



**Date/Time:** Thursday, February 9, 2023, 6:30 p.m. to 8:30 p.m.

**Location:** Virtual meeting via Microsoft Teams

**Attendees:** Thomas Lineer, Steve Cardon (U.S. Army)

Dan Groher, Penny Reddy, Peter Phillips (U.S. Army Corps of Engineers [USACE])

Carol Keating, ZaNetta Purnell (United States Environmental Protection Agency [USEPA])

Joanne Dearden, Diane Baxter, Mary Jude Pigsley (Massachusetts Department of Environmental Protection [MassDEP])

Meg Delorier, Anne-Marie Dowd (Massachusetts Development Finance Agency [MassDevelopment])

RAB Community Co-Chairs: Laurie Nehring (People of Ayer Concerned about the Environment [PACE]), Alix Turner

RAB Board Members: Julie Corenzwit, Amy McCoy, Dave McCoy

Neil Angus (Devens Enterprise Commission)

Martha Morgan (Nashua River Watershed Association)

John Kastrinos (Haley & Aldrich, Inc.)

Andy Vitolins, Steven Perry, Amy Henschke, Mark Pasquarello, Heather Levesque (SERES-Arcadis 8(a) Joint Venture 2, LLC [S-A JV])

Libby Levison (Harvard Board of Health), Beth Suedmeyer, Dan V (Ayer Department of Public Works), Edith S, Joan Eliyesil, Robert Ford, and other attendees participating by phone or otherwise not able to be identified (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.



**WELCOME!**

- This call is being recorded to help develop meeting minutes.
- Unless speaking, please remain on mute to reduce background noise.
- There is time for Q&A, but you can ask a question via the chat box at any time during the meeting and speakers will respond as time allows.
- If you need to leave the call, click "Leave."

CHAT BOX    MUTE/UNMUTE    Leave

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 questions 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>Penny Reddy U.S. Army Corps of Engineers (USACE) New England District</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 Other 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>Meg Delorier, John Marc-Aurele, and Anne-Marie Dowd MassDevelopment</p>	<p><b>Community Board Members:</b></p> <p>Julie Corenzwit Amy McCoy Dave McCoy Chris Mitchell Laurie Nehring: Co-Chair Alix Turner: Co-Chair</p>
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Steven Perry announced the leaders and contributors for the call: Tom Lineer (U.S. Army); Penny Reddy (USACE); Dan Groher (USACE); Peter Phillips (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); ZaNetta Purnell (USEPA); Joanne Dearden (MassDEP); Meg Delorier (MassDevelopment); Anne-Marie Dowd (MassDevelopment), and RAB members Julie Corenzwit, Amy McCoy, Dave McCoy, Chris Mitchell (unable to attend), Laurie Nehring, and Alix Turner.

**WELCOME!**

**Tonight's topics**

- 1**  
Mass Development Presentation
- 2**  
Project Updates & Upcoming Work
- 3**  
Community Involvement & RAB Update
- 4**  
Questions & Answers
- 5**  
Next Steps & Meeting

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

**1 | MASS DEVELOPMENT**

*This presentation is being given by MassDevelopment (MassDev) as information to the RAB and community. This presentation is provided by MassDev without input, or review of the HQDA G-9 (BRAC).*

Steven Perry noted that MassDevelopment has developed their own slides and content without input or review from the U.S. Army.



Meg Delorier (MassDevelopment) introduced herself as being the Director of Military Initiatives and also being responsible for MassDevelopment operations in Devens. She introduced her colleague, Anne-Marie Dowd, who is currently working as a consultant with MassDevelopment although she has been a full-time MassDevelopment employee in the past.

