ROCKY FLATS SITE
REGULATORY CONTACT RECORD 2020-01

Purpose: Soil Disturbance Review Plan—Solar Pond Influent (SPIN) Vault Drain Line Installation

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Contact Record Approval Date: November 23, 2020

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

Date of Consultation Meetings: September 29, 2020

Consultation Meeting Participants: Lindsay Masters, CDPHE; Jesse Aviles, EPA; Scott Surovchak and Andy Keim, DOE; Dana Santi, David Ward, Ryan Wisniewski, John Boylan, George Squibb, Jody Nelson, April Tischer, Chris Oliver, Justin Hugo, Paul Jagim, Nicole Lachance, Kirk Briscoe, Navarro

Related Contact Records: CR 2008-06, CR 2008-08, CR 2015-08, and CR 2015-09

Introduction: The purpose of this project is to install a 4″ gravity drain pipe from the SPIN vault to the "Big Box" nitrate treatment cell, located within the DOE Rocky Flats Central Operable Unit. Water occasionally collects in this vault and can damage equipment. To prevent this damage, water must be manually pumped from the vault. The new gravity drain will allow any water that accumulates in the vault (for example, during wet spring periods or heavy precipitation) to drain to the Big Box without requiring staff presence.

Discussion: The SPIN vault, which is an earthen-floored component of the Solar Ponds Plume Treatment System (SPPTS), contains system components such as flow meters, valves, and air releases. During routine system operations, groundwater is pumped from the SPPTS collection trench through piping that passes through the SPIN vault, where the flow rate is measured. Further in the process, a nutrient solution is added at a rate proportional to this measured flow rate. After the addition of this nutrient solution, the groundwater is routed to the Big Box for subsequent biological denitrification.

During the spring season and any other extended wet periods, water occasionally enters the SPIN vault either from saturated soils or by leaking through the vault cover, or both. To prevent the flow meters from being damaged by this water, personnel have been required to visit the vault to inspect conditions and manually pump out water as necessary, sometimes several times per week. The water is pumped from the SPIN vault into the Big Box. (Note that the volume of

water that collects in the SPIN vault is inconsequential compared to the volume in the Big Box; routing water directly into the Big Box does not adversely affect treatment.)

The current process requires active monitoring and pumping of the SPIN vault. The planned installation of a gravity drain line would provide a passive solution, routing collected water from the SPIN vault to the Big Box without the need for staff involvement. The drain line installation would mitigate the risk of water levels reaching the point where monitoring equipment could be damaged.

Drain line installation will be accomplished by excavating an area between the SPIN vault and the Big Box, as shown in Figure 1. The soil to be excavated during this project is imported, compacted fill placed when the additional vaults and buried plumbing in this area were installed in the 2008–2009 time frame. The excavation is anticipated not to exceed a 10 feet (ft) wide, 10 ft long, and 5 ft deep area. Efforts will be made to minimize excavated material; however, a large enough excavation will be required for personnel to safely access the underside of the SPIN vault and permit safe concrete coring operations into the side of the Big Box. The soil will be excavated using manual and/or air vacuum (air-knifing) excavation methods. If air-knife pot-holing is utilized to identify and protect SPPTS subsurface components, it is anticipated that activity will provide the majority of the required excavation. All excavated material will be stored on a temporary liner near the excavation and will be used to backfill the excavation to original grade or higher once the drain line installation is complete.

The Big Box concrete wall will be cored, and the drain line will extend through this new penetration. Coring through the SPIN vault will not be necessary because the vault does not have a concrete floor; the line will enter this vault through the open bottom.

Due to dry conditions in fall and winter, it is unlikely that groundwater will be encountered during the project. If groundwater is encountered, it will be dispositioned to the Big Box.

Waste material is not expected to be produced by this project, other than scraps of pipe from cutting the pipe to the required lengths and the concrete core from the Big Box. These materials will be sent offsite for proper disposal.

All soil disturbance activities will take place within the SPPTS fenced area. Revegetation will not be required because no vegetation currently exists in the project area. Disturbed soil will be managed in accordance with the in effect, approved *Erosion Control Plan for Rocky Flats Property Central Operable Unit* (DOE-LM/1497-2007).

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”).

The activities associated with this project will take place in the Preble’s Meadow Jumping Mouse Critical Habitat and Protection Area but will remain within the fenced SPPTS area. This area has been identified as an exclusion area from habitat protection with the U.S. Fish and Wildlife Service.

IC Evaluation: The *Corrective Action Decision/Record Of Decision Amendment For Rocky Flats Plant (USDOE) Central Operable Unit* requires specific institutional controls to ensure the protectiveness of the remedy at Rocky Flats. These institutional controls are implemented through the Restrictive Notice for Rocky Flats, recorded with Jefferson County. RFLMA Attachment 2, Table 4 lists the Restrictive Notice's institutional controls including requirements for soil disturbance 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 IC 2. 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.

The required Soil Disturbance Review Plan (SDRP) for IC 2 (excavation to a depth of 3 ft or greater) is in Attachment 1. The *Erosion Control Plan for Rocky Flats Property Central Operable Unit* (DOE-LM/1497-2007) provides erosion control best-management practices that meet the requirements of IC 2.

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 objective of IC 2.

DOE will not conduct the approved soil disturbance work until 10 calendar days after this Contact Record is posted on the Rocky Flats Site 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 Contact Record will be considered complete when the drain line is installed, the excavation has been backfilled and compacted to original grade or higher, and temporary post-disturbance erosion controls are in place as needed or required.

