



## RAB MEETING MINUTES

**Date/Time:** Thursday, November 10, 2022, 6:30 p.m. to 8:30 p.m.

**Location:** Virtual meeting via Microsoft Teams

**Attendees:** Thomas Lineer, Steve Cardon, Bill Millar (U.S. Army)  
Dan Groher (U.S. Army Corps of Engineers [USACE])  
Carol Keating (United States Environmental Protection Agency [USEPA])  
Joanne Dearden, Diane Baxter (Massachusetts Department of Environmental Protection [MassDEP])  
Roy Herzig (Massachusetts Development Finance Agency [MassDevelopment])  
RAB Board Members: Chris Mitchell (Harvard Board of Health), Laurie Nehring and Julie Corenzwit (People of Ayer Concerned about the Environment [PACE]), Amy McCoy, Dave McCoy, Alix Turner  
Neil Angus (Devens Enterprise Commission)  
Martha Morgan (Nashua River Watershed Association)  
John Kastrinos (Haley & Aldrich, Inc.)  
Andy Vitolins, Steven Perry, Amy Henschke, Mark Pasquarello (SERES-Arcadis 8(a) Joint Venture 2, LLC [S-A JV])  
Bill Duston, Joan Eliyesil, Aaron Maruzzo, Robert Ford, Dale Levandier, and other attendees participating by phone or otherwise unidentified (citizens and guests)

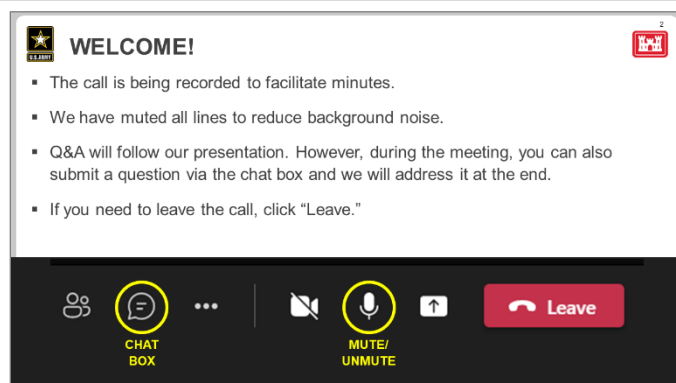
**Slides:** RAB meeting slides are available on the project website at:  
<https://www.nae.usace.army.mil/missions/projects-topics/former-fort-devens-environmental-cleanup/>.

**Please Note:** Discussions described in these minutes have been paraphrased as needed for clarity. The invitation for this meeting is provided for reference at the end of these meeting minutes.

## WELCOME & OPENING COMMENTS



Steven Perry (S-A JV Community Involvement Specialist) opened the meeting and welcomed the attendees to the meeting.



Steven Perry indicated that the meeting was being recorded to generate minutes, which will be available after the meeting. He reminded everyone that microphones will be muted to avoid background noise. He noted that attendees can use the mute/unmute button at the bottom of their screen to talk or they can enter comments in the chat box.



**WELCOME!**

**Thank you for joining us tonight.**

<p><b>U.S. Army and Support:</b></p> <p>Thomas Lineer U.S. Army HQDA/ODCS G-9 Base Realignment and Closure (BRAC) Environmental Coordinator (BEC)</p> <p>Dan Groher, P.E. U.S. Army Corps of Engineers (USACE) New England District</p> <p>Andy Vitolins, Steven Perry, Mark Pasquarello, and Amy Henschke SERES-Arcadis JV Team</p>	<p><b>Regulatory and Development Board Members:</b></p> <p>Carol Keating U.S. Environmental Protection Agency (USEPA) Region 1</p> <p>ZaNetta Purnell USEPA Region 1 Public Affairs Specialist</p> <p>Joanne Dearden Massachusetts Department of Environmental Protection (MassDEP)</p> <p>Roy Herzig MassDevelopment</p>	<p><b>Community Board Members:</b></p> <p>Julie Corenzwit Amy McCoy Dave McCoy Chris Mitchell Laurie Nehring Alix Turner</p>
--	---	--

11/17/2022

Steven Perry announced the leaders and contributors for the call: Tom Lineer (U.S. Army); Dan Groher (USACE); Steven Perry (S-A JV Community Involvement Specialist); Andy Vitolins (S-A JV Project Manager); Mark Pasquarello (S-A JV Community Outreach Manager); Amy Henschke (S-A JV Meeting Coordinator); Carol Keating (USEPA); Joanne Dearden (MassDEP); Roy Herzig (MassDevelopment); and community Restoration Advisory Board (RAB) members Julie Corenzwit, Amy McCoy, Dave McCoy, Chris Mitchell, Laurie Nehring, and Alix Turner.

**WELCOME!**

**Tonight's topics**

- Community Involvement & RAB Update**
- Nashua River Military Munitions Overview**
- Community Board Member Presentation**
- Project Updates**
- Next Steps & Meeting**
- Questions & Answers**

11/17/2022

Steven Perry summarized the topics to be covered: updates about community involvement and the RAB member meeting, project updates from Andy Vitolins, a Q&A session, and next steps.

**COMMUNITY INVOLVEMENT & RAB UPDATE**

**1 | COMMUNITY INVOLVEMENT & RAB**

**Community Involvement Plan Update**

<p>Information repository is at the Ayer Library and being updated with PFAS project documents</p>	<p>Digital Administrative Record (AR) continues to be developed and populated with project documents</p>	<p>Military munitions notifications and public outreach efforts continue</p>	<p>The next quarterly RAB meeting will be on February 9, 2023</p>
--	--	--	---

The Community Involvement Plan (CIP) and all other documents including the ARs are available on the Fort Devens Environmental Cleanup website at: <https://www.nae.usace.army.mil/mismissions/projects-topics/former-fort-devens-environmental-cleanup/>

11/17/2022

Steven Perry noted that a more thorough examination was conducted of libraries and other public spaces within 10 to 20 miles of the project site that could house the physical paper repository and that an update would be given during the meeting. He also noted that there would be an update on the continuing effort to build out the digital administrative record (AR). He reminded everyone that military munitions notifications and other public outreach efforts are ongoing and any time that new information is available, it will be passed along. He also noted that the next quarterly meeting will be on February 9, 2023.

