From:	Ward, David (CONTR)
To:	"Carl Spreng (carl.spreng@state.co.us)"; "Vera Moritz"
Cc:	"Scott Surovchak (scott.surovchak@lm.doe.gov)"; Kaiser, Linda (CONTR); "Boylan, John (CONTR)"
Subject:	Final DRAFT RFLMA CR2015-09 Soil Disturbance Review Plan for SPPTS interim configuration
Date:	Wednesday, December 02, 2015 5:02:00 PM
Attachments:	FINAL DRAFT RFLMA CR 2015-09 Soil Disturbance Review Plan for SPPTS interim configuration jab.docx image001.jpg CR 2015-09 Attachment 2 .pdf

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On behalf of Scott, I am transmitting the attached Draft Contact Record 2015-09 Soil Disturbance Review Plan for SPPTS Interim Configuration for your review, approval, approval with comments or disapproval. Attachment 2 of the contact record is also attached.

Upon approval, after incorporating any changes required for approval, we will add the approval date, remove "DRAFT" from the footer and watermark, and add the sentence "After completion of the approval process and incorporation of any required changes CDHPE approved this contact record." The contact record will be posted to the public website and an email notification will be sent to stakeholders.

If you have any questions please call me.

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ROCKY FLATS SITE
REGULATORY CONTACT RECORD 2015-09

Purpose: Soil Disturbance Review Plan for Solar Ponds Plume Treatment System Interim Configuration

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Contact Record Approval Date:

Site Contact(s)/Affiliation(s): Scott Surovchak, U.S. Department of Energy (DOE); Kurt Franzen, Linda Kaiser, David Ward, Navarro Research and Engineering, Inc. (Navarro)

Regulatory Contact(s)/Affiliation(s): Carl Spreng, Colorado Department of Public Health and Environment (CDPHE); Vera Moritz, U.S. Environmental Protection Agency (EPA)

Date of Consultation Meeting: October 28, 2015

Consultation Meeting Participants: Carl Spreng, CDPHE; Vera Moritz, EPA; Scott Surovchak, DOE; Linda Kaiser, John Boylan, George Squibb, Kurt Franzen, Michelle Hanson, David Ward, Navarro.

Introduction: Contact Record 2015-08, "Solar Ponds Plume Treatment System Interim Design and Implementation," summarizes the Rocky Flats Legacy Management Agreement (RFLMA) parties' consultation and decision to convert the current Solar Ponds Plume Treatment System (SPPTS) Cell 1 and Cell 2 structure (the "Big Box"), which is currently filled with wood chips, mulch, and soil over treatment media consisting of sawdust mixed with zero-valent iron (ZVI) in Cell 1 and pea gravel mixed with ZVI in Cell 2, into a lagoon for the removal of nitrate. Testing for uranium removal approaches will be conducted on a portion of the lagoon effluent. The use of a lagoon to reduce nitrate has been demonstrated in the Phase III pilot-scale lagoon studies. Information on the status of operation and performance of the SPPTS is provided in RFLMA quarterly and annual site surveillance and maintenance reports. RFLMA contact records and site surveillance and maintenance reports are available on the Rocky Flats public website at http://www.lm.doe.gov/rocky_flats/Sites.aspx.

Discussion: The following was discussed during the October 28, 2015 consultation: The design of the infrastructure required to support the operation of the Big Box as a lagoon and to continue testing for uranium removal is basically complete. Approval of the Soil Disturbance Review Plan (attached) is required. To accommodate continued uranium treatment testing, a concrete vault will be installed outside the east edge of the Big Box. This vault will provide space for study of uranium removal from lagoon effluent (for example, using microcells), and is designed to support a shed if more space is needed in the future.

Construction of the vault will require the excavation of approximately a 35 feet (ft) × 25 ft × 8 ft deep hole (see Attachment 2 for location). This "sidecar vault", an 8 ft x 8 ft x 5 ft deep structure, will be attached to the outside of the eastern wall of the Big Box. The larger excavation is a safety requirement for access during construction.

Construction: As discussed in Contact Record 2015-08, the Big Box will be taken offline for approximately 8 to 10 weeks to allow for media removal, construction of a roof over the Big Box, installation of the sidecar vault, and installation of plumbing and pumps and associated electrical infrastructure. If more electrical power is required than is currently available, additional photovoltaic (PV) solar panels and batteries will be installed. PV solar panels and supports may be added near the existing solar array if additional power is required. A large, inner plastic tank may be inserted in the existing carbon (MCG) vault to contain the larger volumes of MCG that will be used.

