From:	Ward, David (CONTR)
To:	Carl.Spreng@state.co.us
Cc:	Moritz.Vera@epa.gov; Surovchak, Scott
Subject:	DRAFT Contact Record 2014-04 Approval of installation and operation of an air stripper and Soil Disturbance Review Plan for ETPTS
Date:	Thursday, February 13, 2014 12:47:00 PM
Attachments:	RE Draft CR 2014-04. CDPHE.msg.doc

Carl, here is the Draft Contact Record for review and approval.

Upon approval, after incorporating any changes required for approval, we will add the approval date, remove "DRAFT" from the footer, post to the public website and send the email notification to stakeholders.

Thank you

David Ward

ROCKY FLATS SITE
REGULATORY CONTACT RECORD

Purpose: Approval of the installation and operation of an air stripper and the associated *Rocky Flats Legacy Management Agreement* (RFLMA) Soil Disturbance Review Plan as part of the reconfiguration of the East Trenches Plume Treatment System (ETPTS).

Contact Record Approval Date:

Site Contact(s)/Affiliation(s): Scott Surovchak, U.S. Department of Energy (DOE); John Boylan, David Ward, Linda Kaiser, S.M. Stoller Corporation (Stoller)

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

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Introduction: Contact Record 2014-01, "East Trenches Plume Treatment System (ETPTS) media removal and reconfiguration for air stripper treatment," summarizes the RFLMA parties' consultation and decision to use an air stripper to treat groundwater contaminated with volatile organic compounds (VOCs) from the East Trenches Plume. The current ETPTS would be reconfigured for the installation and operation of a commercial air stripper. Air stripping for the removal of VOCs has been demonstrated effective at both the ETPTS and the Mound Site Plume Treatment System (MSPTS). Information on the status of operation and performance of the MSPTS and ETPTS air strippers 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.

Contact Record 2014-01 documented that the next step would be for DOE to prepare the engineering design for the reconfiguration and installation of a commercial air stripper unit with enclosure, to be completed based on DOE's identification of an appropriate commercially available unit after interaction with potential vendors is completed. The final approval of the reconfiguration and of any required Soil Disturbance Review Plan for the work would be documented in a subsequent contact record. The final engineering design was completed at the end of January 2014, and this Contact Record 2014-03 provides the final approval of the ETPTS reconfiguration, based on the information below.

Air Stripper Operation: The ETPTS reconfiguration project will replace the zero-valent-ironbased treatment media with a commercial air stripper. The reconfigured system will operate in the following manner. Collected groundwater will be treated in batches: untreated influent will be routed from the groundwater intercept trench to original treatment Cell 1 (Influent Tank, the western high-density polyethylene [HDPE] tank). Each day, this collected water will be pumped from this influent tank to the new commercial air stripper, and treated effluent from this air stripper will drain to original treatment Cell 2 (Effluent Tank, eastern HDPE tank). Under normal conditions, the air stripper will turn on at a preset time each morning

and process water that has accumulated since the previous day. It will turn off when the water level drops below a set threshold, and remain off until the next morning. The treated effluent will be pumped from this effluent tank to the discharge gallery at a slower rate. This operation is depicted in Attachment 1.

Electrical Power and Air Stripper Enclosure: Treatment, pumping, and other processes will be accomplished using electrical power from the existing solar/battery facility in the conex adjacent to the ETPTS influent manhole, with four additional solar panels installed to help boost the power. The air stripper will be installed within a new enclosure to be built on top of one of the existing vaults at the ETPTS (next to the two HDPE tanks), which will simplify maintenance and operations by making the air stripper more easily accessible—the enclosure will not be a confined space, and will provide adequate room to operate and perform the necessary activities. Situating the enclosure atop an existing vault will take advantage of the geothermal from the vault.

