

ROCKY FLATS SITE

REGULATORY CONTACT RECORD 2014-09

Purpose: Soil Disturbance Review Plan (SDRP) Update for Regrading the East Perimeter Channel (EPC) at the Original Landfill (OLF)

Contact Record Approval Date: October 6, 2014

Site Contacts/Affiliations: Scott Surovchak, U.S. Department of Energy (DOE); Jeremiah McLaughlin, Linda Kaiser, David Ward, The S.M. Stoller Corporation, a wholly owned subsidiary of Huntington Ingalls Industries (Stoller)

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

Date of Consultation Meeting: August 5, 2014

Consultation Meeting Participants: Carl Spreng, CDPHE; Vera Moritz, EPA; Scott Surovchak, DOE; John Boylan, Linda Kaiser, David Ward, George Squibb, Stoller

Introduction: *Rocky Flats Legacy Management Agreement* (RFLMA) Contact Record (CR) 2013-02 documents the outcome of consultation between DOE, CDPHE, and EPA (the RFLMA parties) regarding DOE's response to localized distress-cracking conditions on the OLF soil cover. These conditions were noted after the heavy precipitation event along the Front Range of Colorado from September 9 through September 16, 2013. The localized distress resulted in a reportable condition under RFLMA Attachment 2, "Legacy Management Requirements." CR 2013-02 provides an evaluation plan and schedule for addressing the reportable condition, which included proposed regrading of the EPC and associated diversion berm ends to reduce slope grades in this area to improve soil cover stability and adding drainage features to further minimize the potential for infiltration of precipitation.

In accordance with the evaluation plan and schedule, CR 2013-03 was issued (approved November 22, 2013), providing the required SDRP and a discussion of the proposed regrading of the EPC and associated diversion berms. CDPHE approved the drawings of the proposed grading and additional drainage features on December 4, 2013, and DOE planned to complete the work in December 2013. However, because of the winter weather conditions, the soil was either frozen or too wet to complete the approved project, and the work was rescheduled to the summer of 2014, as reported in the *Rocky Flats, Colorado, Site Quarterly Report of Site Surveillance and Maintenance Activities First Quarter Calendar Year 2014*.

Cracking and slumping were noted on the east side of the EPC, outside the landfill boundary, in the first and second quarters of CY 2014 (before the work was scheduled to be performed). Therefore, DOE decided to reevaluate the design approved in December 2013 prior to implementing.

Discussion: DOE, CDPHE, and EPA met on August 5, 2014, to review the proposed update to the grading plan. The primary updates to the December 2013 grading plan are to cut back the ends of berms 4, 5, and 6 and taper the sides of the channel back to a more gradual slope. Figure 1 shows the location and anticipated aerial extent of the soil disturbance. The construction boundary is similar to the previous (December 2013) design, but soil disturbance is more extensive. There is a smaller area around the berm 4 flow line inside the “limit of waste” that will have new turf reinforcement material installed for erosion control. In October 2013 a slotted drainage pipe bedded in ¾-inch crushed drain rock was installed in the eastern end of diversion berm 4 as part of the initial response to the localized distress (see CR 2013-02), and this will be left in place. Another 4-inch slotted drainage pipe bedded in crushed drain rock will be installed between berm 5 and 6 to drain water from Seep #2/3 into the EPC. The excess soil will be distributed inside the COU as shown in Figure 2. No intrusive work will be performed within the waste footprint boundary.

The soil disturbance, filling, and grading on the OLF cover is subject to the requirements of RFLMA institutional controls (ICs) as discussed below. An approved SDRP is required, and the RFLMA parties agree that the preliminary design provides sufficient information for the SDRP for the proposed work.

Institutional Controls Evaluation: The soil disturbance work is subject to ICs 3 and 6. Table 1 recaps these ICs.

Table 1. Institutional Controls

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.
IC 6	Digging, drilling, tilling, grading, excavation, construction of any sort (including construction of any structures, paths, trails or roads), and vehicular traffic are prohibited on the covers of the Present Landfill and the Original Landfill, except for authorized response actions.
	Objective: Ensure the continued proper functioning of the landfill covers. Rationale: This restriction helps ensure the integrity of the landfill covers.