The media and overburden from the Big Box, the prior Phase III Cell A and B media, the Phase II media, and spent microcell media will be removed and dispositioned as discussed in Contact Record 2015-08. The Phase II tank will remain empty, but during construction of the full-scale interim lagoon, it may be used to store water (including effluent from the pilot-scale Phase III lagoons).

A construction staging area will be located on the pediment south of the SPPTS. It will be used to support both waste removal and construction activities, since the SPPTS area has a minimal working area. The staging area is less than 1 acre in size and will be revegetated after use. A construction trailer will be located in the SPPTS area (see Attachment 2 for location). The construction trailer will be anchored to withstand 100-mile-per-hour winds.

Institutional Controls (IC) Evaluation: The soil disturbance work is subject to IC 2 and IC 3. Table 1 recaps these ICs.

Table 1. Institutional Controls

Controls	Use Restrictions
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 Operating 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 is in Attachment 1.

Resolution: CDPHE, after consultation with EPA, will approve, approve with modification, or disapprove this contact record.

Closeout of Contact Record: Progress and the completion of the interim configuration construction work will be reported by DOE in RFLMA quarterly and annual reports of surveillance and maintenance activities for the

period(s) in which these activities occur. The contact record will be closed when the Big Box and Phase II cell have been emptied, the infrastructure (roof, plumbing, and vault) has been installed, and any required revegetation and erosion controls are in place.

Contact Record Prepared by: David Ward and John Boylan

Distribution:

Carl Spreng, CDPHE
Scott Surovchak, DOE
Vera Moritz, EPA
Linda Kaiser, Navarro
Rocky Flats Contact Record File

Attachment 1

Rocky Flats Legacy Management Agreement (RFLMA)
Soil Disturbance Review Plan (SDRP)

Proposed Project: SDRP for Solar Ponds Plume Treatment System (SPPTS) Interim Configuration

This SDRP provides information required by RFLMA Attachment 2, "Legacy Management Requirements," Section 4.1, "Soil Disturbance Review Plan," regarding the work proposed by DOE.

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

The purpose of the project is to convert the existing SPPTS "Big Box" (the concrete structure containing the two original treatment cells) from a reactive media–based treatment system (sawdust plus zero-valent iron [ZVI] in Cell 1 and pea gravel plus ZVI in Cell 2, all beneath an overburden of wood chips, mulch, and soil) to a lagoon, plus provide the necessary infrastructure to support the operations and additional uranium treatment testing. All of the planned construction is within the existing SPPTS disturbed area. A hole approximately 35 feet (ft) × 25 ft × 8 ft deep will be excavated to install the sidecar vault on the east end of the Big Box (see Attachment 2 to Contact Record 2015-09 for location). This vault will provide plumbing and space for testing uranium treatment components. After the vault is installed, the surrounding area will be graded to near the top of the vault. Photovoltaic (PV) solar panels and supports may be added near the existing solar array if additional power is required. The area around the Big Box will be graded with offsite material to bring the ground surface up to the level of the top of the concrete around the Big Box. The final grade will be higher than the existing grade. During construction, a temporary construction trailer will be located inside the SPPTS disturbed area as shown in Attachment 2 and will be anchored to withstand a minimum of 100-mile-per-hour winds. This trailer will be removed at the end of construction.

Another area of disturbance is the construction laydown area, less than an acre, located on the pediment upgradient of the SPPTS (see Attachment 2 to the Contact Record for location). The area will have 2-inch or 3-inch minus rock placed to support the construction activities. After this work has been completed, the rock will be removed and stockpiled onsite for reuse, and the area revegetated. Since the disturbance in this area will be returned to the existing grade or higher it is compliant with IC 3 and requires no approval.

All incoming borrow material will come from a local commercial aggregate facility.

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

Other than components of the SPPTS itself, there are no remaining subsurface structures in the vicinity, so cover assumptions will not be violated.

(3) 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.