ETPTS Operations During Construction: The existing air stripper within the influent manhole will be operated for as long as possible while the various construction activities are performed. This will continue to reduce contaminant concentrations in system influent by approximately 90 percent before the water is released to the ETPTS discharge gallery. There will be a short transition period (when final electrical modifications and related tasks are completed) during which this air stripper will no longer be operating and the new unit is not yet ready to operate. During this transition period, the influent water that is intercepted by the trench will be managed in the trench to minimize any influent water being routed directly to the discharge gallery.

Construction Excavation and Soil Disturbance Review Plan: The work will include excavation to approximately 6 to 8 feet below ground surface to install the enclosure footing, reconfigure the piping, and install electrical conduit. A copy of the design drawing showing the plan view of the existing configuration and the new enclosure, piping, and electrical is included as Attachment 2.

This excavation work will exceed the 3-foot depth limit specified by RFLMA institutional control (IC) 2 (RFLMA, Attachment 2, Table 4, Control 2). Therefore, the procedures require preapproval.

Furthermore, IC 3 (RFLMA, Attachment 2, Table 4, Control 3) stipulates that soil disturbance must be in accordance with the CDPHE-approved Erosion Control Plan and that the soil surface must be restored to the preexisting grade after any soil-disturbance activity has occurred.

The objective of the ICs is to maintain the current depth to subsurface contamination or contaminated structures. These ICs also result 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 below, the proposed work achieves the risk management policy goal.

Excavation will be reduced to the extent feasible, and soils will be returned to approximately the preexisting grade. Any excess soils from the excavation—after the foundation for the new enclosure, associated piping, and electrical are installed—will be used in the immediate area to

reduce the potential for ponding and enhance drainage away from the influent and effluent tanks and enclosure. In addition, any leftover soil will be spread in areas where additional soils may be used to facilitate revegetation (e.g., in the former roadway south of and adjacent to the former Pond B-4 dam). 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 construction area so that run-on and runoff will be minimized.

Water from precipitation in the excavation that may impact the construction work, or that accumulates in the treatment cells during the work, will be pumped to the ground.

CDPHE has requested that the following information related to ICs 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 will not be violated (or state that there are none if that is the case).

The work is at the ETPTS. Except for ETPTS-related components, there are no other subsurface structures in the immediate vicinity. The westernmost portions of the electrical and data conduits will be installed at grade, and therefore will not impact the tops of the buried HDPE panels that are present along the downgradient side of the ETPTS interceptor trench. These conduits will be buried in a trench as they run eastward to the vicinity of the new enclosure, but this trench will be much shallower than the buried pipe that routes water from the influent manhole to the influent tank.

2) Provide information about any former IHSSs/PACs (Individual Hazardous Substance Sites/Potential Areas of Concern) or other known soil or groundwater contamination in the vicinity (or state that there is no known contamination).

The East Trenches Plume is upgradient of the ETPTS. There are no former IHSSs or PACs in the vicinity of the excavation area.

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).

When the ETPTS reconfiguration project is completed, the surrounding soil will be generally consistent with the existing grade, with some very minor improvements to facilitate drainage and prevent ponding around the influent and effluent tanks and the new enclosure.

DOE and CDPHE RFLMA Project Coordinators agreed to proceed with the installation and operation of the ETPTS reconfigured air stripper as described above.

Resolution: Carl Spreng, CDPHE, approved this contact record.

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

DRAFT

Contact Record Prepared by: David Ward and John Boylan

Distribution:
Carl Spreng, CDPHE
Scott Surovchak, DOE
Linda Kaiser, Stoller
Rocky Flats Contact Record File

DRAFT

From:	Ward, David (CONTR)
To:	Carl.Spreng@state.co.us
Cc:	Moritz.Vera@epa.gov; Surovchak, Scott
Subject:	RE: DRAFT Contact Record 2014-04 Approval of installation and operation of an air stripper and Soil Disturbance Review Plan for ETPTS
Date:	Thursday, February 13, 2014 5:33:00 PM
Attachments:	Attachment 1 Flow Schematic .pdf Attachment 2. Soil Distribution Plan sketch .pdf

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Carl, I didn't attach the CR attachments in the earlier e-mail. Therefore they are attached to this e-mail for your review and approval with CR 2014-04.