The required SDRP is in Attachment 1. The *Erosion Control Plan for Rocky Flats Property Central Operable Unit*, which has been approved by CDPHE and EPA, provides erosion control best management practices that meet the IC 3 requirements.

Resolution: CDPHE has review information regarding the proposed soil disturbance and excavation and, after consulting with EPA, has approved the proposed activity and the proposed grading plan. CDPHE has determined that the proposed activity will not compromise or impair

the function of the remedy or result in an unacceptable release or exposure to residual subsurface contamination. CDPHE has also determined that the proposed project meets the rationale and objectives of ICs 3 and 6.

DOE will not conduct the approved soil disturbance until 10 calendar days after this CR is posted on the Rocky Flats website and stakeholders are notified of the posting in accordance with the RFLMA Public Involvement Plan. The work is planned to be conducted and completed in late 2014.

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

Closeout of Contact Record: This Contact Record will be closed when the work is completed, post-construction reseeded has been performed, and post construction erosion controls are in place.

Contact Record Prepared by: David Ward

Distribution:

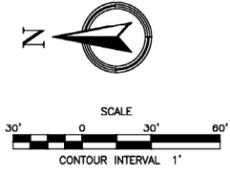
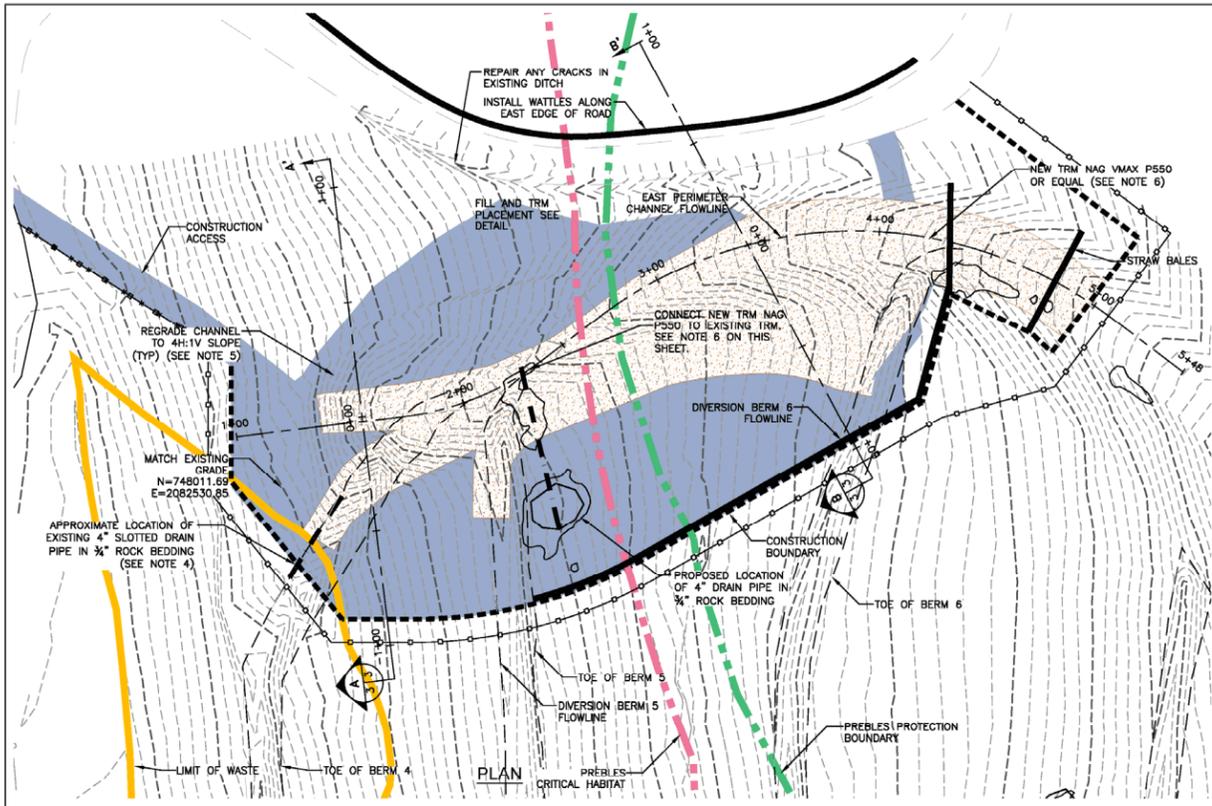
Carl Spreng, CDPHE

