

ROCKY FLATS SITE

REGULATORY CONTACT RECORD 2022-05

Purpose: Solar Ponds Plume Treatment System (SPPTS) discharge gallery maintenance

Contact Record Approval Date: February 28, 2023

Site Contacts and Affiliations: Andy Keim, U.S. Department of Energy (DOE); Dana Santi and Ryan Wisniewski, RSI EnTech, LLC (RSI)

Regulatory Contacts and Affiliations: Lindsay Murl, Colorado Department of Public Health and Environment (CDPHE); Rob Stites, U.S. Environmental Protection Agency (EPA); David Connolly, EPA

Date of Consultation Meeting: December 21, 2022

Consultation Meeting Participants: Lindsay Murl, CDPHE; Andy Keim and Shawn Eichelberger, DOE; Dana Santi, Kirk Briscoe, Ryan Wisniewski, John Boylan, George Squibb, Jody Nelson, Karin McShea, and April Tischer, RSI

Related Contact Records: None

Introduction: DOE is proposing to perform a maintenance project to replace the aging subsurface discharge gallery associated with the SPPTS. The discharge gallery is where treated effluent from the treatment system is reintroduced to the environment below ground. The SPPTS is a groundwater treatment system first installed in 1999 to treat nitrate and uranium.

Discussion: The SPPTS discharge gallery is due for maintenance to ensure that it continues to perform as desired. Over time, calcium scale and organic matter accumulate within the discharge pipes and gravel gallery, which can limit the effective discharge of the treated water. The maintenance project will remove approximately 21 feet (ft) of perforated pipe; approximately 30 cubic yards of old bedding material consisting of soil, gravel, and rock; and approximately 32 cubic yards of soil to prepare the area for the new discharge gallery (Figure 1). Project personnel will place the excavated materials into dewatering containers and stage them onsite to allow material and water to separate as needed.

Within the resulting excavation, DOE will install new pipe bedding consisting of washed gravel, geotextile, and riprap. The base of this bedding will be 3–5 ft below grade. DOE will then install a new 30 ft long, 4-inch perforated discharge pipe and tie it into the existing discharge pipeline from the treatment system at an approximate depth of 2.5 ft. DOE will then backfill the excavation with bedding material to the original grade or higher.

During the removal and replacement of the SPPTS discharge gallery components, the treatment system and the ongoing uranium treatment pilot test at the SPPTS will continue to operate. However, the nitrate treatment component will hold the treated water rather than releasing the water to the discharge gallery. If the maintenance project extends longer than anticipated and it

becomes necessary to discharge accumulated treated water, this process will utilize temporary lines to support short-term, intermittent discharge of treated water to a location downgradient of the maintenance project. DOE will ensure that any temporary lines used during the performance of this action are in good condition and direct treated effluent to the designated area. The field activities for this maintenance project are planned for 5 total working days that could extend over a 2-week period if inclement weather impacts performance safety.

Some of the excavated material will be saturated, and, therefore, DOE will place all excavated material in dewatering containers that will be staged to allow the drainage of associated water and support proper disposition of the material. DOE will then drain water separated within the containers to the ground upgradient of the SPPTS collection trench in a manner consistent with both the site's approved erosion control plan and previous water management related to activities at the SPPTS. This will allow the water to be recaptured by the SPPTS collection trench and routed through the treatment system. DOE must perform a waste characterization and determination, and dispose of the excavated material in accordance with applicable regulatory requirements. Characterized solid waste will be disposed of at a licensed disposal facility.

At project completion, DOE will seed disturbed areas surrounding the discharge gallery with a native wetland seed mix and install erosion controls.

Preble's Meadow Jumping Mouse: The SPPTS is in Unit 6 of the critical habitat for the Preble's meadow jumping mouse (PMJM) (also called Preble's mouse) (*Zapus hudsonius preblei*). DOE sought consultation on the work and activities at the groundwater treatment systems in the 2004 Programmatic Biological Assessment and the associated Programmatic Biological Opinion (ES/LK-6-CO-04-F-012). In addition, in 2018 as part of receiving credit for the habitat created in the former Industrial Area in the Central Operable Unit (COU), DOE also established exclusion zones around each of the groundwater treatment systems. DOE received approval for these exclusion zones in the concurrence letter from the U.S. Fish and Wildlife Service (USFWS) on July 18, 2018 (TAILS: 06E24000-2018-I-1200). DOE established the exclusion zones to allow work to be done at the groundwater treatment systems without requiring repeated consultation between DOE and USFWS. The exclusion zones were taken as a permanent loss of habitat, and mitigation was done to account for these areas. No further mitigation is required for work conducted within these exclusion zones, and only a project notification to USFWS is required before conducting work within these zones.