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Rocky Flats Contact Record File

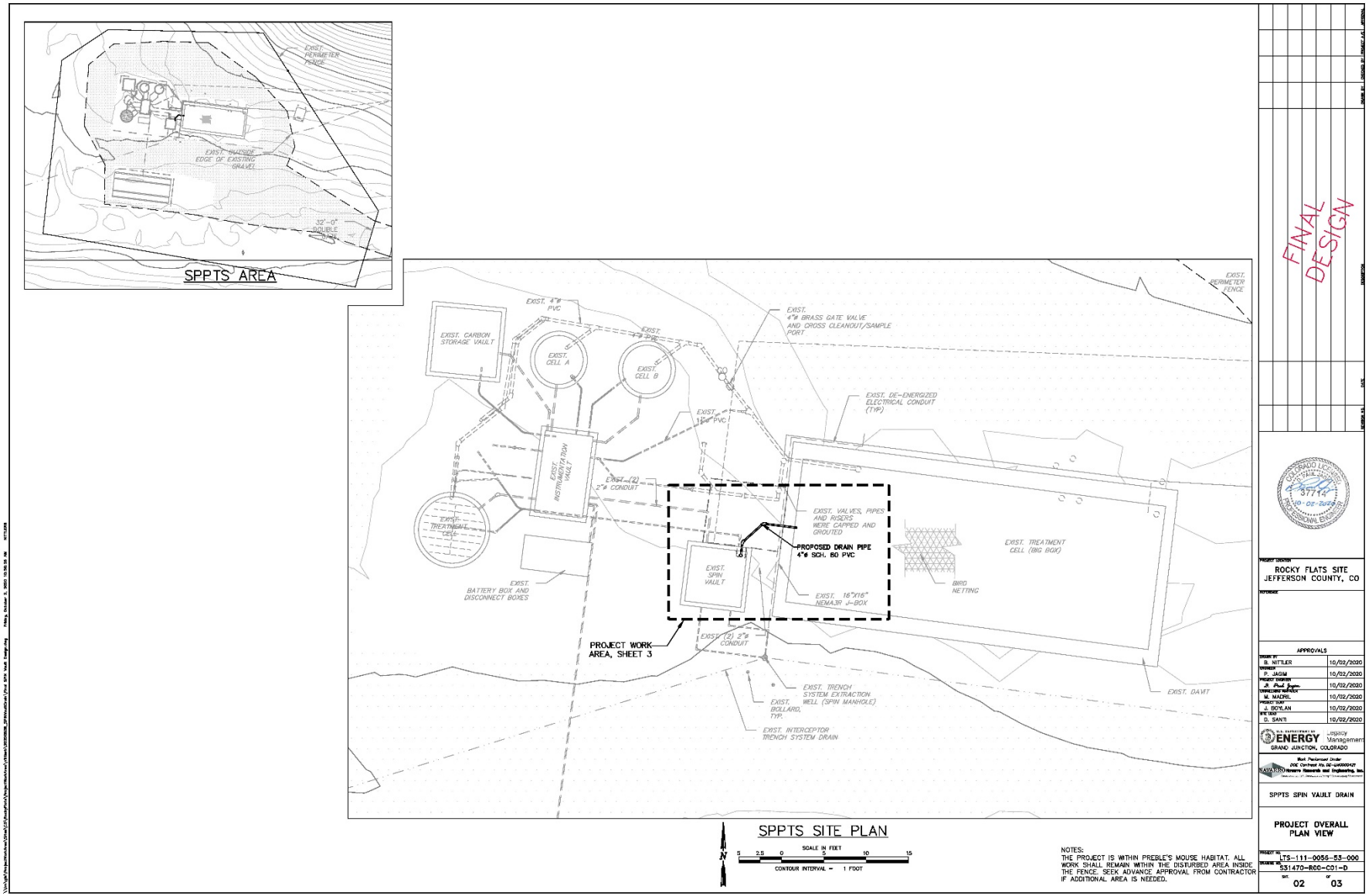

Figure 1. SPIN Vault Drain Location

Attachment 1

Rocky Flats Legacy Management Agreement Soil Disturbance Review Plan

Proposed Project: Soil Disturbance Review Plan (SDRP) for the SPIN Vault Drain Line

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 take place at the SPPTS. It will create a passive process for water that would otherwise collect in the SPIN vault to passively drain to the Big Box, thereby protecting the equipment in the vault from damage without requiring staff visits and manual pumping to remove the water. To accomplish this installation, an approximately 10 ft long, 10 ft wide, and 5 ft deep excavation will be created. The soil that is removed from this excavation will be returned to the excavation when the new line is in place. The excavation will be backfilled and compacted to original grade or higher and temporary post-disturbance erosion controls will be installed as needed or required.

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).

Other than components of the SPPTS itself, there are no remaining subsurface structures in the immediate area.

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.

The excavation/construction area is not in a former IHSS area, and there is no documentation identified that indicates any soil contamination in the area. The planned excavation will be entirely within an area that was excavated in the 2008–2009 time frame when several vaults and associated plumbing were installed; imported fill was used to backfill the work area.

Groundwater within the working area is impacted by the Solar Ponds Plume. It is not anticipated that this project will encounter any groundwater, but if it is encountered it will be routed to the Big Box for treatment.