**1 | COMMUNITY INVOLVEMENT & RAB**

**RAB Technical Committee Meeting**

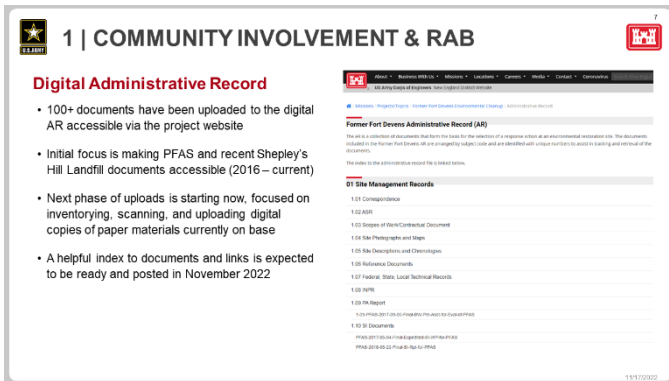
Technical Committee meeting held on October 6, 2022

Primary topics of discussion included:

- Additional sampling of soil and groundwater at the AOC 31 - Former Fire Training Area (FFTA) at Moore Army Airfield.
- Next steps at FFTA, including how sampling and bench-scale treatability study results will be used.
- Overview of current planning for PFAS investigation in Area 1, including the scale and scope for sampling of soil, groundwater, surface water, sediment, and fish tissue.

11/17/2022

Steven Perry noted that the RAB members had a technical committee meeting on October 6, 2022. It was an opportunity for the members to go deeper into some technical topics regarding the former fire training area (FFTA) at Moore Army Airfield and the per- and polyfluoroalkyl substances (PFAS) investigation in Area 1.



Steven Perry mentioned that the digital AR is housed on the project website, and over 100 documents are now posted to that location. Work on converting the paper archive to digital format is continuing, with focus on Shepley's Hill Landfill (SHL) and PFAS documents first. A searchable index is not ready yet but should be available within a month or so.

Carol Keating asked who should be contacted if someone wanted to see the AR. Steven replied that people could contact Tom Lineer, whose information is shown on lefthand side at the bottom of the project website, or send an email to the project email (FormerFortDevensRAB@arcadis.com), and the Arcadis team would follow up with the sender. Tom added that sending an email to the

project email would get a quicker answer.

Carol asked what someone in the community should do if they needed to see paper documents since the library may not have all the historic documents like the older Records of Decision (RODs) and feasibility studies (FSs). Andy Vitolins replied that work to organize and scan all the paper documents for the digital AR is continuing, and those documents are still accessible as they are being scanned.

Chris Mitchell asked what the issue is with the Ayer Library and if the team was looking for another place to put the documents. Steven replied that this topic would be discussed next.

Laurie Nehring asked if the data from the documents posted on the digital AR would also be available to search, for example, if somebody were interested in pulling in the results of specific monitoring wells. Andy replied that the data tables that are in the reports will be accessible through the reports and the reports will be searchable. Laurie asked if somebody could access the raw data in a spreadsheet without having to retype it. Steven replied that at the moment the digital AR consists of PDFs of the physical reports. He noted that there would be questions of security and integrity of data if the spreadsheets were published. He suggested reaching out to USEPA or the U.S. Army for specific data requests and how they would be handled.

Carol added that people have had their access to the electronic database removed recently, making it difficult to get real-time data. She noted that she thinks it is a good idea to be able to access individual results for wells, but that the first effort should be to get all the documents scanned and uploaded. She commented that there should be a way to get access to validated data, but there have not been any discussions yet with the U.S. Army as to how to do that. Tom replied that the U.S. Army is in tort litigation and other potential litigation, so access to the database is restricted because of that. He mentioned that if there were specific requests for data, the U.S. Army would review those requests and respond quickly to support the development effort by MassDevelopment at the airfield. He noted that they could address data needs; however, he noted that the data must go through the data validation process first.

Carol asked if there was a way to make data unrelated to the lawsuits available, for example, data unrelated to PFAS. Tom replied that the litigation is related to PFAS and may be ongoing for some time. He added that other documents are available after they are finalized and released. He noted that USEPA has access as a regulator to preliminary data before the reports become final and are released to the public. Andy Vitolins added that he would look into whether it is possible to share data in a form other than PDF while considering any security issues. Tom added that there is no question about the U.S. Army wanting to share what they have; he agrees that both the U.S. Army and USEPA should be able to review the data.

Laurie added that PACE is also involved in a very large federally funded project, and the goal is to help understand health effects from PFAS how PFAS got into the Ayer water supply. To support all the work and money that the federal government is putting into this study, she is hoping that raw data can be provided to save money, time, and effort. Tom replied that they could accommodate the request that has already been made for the part of the groundwater model that has been released to the public. He referred her to Penny Reddy to coordinate that support. He again confirmed that, as the U.S. Army is able to release data, they will do so.