DOE will conduct all project-related activities within the PMJM exclusion zone or on existing roadways. The project will delineate the disturbance limits boundary (<0.09 acre) in the field by construction fencing (or similar) to keep all work within the designated work footprint. DOE notified USFWS of the planned SPPTS discharge gallery activities on January 9, 2023. No response from USFWS is needed or expected.

Wetlands: Project activities will impact less than 0.05 acre of a man-made wetland dominated by narrowleaf cattails (*Typha angustifolia*). The wetland is in an upland area and is considered a "man-induced" wetland that is only present because of the release of water from the subsurface SPPTS discharge gallery. If the water from the discharge gallery were stopped, the wetland vegetation would disappear and be replaced by upland vegetation. According to the 1987 U.S. Army Corp of Engineers *Corps of Engineers Wetlands Delineation Manual*, Section F, "Atypical Situations," Subsection 4, "Man-Induced Wetlands," "*CAUTION: If hydrophytic vegetation is being maintained only because of man-induced wetland hydrology that would no longer exist if the activity (e.g., irrigation) were to be terminated, the area should not be*

considered a wetland.” As such, DOE does not need to obtain permits or perform additional actions related to wetlands. However, DOE will reseed the disturbed soil with wetland seed, and once the new discharge gallery begins operation, some or all of the existing wetland vegetation is expected to return.

Migratory Bird Treaty Act: DOE has scheduled all project-related activities to occur outside of the migratory bird nesting season (along the Colorado Front Range, the migratory bird nesting season generally occurs between April 1 and August 31). Therefore, there is little likelihood that the project will impact nesting migratory birds. Should a bird nest be found in the work area, DOE will contact the site ecologist immediately. DOE will comply with applicable requirements of the Migratory Bird Treaty Act.

Institutional Control Evaluation: The *Corrective Action Decision/Record of Decision Amendment for Rocky Flats Plant (USDOE) Central Operable Unit* (issued September 2006) requires specific institutional controls (ICs) to ensure the protectiveness of the remedy at the Rocky Flats Site. These ICs are required by and enforceable through the 2017 Restrictive Notice for Rocky Flats, recorded with Jefferson County, Colorado. The *Rocky Flats Legacy Management Agreement (RFLMA)*, Attachment 2, Table 4, lists the Restrictive Notice’s ICs for the COU, including requirements for soil disturbance evaluation.

The soil disturbance work is subject to IC 2, which is shown in Table 1. The required Soil Disturbance Review Plan for IC 2 is included as Attachment 1.

Table 1. Institutional Controls

	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.
IC 2	<p>Objective: Prevent unacceptable exposure to residual subsurface contamination.</p> <p>Rationale: Contaminated structures, such as building basements, exist in certain areas of the Central OU, 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.</p>

Resolution: CDPHE, after consultation with EPA, has approved the activities described in this contact record (CR) as documented in its 2022-05 Contact Record letter to DOE. Based on the information provided, CDPHE determined that the proposed activities will not result in an unacceptable release of or exposure to residual subsurface contamination and will not damage any component of the remedy. CDPHE has also determined that the proposed activities meet the rationale and objectives of IC 2.

DOE must conduct the work after approval of this CR, but DOE will not conduct the approved soil disturbance until 10 calendar days after this CR is posted on the Rocky Flats Site webpage, and stakeholders are notified of the posting in accordance with the RFLMA Public Involvement Plan.

DOE must report the progress and completion of the work in RFLMA quarterly and annual reports of surveillance and maintenance activities for the periods in which these activities occur.

Action Complete: The activities approved in this CR will be complete when DOE has removed or replaced the components of the SPPTS identified above, backfilled the excavations to the original grade or higher, performed postdisturbance reseeding, and established postdisturbance soil erosion controls as identified in the approved *Erosion Control Plan for Rocky Flats Property Central Operable Unit* (DOE-LM/1497-2007).