Vera Moritz, EPA

Scott Surovchak, DOE

Linda Kaiser, Stoller

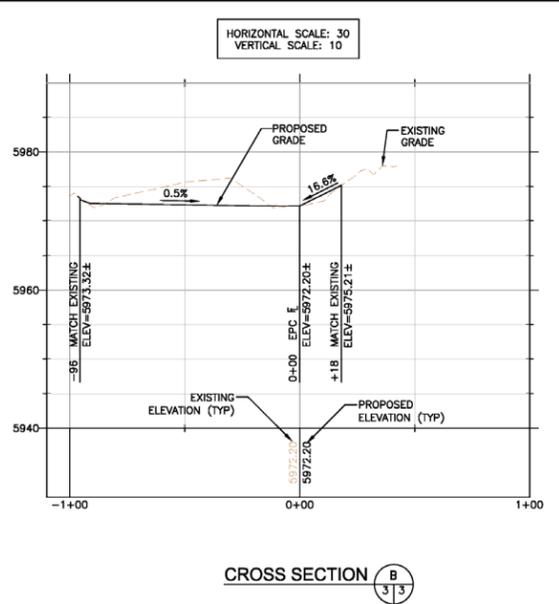
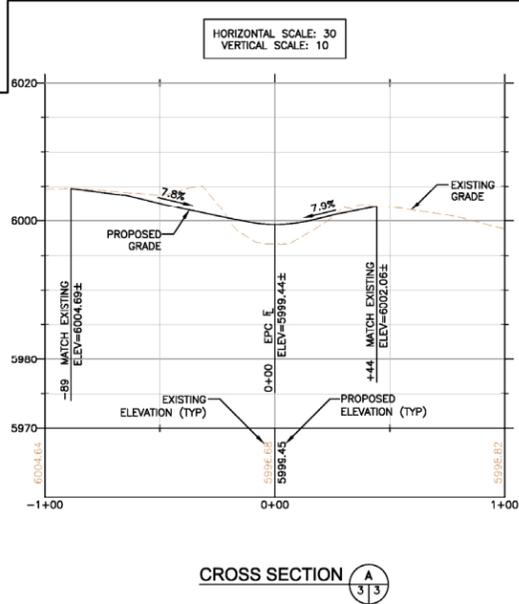
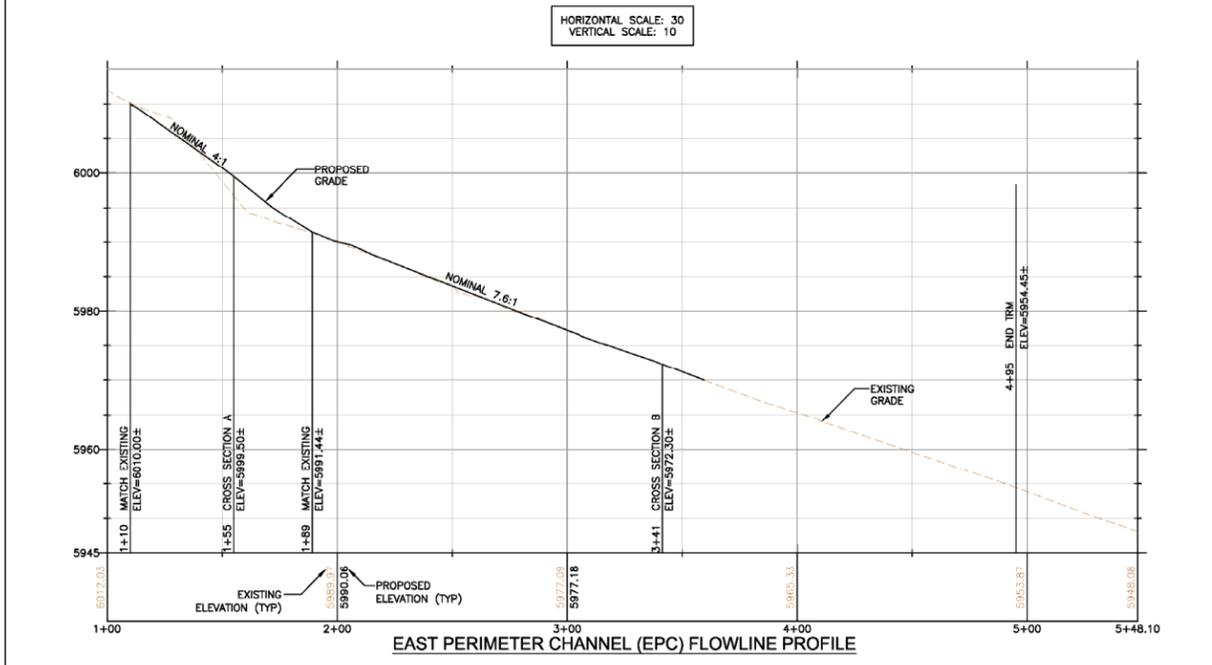
Rocky Flats Contact Record File