**1 | COMMUNITY INVOLVEMENT & RAB**

**Evaluation of Ideal Location for Physical Information Repository (IR)**

Location	Abile to Serve as IR?	Hours	Open Evenings/Weekends?	Access Details	Distance
Ayer Library	Yes, currently serving as the repository	Tues/Thurs: 10-6 Wed: 10-6, Fri: 10-5 Sat: 9-2	10 hours per week	Current room is open and easy to access and maintain. A table and chairs are available in the room adjacent to the shelving where documents are stored.	Adjacent
Ayer Police Department	No	--	--	Insufficient supervision and document controls	Adjacent
Ayer Town Hall	Yes	Mon/Weds/Thurs: 8-4 Tues: 8-4, Fri: 8-2	1 hour per week	Documents would be in the Great Hall, which is unsupervised. Documents would not be able to be monitored and controlled via a check-in/out sheet.	Adjacent
Fitchburg Library	No	--	--	No space available during construction (2022-2025)	12 miles
Hazard Library	No	--	--	No adequate space available	7 miles
Hazen Memorial Library (Shelley)	No	--	--	No adequate space available	2 miles
Leonard Library	No	--	--	No adequate space available	9 miles
Thayer Memorial Library (Lancaster)	Yes	Mon/Weds/Thurs: 10-6 Tues: 12-6, Fri: 10-5 Sat: 10-2	10 hours per week	No public access to historical documents room, not a browseable space. Potential to have document(s) on redactors on the community board.	10 miles

Steven Perry commented that the physical AR has been at the Ayer Public Library for many years, and the team has documented the things that were considered in selecting this as the location to use. These considerations included the following:

- Ability of the location to serve as a repository for physical documents;
- Hours the location is open to the public and specifically hours beyond 9:00 a.m. to 5:00 p.m. on weekdays;
- Space available;
- Level of control and accessibility;
- Staffing; and
- Distance from project site.

After contacting these locations, many of which were suggested by RAB members, it was determined that Ayer Library is the best place to maintain the repository as it has been in the past. It has good accessibility. There are daylight hours and evening/weekend hours and also a well-controlled space. The library has physical space to accommodate the repository as it grows as well.

Dave McCoy asked if MassDevelopment would consider housing the repository at their office space in Devens. Roy Herzig replied that they do not have the staff to keep something like that open for the public. The meeting room is always available, but unfortunately, they cannot host an information repository.

Laurie Nehring noted that Ayer Library used to have several shelves of documents, but those documents seem to have disappeared. She asked what happened to those. She also asked if the Ayer Library is going to be entering these documents into the standard library catalog so that they would have call numbers and people could find them. Steven replied that the team would reach out to the library director and staff about cataloging to see if they have the willingness and capacity to do that. He mentioned that, in regard to documents that were at Ayer Library and are no longer there, library staff have anecdotally mentioned that a former director in the past decided to unilaterally move or remove them. Moving forward, new physical documents will be added to the physical repository, and the digital AR will be built up with the historical documents. Whether it is necessary to rebuild a full physical paper repository, is an open question. Laurie mentioned that, when looking at maps, it helps to see the physical map.



Steven Perry described the photos on slide. The set of white binders in the middle of the left photo is the main bulk of the physical documents in the current repository. The middle photo shows the room, which is right off the lobby, away from the main circulation area. There is a volunteer in the room every day of the week. The door is open, and the room is available to the public. It has a table and chairs, so people can sit and study the documents. The right photo shows the entire bank of shelves that has been cleared for future documents.

Laurie commented that the room is a locked room, and the volunteer is not always there. Steven replied that it is a secure room, but there is no restriction. If someone asks at the front desk, they will let that person into the room if the volunteer is not there. Laurie added that you would

have to know to ask to be let in. Steven commented that information could be added to the website indicating that physical documents are available at the library and who to contact. He also noted the library is open to putting a sign on their bulletin board or on the countertop to indicate that there is a repository there.



## PROJECT UPDATES & UPCOMING WORK

The screenshot shows a presentation slide with the following content:

- Final Documents Posted Since Last RAB Meeting**
  - Final In-Situ Air Sparge Pilot Test Implementation Report – Shepley's Hill Landfill (SHL)
  - Final 2021 Annual Monitoring Reports – SHL, Main Post, AOC 50 (MAAF)
  - Final SHL Arsenic Treatment Plant Design Memorandum - SHL
- Draft Documents Submitted to Agencies Since Last RAB Meeting**
  - Draft Outline – SHL Focused Feasibility Study (FFS)
  - Revised Draft Post-ROD/AOC 57 Supplemental Remedial Investigation (RI) Work Plan – Main Post
  - Spring 2022 Long-Term Monitoring Data (Validated) – SHL, Main Post, Former Moore Army Airfield (MAAF)
  - Draft AOC 57 Land Use Control Implementation Plan (LUCIP) – Main Post
  - Draft SA 71 LUCIP – Main Post
  - Revised Draft MR-QAPP – Nashua River
- Responses to Comments/Revised Docs. Submitted to Agencies Since Last RAB Meeting**
  - RTCs: Draft PFAS Area 1 Phase 2 RI Work Plan
  - RTCs: Draft AOC 69W LUCIP
  - RTCs: Draft AOC 43G Post-ROD Supplemental RI Work Plan
  - RTCs: Revised Draft AOC 69W Post-ROD Supplemental RI Work Plan

Andy Vitolins gave an update on the status of project documents. Documents posted since the last RAB meeting are the following:

- Final In-Situ Air Sparging Pilot Test Implementation Report—Shepley's Hill Landfill—a report of testing that has been done over the last 1.5 years related to air sparging, which is essentially injection or bubbling of air into the groundwater to see if it can help remove arsenic;
- Final annual monitoring reports for SHL, the Main Post, and Area of Concern (AOC) 50, which is Moore Army Airfield; and
- Final SHL Arsenic Treatment Plant Design Memorandum—a memorandum describing what changes are going to be made to the treatment plant, which removes the arsenic, iron, and manganese from the groundwater.

Draft documents that have been submitted to the agencies since the last RAB meeting are the following:

- Draft outline for the SHL Focused FS—an outline showing what will be included in the report for the groundwater remedy at the SHL (groundwater extraction using two pumping wells and the arsenic treatment plant).
- Draft work plan for the supplemental remedial investigation (RI) for AOC 57.
- Spring 2022 long-term monitoring data—the validated data (called full data package), which has undergone validation by a third party chemist to make sure it was analyzed using the right protocols and that the right calibrations were done; the data is sent in advance of the reports since the reports do not get published until the next year.
- Land use control implementation plans (LUCIPs)—reports formalizing land use controls (LUCs) that exist at AOC 57 and Study Area (SA) 71.
- Revised quality assurance project plan—a work plan for the munitions project at the Nashua River.

