

The St. Louis Sites

Formerly Utilized Sites Remedial Action Program • Summer 2019

(314) 331-8000

www.mvs.usace.army.mil

FUSRAP uses proactive measures to protect community

Protecting human health and the environment is embedded in the mission statement of the U.S. Army Corps of Engineers, St. Louis District, Formerly Utilized Sites Remedial Action Program. FUSRAP employs operational procedures in its radiological-contamination investigation and cleanup activities to make it happen.

The activities of the Manhattan Engineer District and the Atomic Energy Commission (MED/AEC) generated contamination during the development of atomic weapons in the 1940s and 1950s. FUSRAP removed the original sources of radioactive contamination in the North St. Louis County sites: The St. Louis Airport Site (SLAPS) was completed in 2007, and Hazelwood Interim Storage Site (HISS)/Futura was completed in 2013.

The highest-concentration contaminants have been confined to the industrial area between the St. Louis Airport Site (SLAPS) and Pershall Road/I-270, with remediation of the source piles at SLAPS and Latty Avenue Properties completed a few years ago. From the tens of thousands of samples taken along the first 4 miles of Coldwater Creek north of I-270, which transitions to predominantly commercial, residential and recreational use, the FUSRAP team has, thus far, found 10 pockets of contaminated soils in the creek banks and adjacent properties, ranging in depths from the surface to approximately 12 feet below ground surface. USACE will remediate contamination that is above remediation goals (RGs).

"Contamination above RGs that has the greatest chance of public contact is given the highest priority for remediation," said Bruce Munholand, the FUSRAP program manager.

FUSRAP standard practice has been to sample ALL tributaries to CWC, not just the major residential tributaries.



The contractor removes low-level radioactive material from Area 1 of the former Ballfields Phase 2B in North St. Louis County with a track-mounted excavator Wednesday, July 18, 2018.

Beginning at the mouth of the tributary, samples are taken proceeding upstream to the 10-year floodplain boundary limit in the tributary. If contaminated soil or sediment deposits are found, sampling proceeds upstream beyond the 10-year floodplain limit until no further contamination is detected. To date, FUSRAP has found contaminated soils or sediment in a handful of the tributaries, all within the 10-year floodplain.

Operational controls for dust suppression put in place during remedial activities include but are not limited to keeping soils moist, immediately cleaning up all soil spills, and covering exposed soil with geo-membrane or geotextile fabric. Continual perimeter air monitoring demonstrates that the operational controls being used are effectively preventing dust from leaving the remediation sites.

FUSRAP has a procedure to identify contaminants of concern (COCs) in structures. Aerial photographs are evaluated to determine the commercial and residential structures located within CWC's 10-year floodplain. For the purpose of initial evaluation, any building or structure that falls within or on the boundary of the CWC 10-year floodplain will be identified for further evaluation and possible testing in accordance with USACE radiological testing-method procedures.

Also, if an occupied building is located within or on the CWC 10-year floodplain boundary and CWC floodwater has entered the structure through a pathway other than a floor drain (e.g., a window, door, sill plate or wall), a reconnaissance survey will be performed on the building. (Floor drains can overflow due to high levels of rainfall.)

Upcoming Events

Upcoming Meeting: March/April 2020. Learn more in the [winter newsletter](#).

Information Releases: [Winter newsletter – January 2020](#). FUSRAP issues this newsletter twice a year.

Planned Move: The FUSRAP Project Office will be moving in the fall. Learn more in the next issue.



**US Army Corps
of Engineers®**
St. Louis District



Contractors perform remedial activities at the Gunther Salt Property on the St. Louis Downtown Site (SLDS) Monday, April 8, 2019.

St. Louis Formerly Utilized Sites Remedial Action Program Activities

St. Louis Downtown Site

The St. Louis Downtown Site (SLDS) remedial-action construction activities are continuing at the Destrehan Street-East/Plant 7W area and the Gunther Salt Properties (DT-4) under the U.S Army Corps of Engineers (USACE) Formerly Utilized Sites Remedial Action Program (FUSRAP).

In addition, the FUSRAP team recently completed Pre-Design Investigation (PDI) sampling in the Plant 2 former Building 503 area. The team is currently performing data validation and review to assess the need for remediation.

Remedial activities at Destrehan Street-East/Plant 7W are nearing completion, with current activities focused in the section identified as Area 1. The FUSRAP team has removed approximately 25,000 cubic yards of contaminated material. The team is in the process of completing the last area prior to beginning the final phases of restoration.

