

RESTORATION ADVISORY BOARD MINUTES

April 16, 2019

The Restoration Advisory Board (RAB) meeting was called to order by Elyn at 9:00 a.m. on 16 April 2019 at the West Burlington City Hall.

Minutes Review

The January 2019 meeting minutes were accepted as written, with no public comments.

Agenda Review

The April 2019 agenda was accepted as written.

Old Business – Action Items from Previous Last Meeting

Jeff Morrison of CH2M HILL, now Jacobs, spoke about the action item that he had from the last meeting regarding Mathes Lake. He first introduced his two guests at the meeting, two of his senior scientists: Jeff Gamlin and Kim-Lee Yarberry. Jeff M. then clarified that there was an error on a slide at the previous RAB meeting about the number of sites needing more work to define delineation. It is in fact just two sites (Contaminated Clothing Laundry (CCL), and Line 3/3A Pond); Line 800 has enough information with the determination of flow direction data. He then clarified what the unassigned sites were that are being investigated by Leidos: Yard C, Yard G, Yard L and Unidentified Substance (Oil) Waste site.

There were no further questions.

Environmental Services Update

Kim-Lee presented an update on the Environmental Services Contract. Under the CERCLA program, the objective of the Remedial Investigation (RI) is to determine the nature and extent of contamination, to update the conceptual site model, and evaluate risk. 35 sites or areas were included in the approved Quality Assurance Project Plans (QAPPs) for Operable Unit 6 (OU6).

She discussed the March 2019 investigation work conducted by Jacobs:

- 69 groundwater (GW) samples was collected from monitoring wells at the Explosive Disposal Area (EDA), and 1 GW sample was collected at Line 1.
- 4 surface water (SW) samples was collected at the EDA.
- 4 SW samples was collected from OU3.
- 36 SW and 36 sediment samples was collected from Long, Brush and Spring Creeks (12 samples from each creek).
- 3 Sediment samples was collected from the Construction Debris Landfill (CDL).

Mark Hagerla asked what the sampling data was showing. Kim-Lee answered that we don't have that data back from the lab yet. The validation will be performed to make sure the analytical data meets specifications and is valid to use. She then showed the slide that discussed work planned for this spring and summer at Line 3A, the CCL, and the Operable Unit 3 (OU3) offsite temporary wells.

Mark asked about time of heavy rains? Kim-Lee clarified that for a background study, we are trying to sample upstream and we struggled to collect samples at locations

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where there isn't continuous flow. Background samples taken were for metals like barium and chromium that may be naturally occurring.

Mark asked is it continuously monitored. Kim-Lee answered that we collect discrete samples. Aaron Steele, USACE clarified that we monitor downstream on a monthly basis and try to line up with precipitation events.

Vaughn Moore asked about whether we sample on plant and off-plant or stop at the fence. Kim-Lee stated that there is monitoring off-plant by another contractor. Danny O'Connor said there was one monitoring point at the boundary and two downstream of the plant.

Steve Bellrichard clarified that Tetra Tech looked at watersheds and seasonality issues in past documents. Jeff M. said that the current work is to fill data gaps and will be incorporated with older data.

Jeff G. brought up the issue of dilution – he explained that during high rain events there were lower concentrations of contaminants and higher concentrations of Royal Demolition Explosive (RDX) were at a lower flow.

Kim-Lee then summarized Leidos' work in March. Vaughn asked about Yard C soil sampling, and if we worked at the northwest area of that site where a former generator was located. Kim-Lee replied that Leidos would need to answer that. Vaughn said the Ammo Box Chipping area was in Yard B, Steve added that Yard B is pretty large.

She showed a map with the sites and a summary of the fieldwork status. She also noted there is one additional RI site, the Incendiary Disposal Area (InDA), where there is currently no access to this site. It has a bridge that has been deemed structurally unsafe to drive over, which is postponed until at least 2020.

Julie Solinski asked where the Unidentified Substance (Oil) Waste Site was located. Danny pointed it out on the map and Steve clarified that it was based on one person reporting that this material was dumped.

Bruce Workman asked to be reminded of the direct push drilling technique and how deep they can go. Kim-Lee answered that it is pushing rods instead of drilling and we might be going down to depths of 30 ft.

Dean Vickstrom asked if we interfere with plant operations. Kim-Lee said no but we do have to work around operations by working on the weekends sometimes.