Andy noted that when the draft documents are submitted, the agencies review them, and their responses to go back to the to the U.S. Army. Then the U.S. Army issues responses to comments. Those are then reviewed before the next version of the report is submitted. Responses to comments were sent back to the agencies for the following:

- Area 1 PFAS work plan;
- LUCIP for AOC 69W; and
- Work plans for 43G and 69W.

Carol Keating commented that regulator comments on the draft (and draft final, if applicable) documents and the U.S. Army's response to comments are included in an appendix at the back of each final document. Andy agreed and reiterated that the last appendix of final documents consists of the dialogue that happens between the agencies and the U.S. Army via the comment and response process. In that appendix, there are tables that show what comments were received and how those comments were addressed in the report.

Laurie Nehring asked how the public has a chance to make a comment that makes a difference if they only get to review documents after all these levels of review have occurred. Steven Perry replied that one of the benefits of the RAB meetings is to get an update so that if there is a question from the public, they can reach out to either of the agencies or Arcadis. He noted that the RAB technical committee meetings, which were started in October, are also an opportunity for the board members to weigh in on a topic or learn more at a more technical level. He added that the team is happy to continue those committee meeting to provide access to the subject matter experts and allow the RAB members to get direct updates from the project team. Andy added that if anyone has questions about comments or responses to comments and how they are resolved, they can ask the team in writing or verbally. Laurie noted that the public has to put a lot of trust in the reviewing agencies. Andy replied that is how the process is designed—the reviewing agencies are the representatives of the public. Steven noted that the work of the RAB is to find ways to enhance that process.

Carol suggested that the next RAB meeting could focus on one or two of the documents that the public is interested in and then the public could ask questions and provide input about them specifically. She noted she would like to hear what thoughts they the public has because they are the ones most impacted by what is going on. Andy replied that if that there was a desire for that kind of session, they could make that happen for a future RAB meeting. Tom Lineer added that according to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process, public input comes later in the process, and that is the way the system and the laws are set up. Steven noted the role of the RAB members is in part to highlight those areas where they would like to have more information.

Chris Mitchell commented that he deals with this process in his job, but that when sitting on the other side as a community member, he can understand the frustration. He noted that there is a lot going on behind the scenes that the public does not get to comment on, but he believes the public's role is to make sure that the community concerns are being heard at the RAB meeting and to be ready to comment on



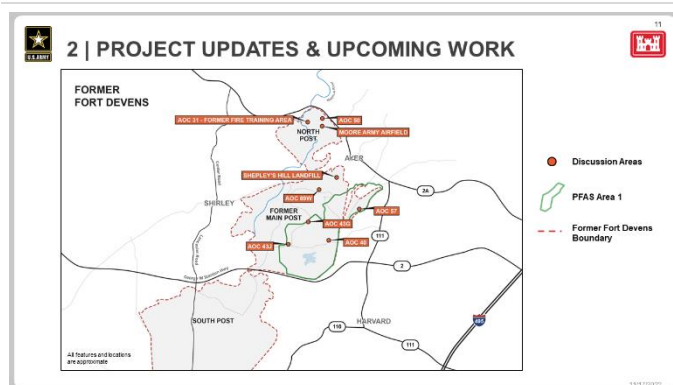
the decision documents when they are available. He added, however, that it feels like the public is only meant to give their blessing at the end of the process rather than have constructive input throughout.

Neil Angus (Devens Enterprise Commission) asked if the draft documents are posted anywhere. Steven responded that the documents that are posted on the website are final documents and at the end of those documents are the agency comments and the responses to those comments. However, with draft documents, there is a lot of ongoing discussion with the agencies during the draft phase. There is not a role for the public to play in that that technical exchange. Tom added that those draft documents are “pre-decisional” documents and not releasable to the public. The U.S. Army does not have the authority to do anything different than what the law provides for in that case.

Neil commented that he is the environmental planner with the Devens Enterprise Commission, which is the regulatory authority overseeing the redevelopment of the civilian areas of Fort Devens. Since it is an agency, he noted he would like to be involved in the reviewing or the decision making if possible. He noted that, recently, Arcadis cleared out all the trails to get access to the monitoring wells at AOC 69W, and he was worried that it might do more harm than good to the sensitive environmental areas. He stated that there should be a better way to access these sites in a less intrusive manner. Andy explained that the wells at AOC 69W are monitored every year. The original release was in the 1970s and many of the wells were installed in the early 1990s. The area becomes very overgrown because it is not maintained, but the wells still need to be monitored. He noted that last year one of the samplers was injured because the condition was unsafe so, periodically, they have to clear the way to get to those wells. Andy added that the team had worked with Neil to make sure the pathways to the wells were agreed to by all. Neil replied that he appreciated all of the cooperation in trying to avoid the sensitive areas where possible. However, he noted that there are things that come up that he does not hear about, like the draft report for the Nashua River. Carol commented that MassDevelopment receives all the draft documents and could possibly provide them if he wanted to see them. Roy Herzig agreed that they could discuss that.

Dan Groher commented that once a document is finalized, the writing is done but that does not mean that people are done asking questions about it. If the public has questions, comments, or concerns, he encouraged them to express them. In addition, he noted that the three final documents that were brought up are not decisional documents, they are just reports. The reports were written and now they are available for people to read and express opinions about; the process is not intended to exclude the public. Laurie replied that the technical assistance grant guidelines from USEPA say that the purpose of the program is to give the communities who are impacted by a Superfund site the opportunity to make comments. It is her opinion that if the public is looking at reports when they are in their final stage, the public’s opportunities to affect the outcome of the plan are quite minimal.