Excavation is currently underway in and around the previously inaccessible salt-storage domes at the Gunther Salt Properties. At Dome 2, the FUSRAP team has removed about 400 cubic yards of contaminated material, with about 1,600 cubic yards still to be removed. At Dome 3, the team has removed about 1,200 cubic yards of contaminated material, with only a small amount remaining underneath the structural ring wall. To prevent compromising the integrity of the structure, the team is systematically removing the remaining contaminated material in small sections.

Keeping in Touch

Feedback - If you have any suggestions, questions or comments, contact the U.S. Army Corps of Engineers using any one of the following contact methods:

Phone: 314-260-3905/314-331-8000

Mail: U.S. Army Corps of Engineers, St. Louis District
FUSRAP Project Office
8945 Latty Ave., Berkeley, MO 63134-1024

The FUSRAP Project Office will be moving in summer/fall. Read more about it in the next edition of "The St. Louis Sites."

Email: STLFUSRAP@usace.army.mil

Mailing List - To receive newsletters and other printed communications, sign up for the FUSRAP mailing list or email list, using one of the contact methods above.

Home page - To reach the FUSRAP webpage, visit <http://bit.ly/FUSRAPstl> or <http://www.mvs.usace.army.mil/Missions/Centers-of-Expertise/Formerly-Utilized-Sites-Remedial-Action-Program/>.

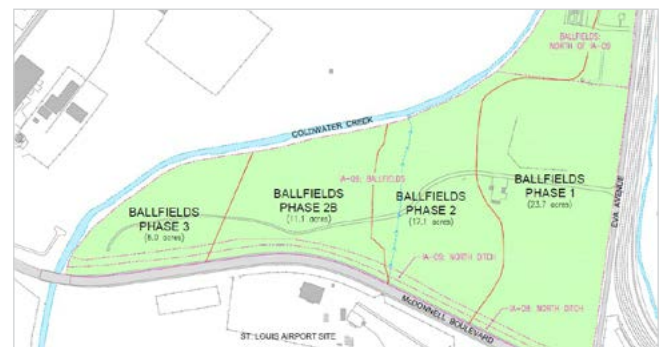
Facebook - Visit the USACE, St. Louis District, page at <http://www.facebook.com/teamsaintlouis>.

North St. Louis County Sites

The FUSRAP team completed remedial activities at Phase 2B in the former Ballfields (IA-09) near the intersection of James S. McDonnell Boulevard and Eva Road in June.

The FUSRAP team removed more than 23,000 cubic yards (cys) of material from the area. USACE started the excavation of Phase 2B briefly in 2014 and paused until 2017 when USACE resumed remedial activities. The FUSRAP team completed Phases 1 and 2 previously.

Remedial activities in Phase 3 of the former Ballfields (IA-09) started in June 2019. The FUSRAP team will excavate approximately 91,000 cys of material ranging from 1 foot to 15 feet below ground surface. Estimated time of completion for Phase 3 is four years.



A map of the former Ballfields area shows the phases of remediation.

USACE continues to sample Coldwater Creek banks, sediment and the adjacent properties within the 10-year flood plain. To date, USACE has collected 15,600 samples from CWC corridor and adjacent properties. USACE has completed more than 3.5 miles of CWC from I-270. The FUSRAP team is currently sampling from St. Ferdinand Park to the Jana School property adjacent to CWC.

Sampling CWC is more difficult the farther downstream the team goes. The banks of the creek get steeper making it harder to complete sampling activities. The FUSRAP team must complete several activities before it can actually collect samples.

1. First, the FUSRAP team develops a sampling plan called a Pre-Design Investigation Work Plan (PDI WP).
2. The farther down the creek that USACE samples, the more the travel time is increased.
3. The FUSRAP team inspects the area in the creek and adjacent properties.
4. Then the team removes the overgrowth and brush.
5. The team digs paths and stairs into the dirt to gain access to sampling areas on the creek banks.
6. The sampling locations are pinned/marked in the banks and adjacent properties.

7. When the FUSRAP team is ready to collect the samples, sampling equipment is loaded into vehicles and transported to the sampling locations. The equipment is heavy and difficult to carry.

8. The FUSRAP team conducts gamma walkover surveys to determine if there are additional small areas of radiological contamination. The team will collect biased surface soil samples in areas of elevated radioactivity in addition to the sample locations already determined in the sampling plan.