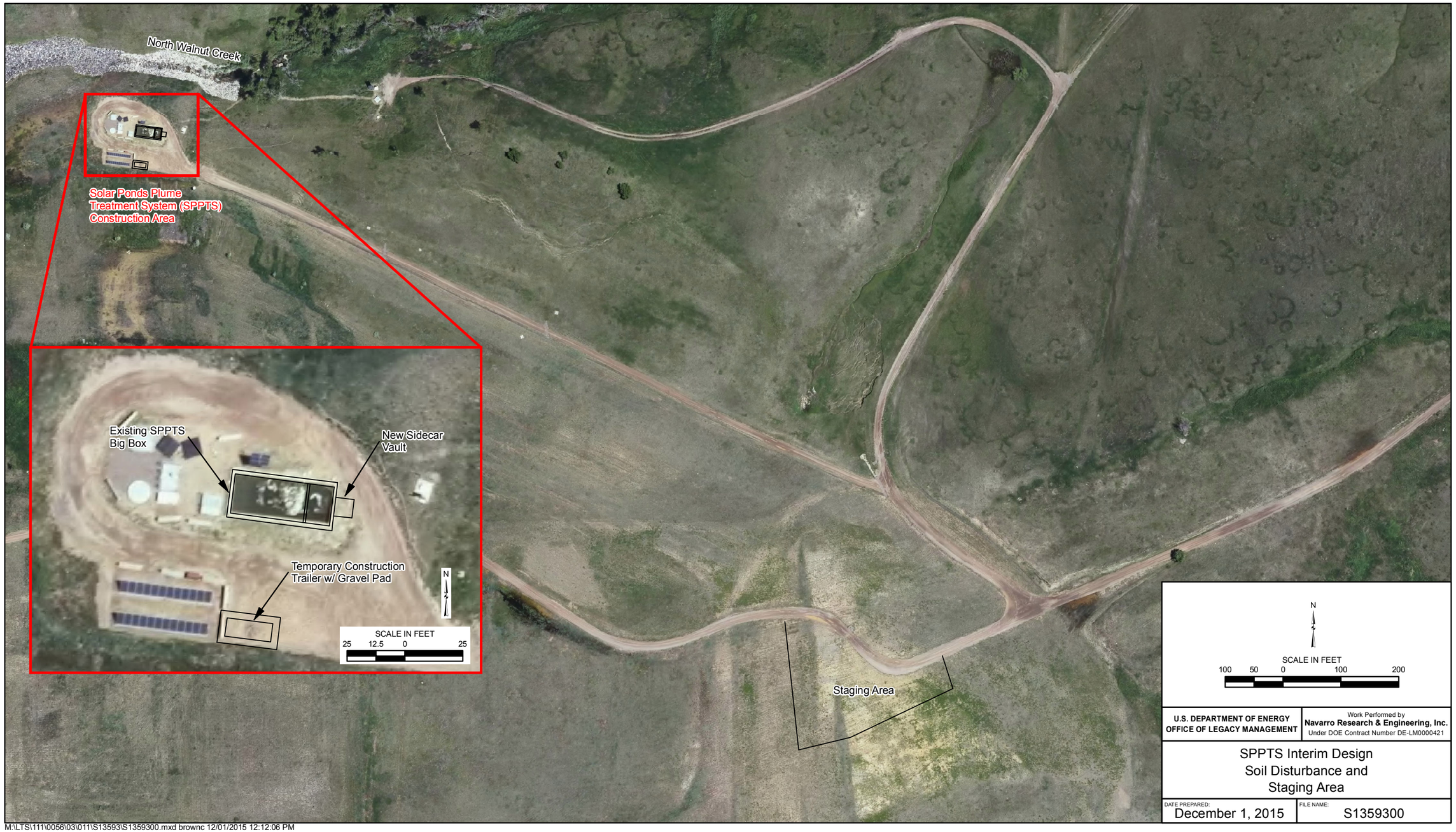
This construction area was not an IHSS. The *Facility Investigation - Remedial Investigation/Corrective Measures Study - Feasibility Study Report for the Rocky Flats Environmental Technology Site Nature and Extent of Soil Contamination* figures do not indicate soil contamination in this area. Groundwater in the

vicinity is impacted by the Solar Ponds Plume. Any groundwater that is encountered in an excavation will be collected from the excavation, if necessary to conduct the construction work, and will either be pumped from the excavation to the surface generally southwest (upgradient) of the SPPTS to allow this water to seep back into the ground, as approved in Contact Record 2008-06, or will be containerized and held for treatment at the SPPTS for treatment when construction is completed, at the discretion of the field crew.

(4) Resurvey any new surface established in subsurface soil, unless sufficient existing data is available to characterize the surface (or state that the excavated soil will be replaced and the original contours restored).

The sidecar vault will be installed in the approximately 35 ft × 25 ft × 8 ft deep excavation and the surrounding area will be graded to the top of the vault wall (which will be raised slightly above the existing grade). Any excavations for PV solar supporting structure(s) will be filled with concrete and the surrounding surface will be returned to the existing grade or higher.

The rock placed to reduce disturbance of the staging area will be removed from that area after construction is completed to help establish vegetation. The existing grade will be maintained. There are no other underground structures or infrastructure in the area.



U.S. DEPARTMENT OF ENERGY OFFICE OF LEGACY MANAGEMENT	Work Performed by **Navarro Research & Engineering, Inc.** Under DOE Contract Number DE-LM0000421

SPPTS Interim Design Soil Disturbance and Staging Area

DATE PREPARED:	FILE NAME:
December 1, 2015	S1359300

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