Amy McCoy asked if the Devens Enterprise Commission can receive documents when MassDevelopment gets them. Roy Herzig replied that MassDevelopment is a separate entity from the Devens Enterprise Commission, but they could have a dialogue about the comments going forward. He noted that MassDevelopment relies heavily on USEPA and MassDEP for their review and comment; however, they do have the opportunity to comment. Amy noted that it would be more efficient if the Devens Enterprise Commission got them at the same time as MassDevelopment rather than in a daisy chain fashion. Roy noted that he will coordinate with Neil to talk about how to facilitate the sharing of information. Steven noted that MassDevelopment was asked to present at a future RAB meeting, perhaps in February.



Andy Vitolins presented project updates and upcoming work. He explained that the maps on some of the slides had been updated to be easier to read. He noted that the areas that are labeled are areas that will be discussed during this meeting and do not include all of the areas of concern at Devens. He pointed out the North Post and former Main Post as well as PFAS Area 1, Moore Army Airfield, SHL, AOC 69W, AOC 43G, and AOC 57.



**2 | PROJECT UPDATES & UPCOMING WORK**

**Former Moore Army Airfield Updates**

**Current Concerns**

- PFAS in soil and groundwater at AOC 31 - Former Fire Training Area (FFTA)
- PFAS discharge to surface water (Nashua River)
- Remnant perchloroethylene (PCE) in groundwater (post-remediation)

**FFTA Pre-RI Data Collection and Treatability Study**

**Objectives:** Collect additional data to support bench-scale treatability studies for FFTA soil.

**Tasks:** Collect soil and groundwater samples to evaluate PFAS concentrations with depth; conduct bench-scale treatability study of potential in-situ remedial technologies for soil.

**Updates:** Soil and groundwater sampling began in June 2022 and was completed in September 2022. Treatability study initiated in October 2022. Additional soil and groundwater sampling planned October through December 2022.

Andy Vitolins explained the current concerns at Moore Army Airfield:

- PFAS in soil and groundwater at AOC 31, which is the FFTA that is shown in the figure as the little red square at the end of the abandoned runway;
- Potential PFAS discharge to surface water (Nashua River); and
- Remnant perchloroethylene (PCE), which emanated from the parachute shop that has been undergoing treatment for a couple of decades; the remnants are mainly only residual there.

Andy noted that the primary focus at the airfield right now is PFAS in the FFTA. There is some data collection going on and some bench scale treatability studies that the U.S. Army is doing voluntarily. The objective is to get some additional data from what was gathered in the site

investigation (SI) about PFAS in the soil and groundwater, specifically upgradient and downgradient of the FFTA. There has been drilling going on since June. Soil and groundwater samples are being taken at several depths: from ground surface down to where the water table is (about 65 feet) for soil and from where the water table is down into the hundreds of feet for the groundwater. These samples will give a good snapshot of the distribution of PFAS both in the soil and in the groundwater and will help guide the RI.

Andy explained that the U.S. Army is also voluntarily collecting site-specific data to determine whether there are some existing treatment technologies that might be available for PFAS in the soil. One of those, in situ soil stabilization, prevents PFAS from leaching out of the soil. Another technology is soil washing, which is used to get PFAS out of excavated soil. Those bench scale studies were initiated in October. Additional soil and groundwater sampling is still going on and will continue through December.

**2 | PROJECT UPDATES & UPCOMING WORK**

**Former Moore Army Airfield Updates - FTA Investigations**

Andy Vitolins noted the intent of this slide is to show where samples have been collected for PFAS analysis in relation to AOC 50 (former Moore Army Airfield) and also specifically the FFTA, which is where most of the samples have been taken. The points shown on the slide are a combination of samples that were collected during the SI and samples that have been collected during these additional data gathering events. The green dots are points that have already been completed, whether during the SI or since the drilling started in June. The blue points are areas where samples will continue to be collected through the fall and into December. This data is going to be used to help guide the RI and will be incorporated into the RI work plan.

Julie Corenzwit asked if “post-remediation” means there are no more injections planned. Andy replied that very few of the PCE concentrations exceed groundwater standards anymore. This means the location is in a post-remediation monitoring phase. This means that they are monitoring to see if the concentrations go back up again since the remediation was stopped. It has been a few years since the last injection and they are not seeing any rebound, but they are not done with the monitoring completely yet.

Carol Keating added that the boundaries of the PCE plume that was shown on the previous slide are significantly smaller than they used to be. Andy noted that what is shown is really the plume and the plume treatment area. However, if what is in there now was shown, there would not be really an oval to show.

**2 | PROJECT UPDATES & UPCOMING WORK**

**Area 1 Phase 2 PFAS RI Update**

**Current Concerns**

- Horizontal and vertical extent of PFAS in soil and groundwater (overburden and bedrock)
- Sources of PFAS in drinking water supply wells at former Fort Devens (Grove Pond, Patton, and Shabokin wells)
- PFAS discharge to surface water bodies
- PFAS in private wells in Harvard
- Potential for PFAS migration beyond surface water bodies (Cold Spring Brook, Grove Pond)
- Risks to human health and the environment from PFAS presence in environmental media

Andy Vitolins gave an update on the Area 1 Phase 2 PFAS RI. He noted that the boundary of Area 1 extends from Grove Pond all the way down to Route 2. It encompasses the recharge areas for the Grove Pond oil fields, but also the Patton Well and the Shebokin Well. The lighter color on the map represents an interpolation of all the data that has been collected so far where there are PFAS concentrations in groundwater that exceed the MassDEP PFAS 6 limit, which is 20 parts per trillion or nanograms per liter. The darker orange color on the map represents data where PFAS concentrations in groundwater exceed what was the USEPA lifetime health advisory. The intent of showing that difference is to focus in on the areas where there are higher concentrations and guide the investigation on where more delineations are needed.



Andy noted that some of the objectives are to delineate the horizontal and vertical extent of PFAS in soil and groundwater, to look at the sources of PFAS in the drinking water supply wells at the former Fort Devens, and to evaluate PFAS discharge to surface water bodies via groundwater or surface flow.