Thank you,

David Ward

From: Ward, David (CONTR)
Sent: Thursday, February 13, 2014 12:47 PM
To: Carl.Spreng@state.co.us
Cc: Moritz.Vera@epa.gov; Surovchak, Scott
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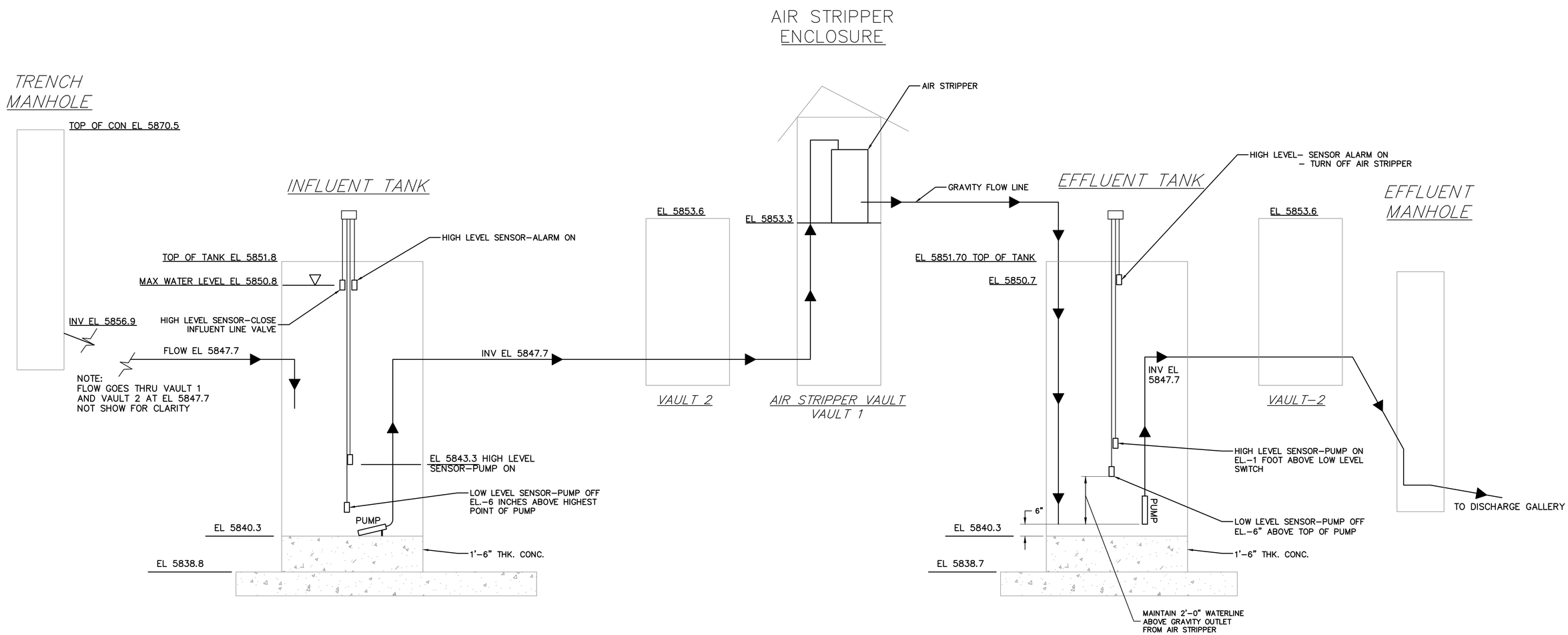

SYSTEM CONTROL DIAGRAM

SCALE: VERT. 1" = 2.0' (TANKS ONLY)

NOTES:
1. TOP OF TANK ELEVATIONS ARE ACTUAL TANK RIM, NOT TOP OF HDPE LID.