EARTHWORK QUANTITIES		
CUT	FILL	NET
1658 CU. YDS.	219 CU. YDS	1439 CU. YDS. <CUT>

NOTE: QUANTITIES ARE IN-PLACE AND DO NOT REFLECT SHRINK OR SWELL.

- NOTES:
- TOPOGRAPHY BASED ON 6/12/2014 SITE SURVEY.
 - WASTE BOUNDARY FROM .DWG FILE FROM ORIGINAL CONSTRUCTION DRAWINGS (FIGURE 3-1) BY EARTH TECH.
 - EXCESS CUT SOIL SHALL BE HAULED TO LOCATION DIRECTED BY CONTRACTOR.
 - PROTECT 4" SLOTTED DRAIN PIPE IN 3/4" ROCK BEDDING.
 - REGRADE HEADWALL AND SURROUNDING AREA TO SLOPES FLATTER THAN 4H:1V.
 - EXISTING TRM NAG VMAX P550 TO BE REMOVED PRIOR TO EARTHWORK AND REPLACED FOLLOWING GRADING ACCEPTANCE BY THE CONTRACTOR. (REUSE EXISTING TRM AS DIRECTED BY THE CONTRACTOR).
 - THE HYDRAULIC CAPACITY OF THE EAST PERIMETER CHANNEL EXCEEDS THE COMBINED RUNOFF FOR THE 1,000 YEAR STORM EVENT OF DIVERSION BERMS 4,5,6, AND 7.
 - PLACE FILL IN MAXIMUM 4" LOOSE LIFTS AND COMPACT WITH MINIMUM 4 PASSES OF A CATERPILLAR D-6 BULLDOZER OR EQUIVALENT COMPACTIVE EFFORT USING ALTERNATE EQUIPMENT AS APPROVED BY CONTRACTOR.
 - FILL SHALL BE SUITABLE ON SITE MATERIALS FREE OF ORGANICS OR OTHER DELETERIOUS MATERIALS, OR IMPORTED SOILS MEETING CDOT CLASS 2 STRUCTURAL FILL REQUIREMENTS APPROVED BY THE CONTRACTOR.
 - MOISTURE CONTENT OF FILL SHALL BE APPROPRIATE AS DETERMINED BY THE CONTRACTOR.



GENERAL PROJECT NOTES:

PLOTTING OR PRINTING OF THESE DRAWINGS TO ANY SHEET SIZE OTHER THAN 24x36 OR BY USING FORMATS OTHER THAN AUTOCAD PLOT FILES WILL RESULT IN INCORRECT SCALES AND HATCH PATTERN DISTORTIONS. THE USER IS CAUTIONED AND SHOULD EITHER OBTAIN A HARD COPY PRINT-OUT FROM THE CONTRACTOR OR APPROPRIATELY SCALE ALL MEASUREMENTS FROM THE BAR-SCALES PROVIDED.