9. The team collects samples from the surface to 6 feet or deeper below ground surface. The FUSRAP team collects samples manually most of the time. Sometimes, the team must use a drill rig to collect deeper samples.

10. Heavy rains and flooding impact access to sampling locations in CWC because they wash away marker flags (which determine sampling locations) and conditions in the creek become slippery. Climbing up and down the creek banks with heavy sampling equipment becomes dangerous.

To alleviate the concerns of the property owners within Coldwater Creek's 10-year flood plain, USACE is sending letters to those property owners to provide updates on the status of their CWC property as FUSRAP samples the property and the data is completed. This fiscal year, USACE plans to complete documentation to release 40 properties.

DOE Legacy Management visits FUSRAP

The director of the Department of Energy's Office of Legacy Management visited the U.S. Army Corps of Engineers St. Louis District's Formerly Utilized Sites Remedial Action Program (FUSRAP) St. Louis Sites May 8.

During their visit, LM director Carmelo Melendez and some of his staff toured the on-site laboratory in Berkeley, Missouri, and various project sites in downtown St. Louis and North St. Louis County (NORCO). During the NORCO tour, the DOE contingent was able to watch a sampling crew from Leidos, a USACE contractor, taking samples from the banks of Coldwater Creek.

Two years after the remedy is completed at a FUSRAP project site, with or without inaccessible soils, its long-term management is turned over to DOE-LM.

"Our strong collaboration with the Corps is essential to accomplishing a smooth and efficient transition of the St. Louis area FUSRAP sites in the coming decades," Melendez said. "This site tour gave me — and the rest of the LM staff — the opportunity to observe how the Corps has managed the remediation challenges at these sites, as well as the issues that will remain when we take responsibility."

The FUSRAP program manager, Bruce Munholand, said that the DOE-LM site visit fostered a common understanding of the complexities of the FUSRAP sites and, as a result, what each site's end state may be upon transfer to LM.

"Our goal is to safely execute our remedial-action mission at all FUSRAP sites as efficiently as possible, optimizing current technology and industry practices to ensure all of our responsibilities have been addressed prior to turning the properties over to LM for long-term stewardship," he said.



During the site visit of Carmelo Melendez (center) and his staff from the Department of Energy's Office of Legacy Management Wednesday, May 8, 2019, FUSRAP lab manager Brad Wilson talks about how an isotopic-thorium sample is prepared for alpha-spectrometry analysis.

Educational Information

Q: What kind of sampling does FUSRAP do to identify areas of contamination along Coldwater Creek?

A: Prior to the start of actual sampling, the U.S. Army Corps of Engineers (USACE), St. Louis District, Formerly Utilized Sites Remedial Action Program (FUSRAP) develops a Pre-Design Investigation Work Plan (PDI WP), which is a sampling plan.

USACE considers several factors in selecting testing locations: origin of contamination, migration pathways, physical movement (hauling and historic grading), depositional areas within the creek and the mouths of tributaries, areas susceptible to flooding or topographical low-lying areas (current and historical), areas where channel realignment and improvements may have occurred, locations required for statistical coverage and areas indicated by radiological walkover surveys.

The FUSRAP team initially conducts a gamma walkover survey (GWS) to determine if there are areas of radiological contamination near the ground surface. The team will collect biased surface-soil samples in areas of elevated gamma radioactivity. A biased sample is a sample taken based on the professional judgment of the sampling plan designers or the field sampling team. Biased samples aren't randomly located or determined by a sampling grid, but rather are targeted based upon perceived probability of contamination.

gamma walkover survey – Trained technicians using hand-held radiation detectors scan the ground to determine gamma-radiation levels.

soil-sample collection – Surface soil is typically sampled using a hand-held stainless-steel scoop or coring tool. Below six inches, technicians use extendable hand augers or coring tools where possible. A drill rig may be required for greater depths and more resistant subsurface materials. Technicians use tube-type samplers whenever an undisturbed soil core is needed.

structure radiological survey – Technicians use hand-held, alpha-beta-gamma detectors to survey buildings and other structures. In addition to random testing of the structure, focus areas include high-traffic areas, ventilation equipment, floor drains, dispositional surfaces, and shipping and receiving areas.

This newsletter is printed on recyclable paper.



U.S. Army Corps of Engineers, St. Louis District
 FUSRAP Project Office
 8945 Lathy Ave.
 Berkeley, MO 63134