She then updated the team on the Mathes Lake Site Investigation (SI) and indicated we had some laboratory delays that have affected the reporting schedule. She then summarized the upcoming Per- and polyfluoroalkyl substances (PFAS) work that is planned for the emerging contaminants.

Kim-Lee then introduced another Jacobs senior scientist, Jeff Gamlin, who gave a presentation on a new Bioreactor Treatability Study that is underway. Jeff G. thanked Heather Smith from U.S. Army Engineer Research and Development Center (ERDC) and said that the science we are using is based on Heather's work. Jacobs completed a pre-design investigation by looking at tributaries and discharge points at Line 1. Some

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as-built drawings were not accurate based on inspection. We went out to confirm where water was flowing by conducting a flush potable water test, now we have a much better understanding of where water is going.

Heather had other auto-samplers with historical data. With multiple years of data, it is found that the highest concentrations were at the lowest flows. Conditions have changed with some buildings coming down (i.e. Building 1-70) as well as the sumps that used to discharge to a line that goes to Brush Creek. Base flow is what we are trying to treat, not the highest rainfall events.

Currently, we are in the design phase, planning to construct later this year. The pilot study will be a gravity system (no pumps) where base flow will pass through a series of tanks containing biochar that is amended with iron to treat RDX contamination.

Jeff G. used the pointer to show the north and south tributaries on a map and showed where we conducted the pre-design investigation and inspection of flow. Conveyance lines were shown on a map. Findings show that the southern tributary is collecting two inputs (sumps from Building 1-40 and surface flow).

Based on the pilot test, we found that our sampling data is consistent with past historical sampling that shows that the southern tributary is a better location for the treatment system. We are meeting with our contractor this afternoon to walk the site, after that the next step is to get a topography survey for the gravity flow system. Jeff G. then presented a conceptual design figure on a slide, he explained the model showing the potential treatment process and how it is similar to a septic tank. Based on the results of what we find to be the best treatment process, we're going to have a series of treatment tanks that will be installed underground. As part of the treatment process, in the aeration tank we will add dissolved iron so that we don't have iron staining in the water when it comes back into the creek.

Bruce asked about the conveyance line – is it underground? Jeff G. answered yes, in order to make sure it doesn't freeze it will be underground.

Zaynab Murray pointed out that the treatment system is being done on the upstream at Line 1, while another contract is measuring the concentrations downstream from which we will be able to observe the changes.

Bruce asked what the difference in elevation is. Jeff G. answered that it is about 10 to 20 feet.

Vaughn asked if they knew about the buried creek at Line 1. He explained that it was completely filled in, but that doesn't stop the water from flowing there. The policy at the plant back then was to empty their trucks by spraying on the ground—this whole area was filled in.

Hans asked about the treatment tanks themselves, are they charcoal activated? Jeff G. answered that it's biochar, which is similar to GAC. Heather added that it is like GAC but a bit different because it is a natural product. Biochar is able to grab the RDX, but doesn't bind it so tightly that it can't break down. The capacity of biochar is high enough that she hasn't been able to reach it in the lab yet, therefore we need to know about the

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limits of it so we can understand the kinetics.

Vaughn asked if it was the same as the experimental process she used a few years ago. Heather said she put one on the 40 mm range, and that it worked until it got filled with sediments. Without flow through the system there can be no treatment. She then discussed the fact that biochar is “basic” and that the pH goes up which also helps break down RDX. She added that Jeff G. is helping her with the hydrology and field engineering.

Hans asked how the aeration tank works, is there a compressor? Jeff G. answered no, it will need to have a flow like a waterfall with a rip rap structure for aeration because we don't want iron staining in the creek. In drum testing we want a breakthrough to know the limits of RDX treatment. Heather added aesthetically speaking, the reasons to aerate is so there isn't rust development on the rocks in Brush Creek.

Mark thought that this approach was underway before, but that the funding was pulled previously. Heather said that is true, the Environmental Security Technology Certification Program (ESTCP) did pull funding and she was working with a different contractor at that time. She feels that this is a better design, Jeff G. and the Jacobs team are going to help her with kinetics and with preventing the sediment buildup. Jeff G. and Steve both thanked Zaynab and the Army Environmental Command (AEC) for funding this study.

There were no further questions.