Chris Mitchell asked why there is such a linear definition to the higher concentration. Andy replied that these are interpolations, so it may depend on the density of points. There is also drainage in that area because AOC 40 is in a low area, so that can play a part in it too. Andy explained that when the word interpolation is used, it means that the concentrations from two points are averaged. However, some areas have a very dense set of samples and in some areas, the points are more widespread.

Andy noted other concerns which include PFAS in drinking water supply wells and PFAS discharge to surface water bodies. He noted that at Cold Spring Brook just below AOC 74 in the figure, they are going to look to see if groundwater coming from Fort Devens is getting beyond Cold Spring Brook (Cold Spring Brook Off-Site Investigation Area). To the south of that is one of the areas of the Harvard private wells, many of which have been sampled in past years. Those wells do contain PFAS, so the goal of the investigation is to determine if Devens could be the source of the PFAS in those wells.

Andy added that the last concern at Area 1 is risk to human health and the environment from the PFAS present in the media. Determining the risk involves knowing where the PFAS is, what the concentrations are, and who or what could contact it or be exposed to it.

Carol Keating asked for the names and locations of Devens public water supply wells in Area 1. Andy replied that the supply wells in Area 1 are shown as blue points on the slide. At the top is the Grove Pond well field, which consists of eight wells at this point. Further south there is the Patton Well. The Shebokin Well is the furthest south and nearest to Route 2. There is another public water supply well (McPherson Well), but it is not within Area 1; it is in Area 2 to the north.

Roy Herzig commented that there is treatment on all three of the Devens wells, and treatment of the drinking water is successful.

**2 | PROJECT UPDATES & UPCOMING WORK**

**Area 1 Phase 2 PFAS RI Update**  
 Draft Work Plan Summary (Post-USEPA/MassDEP Comment in Army RTC)

Task	Comments Addressed	Changes (to previous draft documents) (RTC)
Surface Geophysics (seismic profiling)	Bedrock surface depth	30,000 linear feet
Soil Borings	Presence/magnitude of PFAS in unsaturated soil	30+ locations (multiple depth intervals each)
Vertical Aquifer Profiling	Horizontal and vertical extent of PFAS in overburden groundwater	15 locations (approx. 8 intervals each)
Overburden Monitoring Well Installation	Horizontal and vertical extent of PFAS in overburden groundwater	30 wells (in addition to 37 existing)
Bedrock Monitoring Well Installation	Presence of PFAS in bedrock aquifer	11 wells (in addition to 3 existing)
Stream Gauge Installation	Groundwater/surface water discharge patterns	8 locations (in addition to 8 existing)
Surface Water and Sediment Sampling	Presence and concentrations of PFAS in surface water and sediment	40 surface water locations in 9 surface water bodies (CSB, CSB Pond, Mirror Lake, Robbins Pond, Grove Pond, Plow Shop Pond, Balch Pond, Nashua River, Stevens Brook); 7 additional sediment locations (29 protocols sampled)
Fish Tissue Sampling	Presence and concentration of PFAS in edible portions of fish (human health consumption risk)	6 surface water bodies, 10 fish per location (CSB, Mirror Lake, Robbins Pond, Grove Pond, Plow Shop Pond, Nashua River)
Groundwater Sampling	Presence and concentrations of PFAS in overburden and bedrock groundwater; Groundwater flow direction	2 events - 160 sampling, 12 locations per event
Human Health Risk Assessment	Potential human exposure pathways and risk associated with PFAS in the environment	Human Health Risk Assessment (HHRA) per EPA guidance
Ecological/Risk Screening	Potential ecological exposure pathways and risk associated with PFAS in the environment	Screening Level Ecological Risk Assessment (SLERA) per EPA guidance

Andy Vitilins reviewed the draft work plan summary for Area 1 Phase 2. The slide shows an overview of what is in the draft work plan, which was submitted earlier this year. The team received comments from the USEPA and MassDEP on that draft, and the U.S. Army has responded to those comments. Based on some of those responses, the work plan has changed slightly. The major differences are as follows:

- Surface geophysics has not changed but soil borings have been added. Originally the U.S. Army had proposed to rely on soil data that was collected in the SI, but the agencies wanted more, so there were many locations added the draft final work plan.
- Vertical aquifer profiling (collecting groundwater samples with depth), overburdened monitoring wells, bedrock monitoring wells, and

stream gauges have not changed significantly although there may be some locations that will be moved a bit.

- Surface water and sediment sampling locations were changed based on some of the comments, and surface water-groundwater interaction will be evaluated using water levels to look at how groundwater is discharging to surface water.
- Originally the draft work plan did not have ecological risk screening, but the USEPA and the Department of Defense have agreed on regional screening levels for ecological receptors. This means that the data that is collected, whether it is sediment data, soil data, or surface water data, will be compared to those screening levels. The toxicology is not advanced enough yet to do a full ecological risk assessment, so right now it is just a screening.

**2 | PROJECT UPDATES & UPCOMING WORK**

**Shepley's Hill Landfill Updates**

**Current Concerns**

- Arsenic in groundwater downgradient (north) of landfill
- Ability of existing groundwater extraction system to meet cleanup goals

Andy Vitilins presented the SHL updates. This slide shows SHL, the cap, Plow Shop Pond to the east, Nonacoicus Brooke to the north, and the groundwater extraction system at the north end of the landfill. Current concerns here are arsenic in groundwater downgradient (north) of the landfill and the ability of the existing groundwater treatment system to meet the cleanup goals for arsenic.





**2 | PROJECT UPDATES & UPCOMING WORK**

**Shepley's Hill Landfill Updates**

**Groundwater Remedy Evaluation**

**Objective:** Evaluate alternatives to existing groundwater extraction system.

**Tasks:** In-Situ Air Sparging Pilot Study; Focused Feasibility Study (USEPA 2016 SHL SOW Phase 3).

**Updates:** Final Air Sparging Pilot Study Report submitted in September 2022; Draft Final Focused Feasibility Study Outline and table of ARARs to be submitted November 2022.

