posting in accordance with the RFLMA Public Involvement Plan.

Progress and the completion of the work will be reported by DOE in RFLMA quarterly and annual reports of surveillance and maintenance activities for periods in which these activities occur.

Actions Complete: The actions approved by this CR will be considered complete when the stormwater diversion features are installed, reseeding has been performed over disturbed areas, and temporary post-disturbance erosion controls are in place.

Contact Record Prepared by: Patty Gallo, David Ward, and Ryan Wisniewski, Navarro

Distribution:

Scott Surovchak, DOE Andy Keim, DOE Lindsay Masters, CDPHE Vera Moritz, EPA Linda Kaiser, Navarro Rocky Flats Contact Record File



Figure 1. Site Plan for North Walnut Creek Swale Installation



Figure 2. North Walnut Creek Swale Cross Section



Figure 3. Solar Pond Plume Treatment System Access Road "Low Water" Crossing

Attachment 1

Rocky Flats Legacy Management Agreement Soil Disturbance Review Plan

Proposed Project: Soil Disturbance Review Plan (SDRP) for the North Walnut Creek Stormwater Diversion Project

This SDRP provides information required by *Rocky Flats Legacy Management Agreement* (RFLMA) Attachment 2, "Legacy Management Requirements," Section 4.1, "Soil Disturbance Review Plan," regarding the work proposed by the U.S. Department of Energy.

Description of the proposed project, including the purpose, the location, and the lateral and vertical extent of excavation.

This project will be in the North Walnut Creek Drainage Basin upgradient of the Solar Ponds Plume Treatment System (SPPTS) and the North Walnut Creek Slump (NWCS) area that was regraded in 2017. The project involves the installation of a swale, a "low water" crossing, and rock crossings to improve stormwater management.

The swale is planned to be approximately 1100 feet (ft) in length and channel stormwater from west to east until it reaches the SPPTS access road at which point the stormwater will be directed in a northeastern direction away from the NWCS hillside as presented in Figure 1 of CR 2019-03.

The swale will be constructed by digging a ditch of approximately 6.5 feet (ft) wide and 2–3.5 ft deep with sides that slope into the existing surface grade with contoured edges. Material generated from the ditch excavation will be placed on the downhill side (north) of the excavation to create a berm which will help to divert stormwater.

Surfaces that are disturbed as part of the installation will be managed in accordance with applicable laws and regulations. Specifically, DOE will manage stormwater to achieve compliance with applicable or relevant and appropriate requirements (ARARs) for stormwater, listed in Table 21 of the 2006 *Corrective Action Decision/Record of Decision* ("Storm Water Permit for Construction Activities" and "General Permits").

Information about any remaining subsurface structures in the vicinity of the proposed project (or state that there are none if that is the case).

The only remaining subsurface structures in the area are used in current operations and are not abandoned contaminated structures. They are the following:

- Interceptor Trench System (ITS) lines
- Gravel trench upgradient of the ITS lines

The swale will cross over a pre-closure gravel trench. In the same area, it is expected to cross three ITS lines. These features will be located by "potholing" before the swale is constructed. All excavation within 18 inches vertically and 24 inches laterally of these features will be done by hand. In the area where the features are expected to be, a geosynthetic clay liner will be placed in the bottom of the swale. This will be done whether the ITS and gravel trench are visually confirmed in this area or not.

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Information about any former Individual Hazardous Substance Sites (IHSSs), Potential Areas of Concern, or other known or potential soil or groundwater contamination in the vicinity of the proposed project.

IHSS 101, Solar Evaporation Ponds. A large area south of the SPPTS, including the southern portion of the NWCS area, is located within former IHSS 101, Solar Evaporation Ponds. This IHSS was closed with No Further Accelerated Action in 2003. A closure summary is provided below.

In accordance with the Environmental Restoration Rocky Flats Cleanup Agreement (RFCA) Standard Operating Protocol (RSOP) Notification #02-08, soil was removed from six hot spot locations. Confirmation sampling was conducted in the excavations to confirm that sufficient soil had been removed. All contaminant concentrations and activities were less than RFCA Tier II Soil Action Levels (SAL), except for one beryllium concentration, which was slightly greater than the RFCA Tier II SAL (1.10 milligrams per kilogram [mg/kg] versus the SAL of 1.04 mg/kg). None of the results exceeded the wildlife refuge worker (WRW) SALs.

Fourteen surface and 25 subsurface soil samples were collected and analyzed for radionuclides and metals. Some of the samples were also analyzed for nitrate. All contaminant concentrations and activities in the sampled areas were below RFCA Tier II SALs, except for 1 beryllium concentration and 16 arsenic concentrations. The beryllium concentration that exceeded the Tier II SAL was 1.10 mg/kg for which the SAL was 1.04 mg/kg. The arsenic concentrations that exceeded the Tier II SAL ranged from 13.0 to 36.3 mg/kg and the SAL was 2.99 mg/kg. All exceedances were significantly less than the RFCA Tier I SALs. All contaminant concentrations and activities were less than the WRW SALs, except for one subsurface manganese concentration and eight arsenic concentrations (in surface and subsurface soil). The manganese concentration that exceeded the WRW SAL was 5900 mg/kg, and the WRW SAL is 3480 mg/kg. The arsenic concentrations that exceeded the WRW SAL ranged from 22.4 to 36.3 mg/kg and the WRW SAL is 22.2 mg/kg.

After completion of accelerated actions, No Further Action was recommended for IHSS 101 based on the following:

- Contaminant concentrations and activities were less that RFCA Tier II SALs, with minor exceptions. No Tier I SALs were exceeded.
- Results of an evaluation indicated additional action was not necessary.

After review of the Closeout Report for IHSS Group 000-1 by the regulatory agencies, DOE received approval from CDPHE for the No Further Accelerated Action status for the Solar Evaporation Pond Area of Concern (IHSS 101) on July 25, 2003.