

**ROCKY FLATS SITE
REGULATORY CONTACT RECORD**

Purpose: Construction of collection sump for SPPTS

Contact Record Approval Date: September 8, 2008

Site Contact(s) / Affiliation(s):

Scott Surovchak / DOE; Linda Kaiser / Stoller; Rick DiSalvo / Stoller; John Boylan / Stoller

Regulatory Contact(s) / Affiliation(s):

Carl Spreng / CDPHE

Discussion: The Solar Ponds Plume Treatment System (SPPTS) includes a groundwater intercept trench from which groundwater is pumped into cells for treatment. Remnants of the upgradient (generally south and southwest) portions of the Interceptor Trench System (ITS) in the vicinity of the former Solar Evaporation Ponds continue to collect contaminated groundwater and feed it to the SPPTS groundwater intercept trench. Remnants of the ITS are also present to the side and downgradient (generally east and northeast) of the SPPTS intercept trench; water collected by this portion of the ITS is not treated by the system. Instead, this contaminated groundwater currently mixes with the (treated) SPPTS effluent and issues at the Solar Ponds Plume Discharge Gallery (DG).

Nitrate concentrations in surface water downstream of the DG are below the Temporary Modification currently in place through 2009 – 100 mg/L nitrate as N – but are above the underlying standard of 10 mg/L as N. DOE is planning to install a collection sump to collect the water from the side and downgradient ITS remnants, and to transfer that collected water up to the existing SPPTS treatment cell for treatment with the goal of reducing the nitrate concentrations at the DG and thus reduce nitrate loading to the creek.

Included in this work will be the installation of the necessary plumbing, flow measurement, pump, and electrical power (solar) to support the proper operation and maintenance of the sump. Figure 1 is a conceptual drawing showing the locations of the main components of the collection sump and transfer piping. Final construction drawings have been submitted to CDPHE for approval.

Pursuant to RFLMA paragraph 66, DOE and CDPHE do not consider addition of the collection sump and transfer of collected water to the treatment cell to constitute a significant change from existing requirements of RFLMA, and this Contact Record shall be used to provide public notice of these modifications to the SPPTS.

This design is the result of investigations of the ITS remnants and abandoned piping in the hillside area east of the SPPTS, which are discussed in Contact Records 2007-03 and 2008-03.

This work will entail excavation to below three feet below ground surface (3 ft. bgs). The maximum excavation depths will be approximately 15 to 18 ft. bgs. The construction involves actions prohibited by the institutional controls (ICs) incorporated in the Rocky Flats Legacy Management Agreement

(RFLMA). The excavation work will exceed the 3-foot-depth limit prohibited by ICs (RFLMA, Attachment 2, Table 4, Control 2) and thus requires pre-approved procedures.

The objective of IC 2 regarding excavations with a depth that exceeds 3 feet is to maintain the current depth to subsurface contamination or contaminated structures. This IC also results in achieving compliance with the CDPHE risk management policy of ensuring that residual risks to the site user are at or below 1×10^{-6} . As discussed further, below, the proposed work achieves the risk management policy goal.

The location of the project area is predominantly within Preble's Meadow Jumping Mouse (Preble's) habitat. The Preble's is a federally-listed threatened species under the Endangered Species Act. As a result, special controls are required to minimize disruption of the habitat.

Excavation will be reduced to the extent this is feasible. For example, sections of pre-existing lines in the area that had been used to transfer water from the Interceptor Trench Pump House (ITPH) to the Temporary Modular Storage Tanks (see Contact Record 2008-03) will be re-used for transfer of collected water to the SPPTS and discharge of effluent from the SPPTS. This will reduce both the size of the disturbed area and the volume of materials and supplies consumed for this project.

A biological opinion (BO) for the project was provided by the US Fish and Wildlife Service (USFWS) on September 5, 2008; the conclusion of this document is that "the proposed action is not likely to destroy or adversely modify designated critical habitat for Preble's", a federally-listed threatened species under the Endangered Species Act. Even so, on p. 5 the BO stipulates several "specific conservation measures" to be taken during the performance of this project, as excerpted below:

- Erosion controls will be installed prior to initiation of the project.
- Construction limits will be delineated with t-posts and rope or orange construction fencing.
- All disturbed areas will be revegetated following guidance on Appendix A of the PBA Part II.
- Post-project completion erosion controls will be installed according to guidance in the Erosion Control Plan.
- Disturbance footprints will be identified and tracked in the Preble's mitigation debit/credit tracking sheet.
- Mitigation for impacts from the upgrade project will consist of revegetation of project disturbances in situ; any additional needed mitigation will come from either DOE's State Land Board section 16 conservation easement, or from additional Preble's mouse habitat creation in the reconfigured drainages of the former Industrial Area at the site.

Each of these measures, as well as best management practices (such as minimizing vehicular traffic into and out of the area), will be implemented to reduce the degree to which the area is disturbed, and to accelerate its recovery following the completion of construction activities.

In addition to meeting the BO requirements, the best management practices in the *Erosion Control Plan for Rocky Flats Property Central Operable Unit, DOE-LM/1497-2007* (July 2007) will also be implemented to provide erosion controls for the excavated materials so that run-on and runoff will be minimized.

CDPHE has requested that the following information be included in contact records for soil excavation:

1 - Provide information about any remaining subsurface structures in the vicinity so that the minimum cover assumption won't be violated (or state that there are none if that is the case)-

The sump excavation is in the vicinity of the former ITPH, also known as building 308D. The building was removed as documented in the *Type 1 Facility Closeout Report for Buildings 308B and 308D* (September 22, 2003). The closeout report indicates that utilities were disconnected and capped three feet below grade.

2 - Provide information about any former IHSSs/PACs or other known soil or groundwater contamination in the vicinity (or state that there is no known contamination)-

The closeout report indicates that there is no contamination present in the remaining soils and that this area was not an IHSS. The *RI/FS 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 will be collected from the excavation, if necessary, to conduct the investigative work. If excessive amounts of groundwater are intercepted in the excavation, the water will either be pumped from the excavation to the surface generally southwest 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 transported to the SPPTS for treatment (at the discretion of the field crew).

3 - 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)

Except for the above ground manhole portions of the new collection sump and the hatches for the new valve vault and solar powered pump battery storage vault, final ground contours will approximate the pre-excavation contours. Excess soils generated from the excavation will be used generally for revegetation in the construction area and on-site as available. An as-built survey will be performed after construction is completed.

Closeout of Contact Record: This contact record will be closed when the as-built survey is completed and when post-construction revegetation and erosion controls are in place.

Resolution: The construction of the collection sump, ancillary equipment and associated piping reconfiguration will be conducted as described in the Contact Record.

Contact Record Prepared by: John Boylan and Rick DiSalvo

Distribution:

Carl Spreng, CDPHE
Scott Surovchak, DOE
Linda Kaiser, Stoller
Rocky Flats Contact Record
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Figure 1: Excerpt of engineering drawing no. S04362-R02-F01-D+, showing collection sump and associated components.