FUSRAP Update

Mike Kessler provided an update on FUSRAP activities and reminded the group what the acronym FUSRAP stands for: Formerly Utilized Sites Remedial Action Program to deal with former atomic energy commission radioactive waste. It was previously assigned to the Department of Energy (DOE) and then transferred to the U.S. Army Corps of Engineers (USACE). Two operable units (OUs) were assigned to FUSRAP: Operable Unit 1 (OU1) which consists primarily of explosives contaminated soils at Line 1 and the West Burn Pads (WBP). Operable Unit 8 (OU8) is predominantly looking for low level radiation.

For OU1, they are moving forward with the Remedial Action Completion Report (RACR). It is being drafted now and Mike is hoping to submit the report to the Environmental Protection Agency (EPA) in June. He then added that FUSRAP has been remediating at Line 1 since 2010. Most recent actions at Line 1 have been at Building 1-70 and Building 1-05-1, and 1-05-2 (two melt buildings) which have been remediated. Future plans at Line 1 are for Building 1-155-1 and Building 1-40.

For OU8, there are 7 sites in the Record of Decision (ROD): Line 1 structures, West Burn Pads South (WBPS), Firing Sites Area (FSA), Yard C, Yard G, Yard L, and Warehouse 3-01.

Mike reiterated the 3-step process that FUSRAP uses: pre-design investigation, remediation, and verification. Remediation is complete except for the FS-12 area. No

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remediation is required at Warehouse 3-01 or Yards C, G, & L to be protective of the site worker.

Mike showed a photo of the large depleted uranium (DU) fragment that was recently found. Most of the DU found is small, that large material is the exception.

Mike presented a slide with an overview of the Firing Site 12 (FS-12) Survey Units (SUs). As he talks about remediation he shows a slide with a map that has some of the survey areas and their location. He explains that there are five groups with different color shading, which shows the eastern, southern, western, northern and original SUs.

They have completed all 49 of the original General Excavation Area (GEA) and are now working on the extended GEA. At the southern SUs, three (114, 115, 50) and the western half of 51 will be turned over to the remediation contractor. There is a hand remediation in progress (gamma walkover survey) and the team is on track for completing characterization this fiscal year. In 2018, 174,000 square feet was excavated.

Julie asked why there isn't a buffer in the southeast corner like there are in the other areas. Mike said they haven't formally extended the GEA yet. They are considering whether there is a Class 1 or Class 2 buffer needed there. Danny clarified what Class 1 (higher sampling requirements) means vs Class 2 (less likely to have contamination and means less frequent sampling).

Mike then updated the third quarter plans for this year which includes:

OU-1

- Develop sampling plan for 'bounding' contamination at additional Line 1 buildings
- Continue review of WBPS RACR

OU-8

- Continue PDI of southern SUs/eastern SUs to confirm boundary of extended GEA
- Verify areas excavated in 2018
- Conclude pre-construction activities with new remedial action (RA) contractor (R8I-Cabrera JV)
- Mobilize R8I-Cabrera to FS-12

Other activities

- Conclude OU-1 and OU-8 Five-Year Review
- Conclude update of IAAAP FUSRAP Community Involvement Plan (CIP)
- Continue environmental monitoring of surface water, sediment, & air

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FUSRAP 2019 Goals:

- Ship 1,000 cubic yards (CY) > Remediation Goal (RG) material
- Process 6,500 CY of material
- Stockpile 450 CY for future shipping
- 'Release' 32 Survey Units
- Complete Five-Year Review
- Complete update of FUSRAP CIP

There were no further questions.

Building Demolition Status

Randy Doyle, Environmental Coordinator at IAAAP, presented the demolition update. The demolition is part of the Army restoration program to abolish obsolete infrastructures. Randy indicated that they are now up to nine phases. Bhate is doing the abatement and demolition work and it will be over 1 million square feet of demo when all phases are done. Randy said that Bhate has provided consistently good work and is supported by using many local businesses.

Randy's team has completed Phases 1-4. Phase 5 is mostly Line 1 and is ongoing right now. Phases 6 and 7 are awaiting funding. Phase 9 will be the old Line 3A and Phase 10 will be Line 2 in the future.