## MassDevelopment

- Quasi Public Agency established in 1998 by M.G.L. c. 23G, which merged the Government Land Bank and Mass Industrial Finance Agency
- Mission is to (i) issue tax-exempt bonds and loans to non-profits and small businesses; (ii) redevelop surplus state/federal land and blighted properties; and (iii) provide real estate planning and technical assistance to Gateway Cities and other eligible communities
- 11-member Board of Directors appointed by the Governor with three-year staggered terms. Chaired by the Secretary of Housing and Economic Development
- 180 employees located in six offices throughout the Commonwealth

Meg Delorier described the history and purpose of MassDevelopment. It was created with the Massachusetts General Law Chapter 23G in 1998, which was the merger of the Government Land Bank and the Massachusetts Industrial Finance Agency. The Industrial Finance Agency was the tax-exempt bond issuer and the Land Bank dealt with surplus property. MassDevelopment's current mission is to issue tax-exempt bonds for loans for nonprofits and small businesses and to redevelop surplus state and federal properties, with a particular focus on gateway cities. It is governed by an 11-member Board of Directors, all of whom are appointed by the Governor of the Commonwealth; the Chair is the Secretary of Economic Development. There are currently approximately 180 employees located in six offices across the Commonwealth.

## Devens

### Chapter 498 of the Acts of 1993

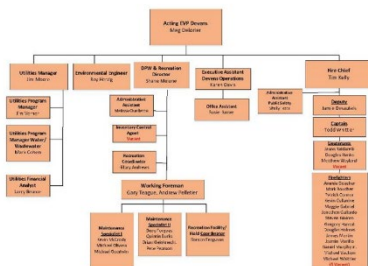
"...the termination by the United States of certain activities at Fort Devens threatens to result in **blight, economic dislocation and additional unemployment, all to the further detriment of the welfare of the people**...therefore, it is the purpose of this act to promote the **expeditious and orderly conversion and redevelopment** of Fort Devens for non-military uses, including, but not limited to, **housing, industrial, institutional, educational, governmental, recreational, conservation, commercial or manufacturing uses**, in order to prevent further blight, economic dislocation, and additional unemployment, and to aid in **strengthening the local economy, the regional economy, and the economy of the Commonwealth.**"

Meg Delorier highlighted the pertinent information that is contained in Chapter 498 and what MassDevelopment's mission is as it relates to economic development, particularly in eliminating blight.

## Devens

### Overview

- Largest division: 49 employees
- Municipal functions
  - Utilities
    - Gas
    - Electric
    - Water & wastewater
  - Public Safety/Fire
    - Police Services/contract MSP
  - Environmental services
  - Public works & recreation



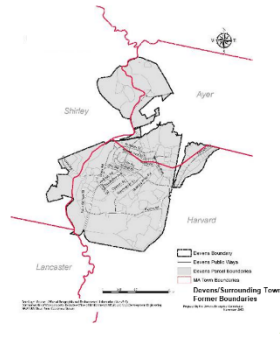
Meg Delorier noted that the Devens division of MassDevelopment is the largest, with 49 employees who work in Devens on the municipal side, which includes utilities. MassDevelopment owns all the utilities in Devens and provides all public safety, which includes fire and police. Currently police services are provided under a contract with the Massachusetts State Police. They have a barracks at Devens, and there is a station commander and a lieutenant. The troopers are assigned to Devens; they do not come and go from other barracks. There are also environmental services, a public works department, and a recreation department.



## Devens

### History

- U.S. Army's New England HQ for 79 years, closed in 1996; population 17,000
- MassDevelopment purchased the property to redevelop into a sustainable and diverse mixed-use community
  - MA legislature approved a \$200M bond bill for capital and operating expenses for Devens Regional Enterprise Zone (DREZ)
- Growing 4,400-acre mixed-use community and an award-winning model for military base reuse



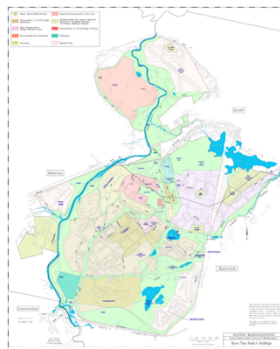
Meg Delorier noted that the U.S. Army had their New England headquarters in Devens for 79 years, and at the height of the military's presence there, they had a population of approximately 17,000. When the Department of Defense made the decision to close Fort Devens, MassDevelopment purchased the property to redevelop it. About 30 years ago, the legislature appropriated a \$200 million bond to cover both capital and operating expenses for the Devens Regional Enterprise Zone; most of that money has been expended. Devens is a growing 4,400-acre mixed-use community. The military touts Devens as an award-winning model for base redevelopment. The red lines on the map show the underlying jurisdictional boundaries that existed prior to the military purchasing the property from private landowners.