2. SENSORS:
GEMS SENSORS, MODEL LS–750. CONTRACTOR SUPPLIED.

FINAL DESIGN

REVISION NO.	DATE	DESCRIPTION	DRAWN BY	CHECKED BY	PROJECT A/E	APPROVAL

U.S. DEPARTMENT OF ENERGY
GRAND JUNCTION, COLORADO

Work Performed by
S.M. Stoller Corporation
Under DOE Contract
No. DE–AM01–07LM00060

PROJECT LOCATION
ROCKY FLATS SITE
JEFFERSON COUNTY, CO

REFERENCE

APPROVALS	
DRAWN BY S. PITTON	1/30/14
ENGINEER S. PITTON	1/30/14
PROJECT ENGINEER J. Pillon	1/30/14
ENGINEERING MANAGER M. MADRIL	1/30/14
PROJECT LEAD J. BOYLAN	1/30/14
SITE MANAGER/LEAD L. KAISER	1/30/14

ETPTS RECONFIGURATION 2014

SYSTEM CONTROL DIAGRAM

PROJECT NO. LTS–111–0056–10–006C
DRAWING NO. S11032–R00–C03–D+
SHT. 7 OF 18

RFMLA CR 2014-04 ATTACHMENT 1

REDUCED DRAWING SIZES ARE NOT TO SCALE

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SOUTH WALNUT CREEK

FORMER POND B-3

DISCHARGE GALLERY

CONCRETE SLAB WITH MANHOLE

NORTH CONSTRUCTION BOUNDARY/ EROSION CONTROL WATTLES

CONCRETE FLOW CONFIGURATION VAULT (VAULT 2)

CONSTRUCTION BOUNDARY SHALL BE T-POSTS & ROPE WITH FLAGGING (BOUNDARY WILL BE PIN FLAGGED BY CONTRACTOR)

PRIOR TO DEMOBILIZATION SUBCONTRACTOR SHALL RIP ROAD 6" AND PLACE STOCKPILED SOIL IN 6" LIFT (MAX.)

CONSTRUCTION BOUNDARY (SUBCONTRACTOR TO STAY WITHIN EXISTING ROAD)

48"ø BYPASS LINE

EXISTING ROADWAY

EROSION CONTROL WATTLES

CELL 1 (INFLUENT TANK)

CELL 2 (EFFLUENT TANK)

20'

STAGING AREA

PLACE SURFACE WATER CONTROL BERM/TRENCH. LOCATION DETERMINED BY CONTRACTOR. BERM TO BE 1'-0" HIGH.

INFLUENT LINE FROM COLLECTION TRENCH

CONCRETE CONTROL VAULT (VAULT 1)

WELL NO. 95099

CONSTRUCTION BOUNDARY SHALL BE T-POSTS & ROPE WITH FLAGGING (BOUNDARY WILL BE PIN FLAGGED BY CONTRACTOR)

DATA LINE (YELLOW CABLE)

CONCRETE JERSEY BARRIERS (TO BE RELOCATED TO CONNEX BOX BY CONTRACTOR)

NOTE:
ENTIRE WORK AREA IS WITHIN THE PREBLES CRITICAL HABITAT AREA. SEE SPECIFICATIONS SECTION 01200: ENVIRONMENTAL COMPLIANCE FOR DETAILS.

NORTH CONSTRUCTION BOUNDARY/ EROSION CONTROL WATTLES

ACCESS ROAD

EXIST. WATTLES

CONSTRUCTION BOUNDARY (SOUTH EDGE OF ROAD)