**Arsenic Treatment Plant (ATP) Pilot Test**

**Objective:** Optimize the post-groundwater extraction treatment process.

**Tasks:** Replace oxidant with permanganate (currently chlorine).

**Updates:** Final Design Memo for metals removal systems submitted to Agencies in October 2022; installation of alternate metal removal system estimated Spring 2023.

Andy Vitolins continued the SHL updates. He explained that the USEPA has asked the U.S. Army to evaluate alternatives to the existing groundwater extraction system. Under CERCLA, that is done through an FS. Part of that FS is a review of existing technologies and existing conditions, but also pilot studies. In this case, the results of the air sparging pilot study will be used to support the evaluation of whether enhancements or changes to the existing groundwater treatment are needed.

Andy noted that the FS outline was submitted, and the table of applicable, relevant, and appropriate requirements (ARARs) will be submitted. The ARARs are the regulations that will guide the remediation and are relevant to what is going on at the site, such as

drinking water guidelines, ecological guidelines, physical guidelines, solid waste guidelines, etc. That table is developed and shared to make sure everybody is on the same page about which regulations are going to drive the evaluation. USEPA commented on the outline, and responses and the revised outline are going to be submitted to USEPA and MassDEP this month along with the ARARs table.

Dan Groher briefly explained the arsenic treatment plant pilot test results. He noted that the arsenic treatment plant has been operating for a long time. He explained that water gets pumped from the toe of the landfill into the treatment plant and all the iron and arsenic is precipitated out. For years this has been done with an oxidant that is problematic to use. So, for the past 1.5 years, the team has been exploring an alternate precipitation system that uses permanganate and would be safer and more effective. Bench-scale testing and pilot-scale testing have been done, and the plan will be revised. The U.S. Army has had discussions with USEPA and MassDEP about this over the last few years and has developed a memo explaining what they want to do and how to do it. The equipment has been ordered, and the system will be revised sometime in spring if everything gets delivered as expected. As this occurs, they might get a little bit more information about the performance of the pumping system and how effective it is for the containment of the plume. Some of that information will feed into the groundwater remedy evaluation.

**2 | PROJECT UPDATES & UPCOMING WORK**

**Shepley's Hill Landfill Updates (continued)**

**Plow Shop Pond Barrier Wall Evaluation**

**Objective:** Confirm that the barrier wall is preventing groundwater discharge containing arsenic to Plow Shop Pond.

**Tasks:** Conduct field investigation in accordance with Work Plan approved in April 2022.

**Updates:** Field work to be conducted once contracting is complete (spring 2023).

**Long-Term Monitoring**

**Objective/Task:** Groundwater sampling performed semi-annually to evaluate remedy performance.

**Updates:** Spring sampling completed in May 2022; fall sampling completed in November 2022.

Andy Vitolins continued the SHL updates by discussing the Plow Shop Pond barrier wall. He noted that Plow Shop Pond was shown on the right side of the image on Slide 16. The barrier wall shown on that slide was installed several years ago. It is a barrier that blocks groundwater coming from SHL from discharging to Plow Shop Pond and redirects it toward the groundwater extraction system.

Based on sampling that has been done to date for annual monitoring and the appearance of Plow Shop Pond itself, that barrier wall has been effective. However, there is going to be a more specific evaluation done to confirm that. The work plan that was written and approved, so field work is expected to start this spring.

In addition, semi-annual groundwater sampling (spring sampling in May typically and fall sampling in October/November typically) will continue at SHL. This year, spring sampling was completed in May, and fall sampling was just completed last week. When the data comes back, it will be validated and used in reports.

**2 | PROJECT UPDATES & UPCOMING WORK**

**Former Main Post Updates**

**Supplemental Post-ROD RIs for AOCs 69W, 57, and 43G**

**Current Concern:** Is current groundwater remedy still effective / protective?

**Objective:** Evaluate fate and transport of remaining contaminants.

**Tasks:** Temporary and permanent groundwater monitoring well installation, groundwater sampling, groundwater flow evaluation.

**Updates:** RTCs for Revised Draft Work Plan for AOC 69W and Draft Work Plan for AOC 43G submitted in October 2022; Draft Work Plan for AOC 57 submitted in August 2022; field work to follow Work Plan Approval.

**LUCIPs for AOCs 44/52, AOC 69W, AOC 57, and SA 71**

**Current Concern:** ROD-specified land use controls have been implemented but are not memorialized in CERCLA documents.

**Objective:** Memorialize requirements for implementing, monitoring, and enforcing ROD-specified land use controls.

**Tasks:** Prepare LUCIPs for MassDEP and USEPA approval.

**Updates:** Draft LUCIPs for AOCs 44/52, 69W, and 57 under review by agencies; RTCs for Draft AOC 69W LUCIP submitted in; SA 71 LUCIP submitted in August 2022.

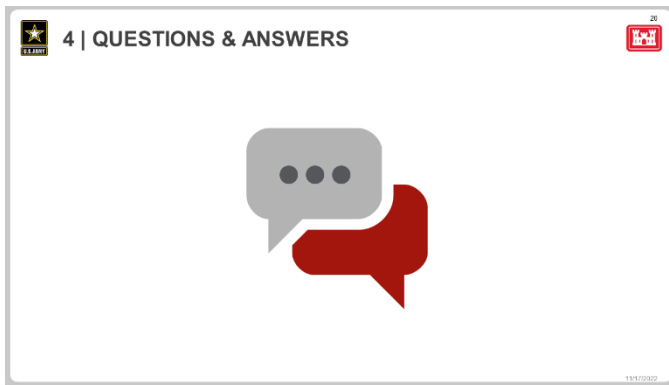
Andy Vitolins presented the former Main Post updates. He noted that the main concern for the three AOCs—69W (current Parker school), 57 (along Cold Spring Brook), and 43G (former gas station site west of Robbins Pond)—is whether the existing remedies are still effective and protective. The team will be looking at the fate and transport of the remaining arsenic or petroleum hydrocarbons with temporary and permanent groundwater monitoring wells. The draft work plans were submitted. The U.S. Army has gotten comments and submitted responses to those comments. Field work is expected to start next spring and summer after the work plan is approved.