Randy provided a project status that 250 structures have been demolished and 447,000 square feet. With regards to recycling:

- Over 50,000 Ton of Concrete crushed for re-use
- Over 2,500 Ton of metal recycled
- 85% diversion rate of solid waste (concrete, recyclable items)

Randy added that abatement of asbestos is one of the most expensive and most important processes that his team is currently doing. With regards to environmental stewardship:

- 2,000 tons of asbestos abated
- 40 tons of PCB contaminated debris abated
- Proper disposal of other regulated material (lead, ballasts, HM)

Randy then showed some photos of various Lines and provided a status on them:

- Line 8 has one more bunker, but has run into bureaucracy
- Line 6 is done
- Line 3 is the priority because of the new melt pour. That will be done by December
- Line 5 is complete
- Line 8 is complete, it is forest again already

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- Line 1 we are about 75% complete. They want to take care of old ramps, and old fences at Line 1. He then showed a photo where old 1-02 was at (right hand side). The melts are down and landscaped. We will come back in about 3 weeks and plant green pastures.

Vaughn asked if all of Line 3 was coming down. Randy answered 35 buildings, and everything north of 3-05-2. Vaughn followed up if Line 3A will come out completely? Will Line 2 come out? Randy responded yes, if everything goes as planned, but those are in the future.

There were no further questions.

Action Items for Today

Jen Busard said that before we move on to the action items, she wanted to thank the guests who travelled here today. She singled out one special guest: EPA Section Chief Susan Fischer is here today.

Jen also announced that this is Commander Koehler's last meeting as he is moving on in June after serving for two years.

Julie asked about how to handle the soil beneath structures as they come down. Jen replied they are working on a contract to sample soil as these buildings are demolished. Steve clarified it is different than the FUSRAP contract for OU1.

Jen said that the request for an acronyms list was met, and it is in the back of the room with other handouts.

Jen asked if there are any new action items for July:

Vaughn asked how long the RAB has been together. Sarah Brockway answered since 1997. Vaughn added that it has been 22 years and he has never seen a complete list of how much contaminated soil has been hauled out. What are the results of all the millions of dollars spent to-date. It has been a long process and he wants to see what the RAB has accomplished. How much asbestos and steam line has been removed? Hans asked about it a couple years ago. Vaughn wants to see what has been done since we have had a RAB for 22 years. How much cement removed?

Mark wants to know about all the fenced in areas. What was done there? Restoration isn't about just fencing something in. He went out there on a tour and saw fences being built at Firing Sites and the InDA area where the bridge is out. Mark wants to know what the future use of those areas.

Jen replied those are Military Munitions Response Program (MMRP) sites. Steve clarified that he didn't miss any meetings or part of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process. If Unexploded Ordnance (UXO) was suspected, EPA said fences must come up for safety purposes. We think there is some risk here so fences were put up immediately.

Hans said it was interesting to see the construction process on the Bioreactor. Jeff G. clarified it depends on the construction contractor availability. Jeff M. said we can provide

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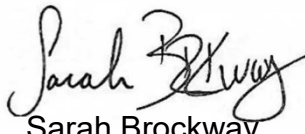
a status update next time.

One original RAB committee member, Kathy Christy, said that she just moved back from California and that it was interesting to see how things have changed since she moved back and started attending recent meetings.

Next meeting is July 16 at 9 am.

Meeting adjourned at 11:28 a.m.

Original signed by:



Sarah Brockway
Secretary

Original signed by:



Elyn Holton-Dean
Community Co-Chair

Original signed by:



Jen Busard
Army Co-Chair

- Exhibits:
- 1 Attendees
 - 2 Agenda
 - 3 Remedial Investigation Update
 - 4 Building Demolition Status

Exhibit 1

GOVERNMENT MEMBERS PRESENT (5)

LTC Stephen T. Koehler
Dan Cook
Jen Busard
Danny O'Connor
Susan Fischer

RAB MEMBERS PRESENT (8)

Vaughn Moore
Robert Haines
Bruce Workman
Dean Vickstrom
Julie Solinski
Hans Trousil
Mark Hagerla
Elyn Holton-Dean

PUBLIC PRESENT (21)

Dean Johnson
Steven Bellrichard
Randy Doyle

Jeff Morrison
Rachel Williams
Mike Kessler
Sarah Brockway
Amanda Smith
Kathy Christy
Scott Smith
Nick Copeland
Kim-Lee Yarberr
Jeff Gamlin
Heather Knotek-Smith
Bruce Munholand
Angela Schmidt
Daniel Allgeier
Aaron Steele
Penny Vacell
Zaynab Murray
Brooke Thye
Joe Krenzelo

Total in attendance: 34