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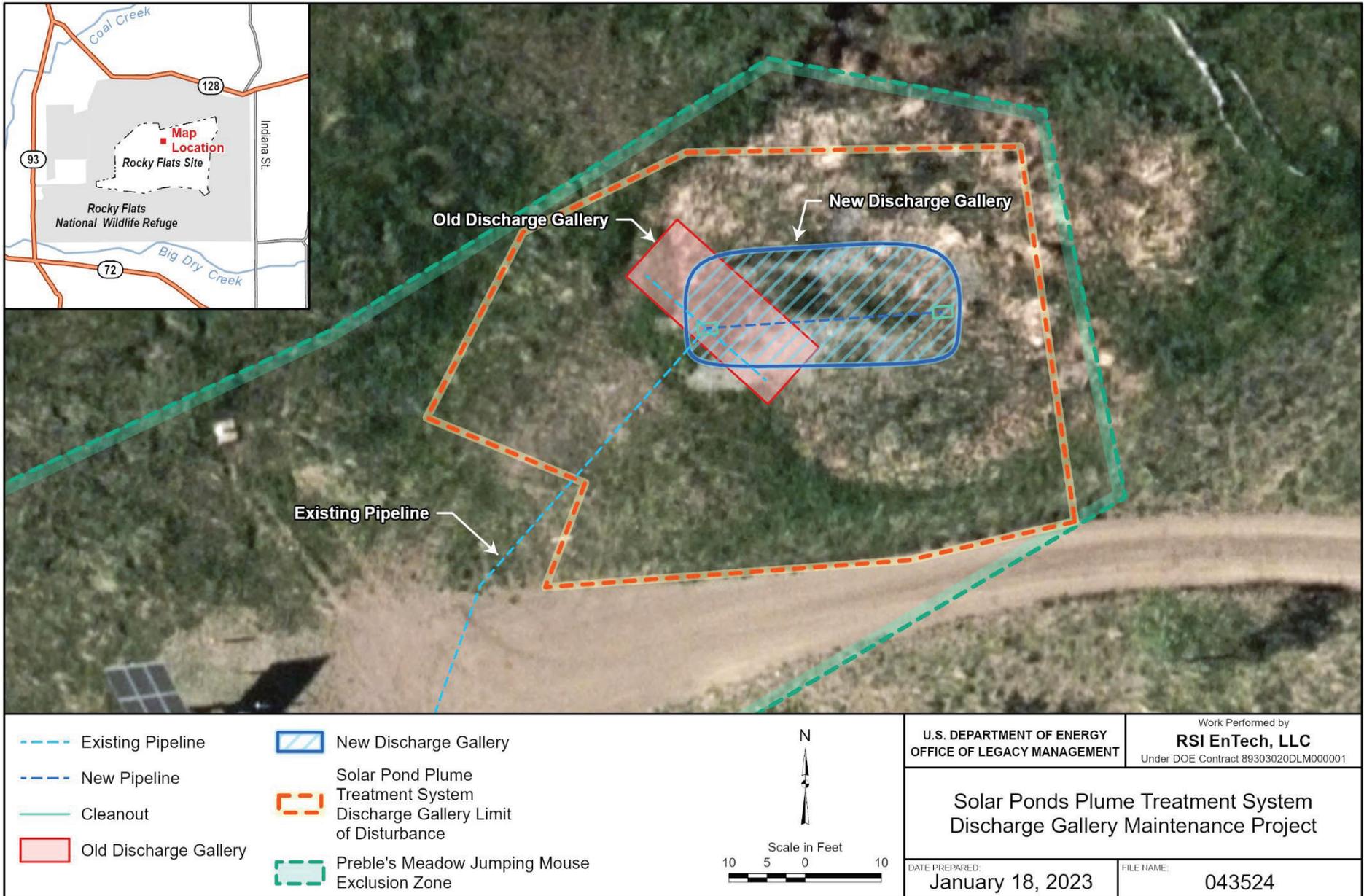


Figure 1. SPPTS Discharge Gallery Maintenance Overview

Attachment 1

Rocky Flats Legacy Management Agreement Soil Disturbance Review Plan

Proposed Project: Solar Ponds Plume Treatment System (SPPTS) discharge gallery maintenance

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

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

DOE is proposing to replace the SPPTS discharge gallery as part of the maintenance of the overall system. Specific components to be removed or replaced are identified in Contact Record 2022-05.

Information about any remaining subsurface structures in the vicinity of the proposed project.

Other than components of the SPPTS and monitoring wells, there are no structures near the project area. The planned work is far enough from the wells to avoid damaging them, and it will only disturb those SPPTS components that are targeted as part of this maintenance activity.

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

Based on prior investigations, sampling, and analysis, this construction area was not identified as an IHSS or PAC. That means it is not within specific locations where solid wastes, hazardous substances, pollutants, contaminants, hazardous wastes, or hazardous constituents may have been disposed or released to the environment within the Site at any time, irrespective of whether the location was intended for the management of these materials. The Solar Ponds Plume area does contain known uranium and nitrate groundwater contamination. The SPPTS operates and is maintained in response to nitrate and uranium contamination.