There are LUCIPs for AOCs 44/52 (the sites along Barnum Road), AOC 69W (Parker School), AOC 57, and SA 71. The LUCs were specified in the

RODs and have been implemented, and now they are being memorialized in the LUCIP documents. The process for these is similar to all the other reporting processes in terms of submitting drafts, getting comments, and then working to get the final documents.

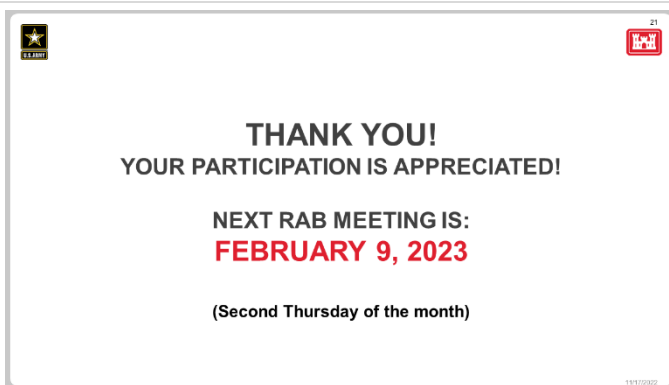


QUESTIONS & ANSWERS



Please see the list of questions and answers at the end of these meeting minutes.

NEXT STEPS & MEETING



Steven Perry thanked everyone for attending. The next RAB meeting will be February 9, 2023.

QUESTIONS AND ANSWERS

Question	Answer
<p>From Carol Keating (USEPA)—Can Dan repeat what he said about the treatment plant pumping rate?</p>	<p>Dan Groher (USACE) replied that the current plan is to take the plant offline for a short period of time while the system is updated and then turn it back on and operate it at essentially the same pumping rate as now. They are confident they can get the same pumping rate as now, but it is not clear yet whether they can get more than that.</p>
<p>From John Kastrinos (Haley &amp; Aldrich, Inc.)—Will the barrier wall evaluation consider potential future shutdown of the hydraulic containment system (i.e., if it is replaced by an alternate remedy being considered in the FS)?</p>	<p>Andy Vitolins (S-A JV) replied that the area around the barrier wall is not influenced by the current groundwater extraction system. Some of the flow that reaches there is diverted by that barrier wall, but in terms of the actual influence, it is not a part of that.</p> <p>Dan Groher added that even though they are pumping around 50 gallons per minute out of the ground at the toe of the landfill, they are not really directing the water that is down by the barrier wall up towards the extraction wells. The extraction walls are just capturing water as it flows in that direction naturally. Even if the pumps are turned off, the groundwater that used to flow towards the pond cannot flow that way now, so it flows up towards the toe of the landfill. There is no plan to turn off the pumps, but the extraction system does not exert so much influence that it pulls water from down by the barrier wall.</p>



Question	Answer
<p>Laurie Nehring (RAB member)—What is the title of the barrier wall report that you said is available? Were we sent this?</p>	<p>Carol Keating replied that it is called Barrier Wall Performance Monitoring Plan. She also added that this was a component of the additional work letter that USEPA issued after the last five-year review. The USEPA considers the barrier wall to be a component of the remedy in that it cut off migration of landfill water into the pond. USEPA asked the U.S. Army to put together a work plan to establish what baseline conditions currently exist after the barrier wall installation. These will be evaluated again prior to issuance of the next five-year review to assess the ongoing performance. The plan is going to be implemented this spring.</p>
<p>Joan Eliyesil—Are the recent Moore Army Airfield soil and groundwater sampling results available online?</p>	<p>Andy Vitolins replied that the sampling started in June and is continuing through December. The data that have been collected so far are not available online because that data is currently undergoing validation, and the rest of the data has yet to be collected. Laboratory processing times have quadrupled just to get the results, and then the wait time extends beyond that to get it validated. He added that PFAS laboratory turn-around times are even longer because of the nature of the compounds and the very low levels that need to be analyzed. In some cases, it takes up to 12 weeks for results. Dan Groher added that because there are many sites being looked at for the first time for PFAS, there is a supply and demand issue.</p>
<p>Laurie Nehring—Is there any new money from USEPA going toward establishing new lab services?</p>	<p>Carol Keating replied that she was not aware of any, but she could look into it. Steven Perry added that the uptick all across the country is just overwhelming laboratories. Andy Vitolins added that the method by which PFAS samples have been evaluated over the past 5 years is called Method 537 and it is being changed now. This means the labs are also having to switch over to a new method (Method 1633), which analyzes for a lot more PFAS compounds, so that also contributes to that lag.</p> <p>Carol asked if the question was about USEPA money for analysis for PACE projects. Laurie clarified that she was referring to PFAS laboratory needs everywhere and that projects in general need more support. Carol added that another problem with the new method is making sure that there are laboratories that can actually perform the analysis.</p>



RAB MEETING INVITE

**Former Fort Devens Army Installation  
Notification**



**Please join us for the next Former Fort Devens RAB Meeting,  
Thursday, November 10, 2022, 6:30 pm**

Our next RAB meeting will be held via Microsoft Teams. Please join by clicking this link:

[Click here to join the meeting](#)

Or you can call in to hear the audio only:

+1 213-379-9608

Phone Conference ID:

459 611 58#

We hope you will join us to actively discuss the following topics and share your ideas:

Welcome to existing members and new participants!

Community Involvement & RAB Board Updates

Project Updates & Upcoming Work

Questions & Answers

Next Steps & Meeting

---

Bring your thoughts about the RAB and questions about the project. This meeting will be recorded and a meeting summary will be posted on the project website at:

<https://www.nae.usace.army.mil/missions/projects-topics/former-fort-devens-environmental-cleanup/>

---

If you have any questions, please send an email to and we will reply:

[FormerFortDevensRAB@arcadis.com](mailto:FormerFortDevensRAB@arcadis.com)