NO.	DATE	DESCRIPTION	BY	CHECKED BY	PROJECT NO.
1	9/18/14	ISSUED FOR PERMIT	MARCO HERRANZ	STEPHEN FITTON	111-0056-07-0011
2	9/22/14	ISSUED FOR PERMIT	MARCO HERRANZ	STEPHEN FITTON	111-0056-07-0011
3	9/22/14	ISSUED FOR PERMIT	MARCO HERRANZ	STEPHEN FITTON	111-0056-07-0011
4	9/22/14	ISSUED FOR PERMIT	MARCO HERRANZ	STEPHEN FITTON	111-0056-07-0011
5	9/22/14	ISSUED FOR PERMIT	MARCO HERRANZ	STEPHEN FITTON	111-0056-07-0011

U.S. DEPARTMENT OF ENERGY GRAND JUNCTION, COLORADO	Work Performed by S.M. Stoller Corporation Under DOE Contract No. DE-LM0000415
ROCKY FLATS SITE JEFFERSON COUNTY, CO.	ORIGINAL LANDFILL OLF SOIL DISTURBANCE FIGURE 1 FILLING AND GRADING LOCATION UPDATE
PROJECT DESIGNER JEFFERSON COUNTY, CO.	PROJECT NO. LTS-111-0056-07-0011
DATE PLOTTED 9/22/14	SHEET NO. S12125-P01-R00-D+

Figure 1. OLF Soil Disturbance, Filling, and Grading Location



Figure 2 Soil Distribution Locations

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

Proposed Project: Soil Disturbance Review Plan (SDRP) Update for Regrading the East Perimeter Channel (EPC) and Associated Diversion Berms at the Original Landfill (OLF)

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.

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

The purpose of the proposed project is to regrade the EPC and associated diversion berm ends to reduce slope grades in this area to improve slope stability, and to add drainage features to further minimize the potential for infiltration of precipitation.

Contact Record 2014-09 Figure 1 shows the location and the lateral and vertical extent of the excavation and soil disturbance. The slopes of the western side of the EPC between berms 5 and 6 will not be restored to the existing grade, therefore reducing or removing the 2-foot soil cover; however, this area is outside the “limit of waste.” The soil disturbance, regrading, and drainage feature installation work will not change the 2-foot-thick soil cover within the limits of the buried wastes. The material (Rocky Flats Alluvium) excavated from the cut areas will be used as fill in the fill areas. The excess soil will be distributed at designated locations in the COU as shown in Contact Record 2014-09 Figure 2.

Information about any remaining subsurface structures in the vicinity of the proposed project (or state that there are none if that is the case).

There are no remaining subsurface structures in the vicinity of the proposed project. A buried natural gas line operated by Xcel Energy is in the utility easement corridor north of the OLF. The location and alignment of the natural gas line is well known and marked with signs. It is well outside of the soil disturbance 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 OLF is former IHSS 115. The OLF has a 2-foot-thick soil cover over the location of the disposed waste materials and clean Rocky Flats Alluvium fill surrounding the waste materials for the placement and configuration of storm water and seep water management features. Limits of the waste area are shown in Contact Record 2014-09 Figure 1.

The project area is in the Upper Woman Drainage Exposure Unit (EU) evaluated in the Comprehensive Risk Assessment, Appendix A of the Remedial Investigation/Feasibility Study. The only contaminants of concern (COCs) identified for this EU are benzo[*a*]pyrene and dioxins/furans for surface soil/surface sediment. (currently buried several feet beneath the OLF cover).

Dioxin/furan concentrations were converted to 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD) toxicity equivalents (TEQs) for COC screening and risk characterization. Noncancer risks for benzo[*a*]pyrene and 2,3,7,8-TCDD (TEQ) were not evaluated because those COCs do not have noncancer toxicity values. Risks were calculated for benzo[*a*]pyrene and 2,3,7,8 TCDD (TEQ). The estimated Tier 1 total excess lifetime cancer risk to the wildlife refuge worker (WRW) at the EU is 8E-06, and the Tier 2 risk is 4E-06. It is important to note that the samples with the highest benzo[*a*]pyrene concentrations are located in an area that is now several feet beneath OLF cover.