TO STROAGE SHED

EXIST. INFLUENT MANHOLE

EXIST. SOLAR ARRAY AND POWER SUPPLY

CONSTRUCTION BOUNDARY

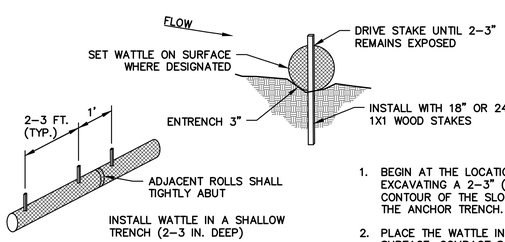
PROJECT SITE PLAN

N

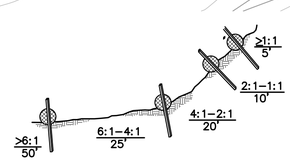
SCALE IN FEET

20 10 0 20 40 60

CONTOUR INTERVAL = 2 FOOT



TYPICAL WATTLE INSTALLATION GUIDE



TYPICAL WATTLE SPACING BASED ON SLOPE GRADIENT

1. BEGIN AT THE LOCATION WHERE THE WATTLE IS TO BE INSTALLED BY EXCAVATING A 2-3" (5-7.5CM) DEEP X 9" (22.9 CM) WIDE TRENCH ALONG THE CONTOUR OF THE SLOPE. EXCAVATED SOIL SHOULD BE PLACED UP-SLOPE FROM THE ANCHOR TRENCH.
2. PLACE THE WATTLE IN THE TRENCH SO THAT IT CONTOURS TO THE SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE WATTLE ON THE UPHILL SIDE. ADJACENT WATTLES SHOULD TIGHTLY ABUT.
3. SECURE THE WATTLE WITH 18"-24" (45.7-61 CM) STAKES EVERY 2-3' AND WITH A STAKE ON EACH END. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE LEAVING AT LEAST 2-3" (5-7.5 CM) OF STAKE EXTENDING ABOVE THE WATTLE. STAKES SHOULD BE DRIVEN PERPENDICULAR TO SLOPE FACE.
4. WATTLES SHALL BE 9"ø SEDIMAX-SW9.

STRAW WATTLE INSTALLATION GUIDE

NTS

REVEGETATION/EROSION CONTROL NOTES:

1. CONTRACTOR WILL PROVIDE WATTLES AND STAKES.
2. PRE-CONSTRUCTION INSTALLATION OF WATTLES FOR EROSION CONTROL SHALL BE CONDUCTED BY SUBCONTRACTOR.
3. SUBCONTRACTOR IS RESPONSIBLE FOR MAINTENANCE/REPAIR OF EROSION CONTROLS THROUGHOUT THE DURATION OF THE PROJECT.
4. REVEGETATION WILL BE CONDUCTED BY THE CONTRACTOR.
5. ALL STOCKPILED SOILS SHALL REMAIN INSIDE THE EROSION CONTROLS AND SHALL HAVE WATTLES PLACED AROUND THEIR PERIMETER.
6. ALL REMAINING STOCKPILED SOIL SHALL BE PLACED IN ROAD (EAST END OF STAGING AREA) AND SPREAD IN 6" LIFTS (MAX) AT THE CONCLUSION OF CONSTRUCTION.
7. NO PROJECT ACTIVITIES OR STOCKPILING OF MATERIALS/SOILS ARE ALLOWED OUTSIDE THE CONSTRUCTION BOUNDARY OR EQUIPMENT.

RFLMA CR 2014-04 ATTACHMENT 2

FINAL DESIGN

REDUCED DRAWING SIZES ARE NOT TO SCALE

REVISION NO.	DATE	DESCRIPTION	DRAWN BY	CHECKED BY	PROJECT A/E	APPROVAL

U.S. DEPARTMENT OF ENERGY
GRAND JUNCTION, COLORADO

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PROJECT LEAD	J. BOYLAN	1/30/14
SITE MANAGER/LEAD	L. KAISER	1/30/14

Work Performed by
S.M. Stoller Corporation
Under DOE Contract
No. DE-AM01-07LM00060

ETPTS RECONFIGURATION 2014

PROJECT SITE PLAN AND EROSION CONTROL PLAN

PROJECT NO. LTS-111-0056-10-006C

DRAWING NO. S11028-R00-C01-D+

SHT. 2 OF 18

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