## Devens

### Reuse Plan

- Goal of replacing the 7,000 jobs lost when Fort Devens was closed.
- Create a robust utilities infrastructure.
- Position Devens for long-term growth in innovation and technology sectors.
- Approximately 2,200 acres of land protected as permanent open space.
- Limits housing to 282 units.



Meg Delorier explained the goals of the reuse plan:

- Replace approx. 7,000 jobs that existed before Fort Devens closed.
- Create a robust utilities infrastructure, which MassDevelopment has done. That utilities infrastructure has been able to attract businesses like Bristol-Myers Squibb. In addition, tomorrow is the ribbon cutting for Commonwealth Fusion, which is a great addition as well.
- Position Devens for long-term growth in the innovation and technology centers.
- Protect almost half of the land that MassDevelopment purchased as permanent open space.
- Limit the housing to 283 units.



## Devens

### Today

- Approximately 950 residents (not including FMC Devens and TaraVista)
- Approximately 100 companies, nonprofits, and government organizations
- Daytime work population is projected at close to 10,000 people
- Devens Common with hotels, conference center, retail services, restaurants and more
- Based on a UMDI Devens report from June 2020, expansion of existing companies, attracting new companies and jobs, Devens firms estimated direct spending of \$2.33 billion, supports an additional estimated \$1.46 billion in spending in Massachusetts for a total economic contribution of nearly \$4 billion, 99 percent of which comes from private-sector firms. More than \$30.3 million of the total economic contribution came from nonprofit firms.
- Approximately 7 Million SF of development



Meg Delorier mentioned that there are about 950 residents. Although the clients of the Federal Medical Facility are considered residents of Devens, they are not counted in this number, nor are the patients at TaraVista. There are about 100 companies that call Devens home, with everything from private companies to nonprofits and governmental organizations. There are close to 10,000 people who come in and out of Devens on a daily basis. There are two hotels, a conference center, some retail services, and a couple of restaurants at Devens Common.

MassDevelopment is proud of what they have been able to bring in terms of investment, not just to Devens but to the region and the Commonwealth. They have developed approximately 7,000,000 square feet. There is a need to raise the development cap in Devens because

originally it was at 8.5 million square feet. So, that cap has been raised to about 20 million square feet of development.

Steven Perry commented that attendees wanting more information, particularly about the land map shown on Slide 11, could go to the MassDevelopment website or contact Meg Delorier ([www.devenscommunity.com](http://www.devenscommunity.com) or [MDelorier@massdevelopment.com](mailto:MDelorier@massdevelopment.com)) to learn more. He also asked if the expansion of the development limit would impact the open space. Meg Delorier replied that the open space will remain as open space. She also noted the development cap was a best guess back in 1996 of how much development could be accomplished under all the other standards. The determination was made that a development cap was probably not necessary because there are so many other standards that govern the amount of development that can happen in Devens, such as water usage, wastewater, and so forth. Two of the towns agreed to eliminate the cap. One town asked that another number be used in place of the 8.5 million square feet of development, so another development cap number was chosen. It is unlikely it would ever get to 20 million square feet of development given the parcels that are remaining for development.

Laurie Nehring asked when the ribbon cutting for Commonwealth Fusion is and if the public is allowed to go to that. Meg Delorier answered that the ribbon cutting is tomorrow and is by invitation only.

Laurie Nehring asked if there is a cap on the number of houses. Anne-Marie Dowd (MassDevelopment) answered that the cap is 282. Meg Delorier added that they are about 10 units away from the cap given the additional units that will be built by Emerson Green on Grant Road. Laurie asked if there are any plans to lift the cap for housing. Meg replied that there are no plans at this point.

Amy McCoy noted that she and Dave McCoy were wondering what the environmental priorities are for Moore Army Airfield. She noted it has some negative impacts for the town because of the car racing on the weekends and flight training from flight schools, as well as some

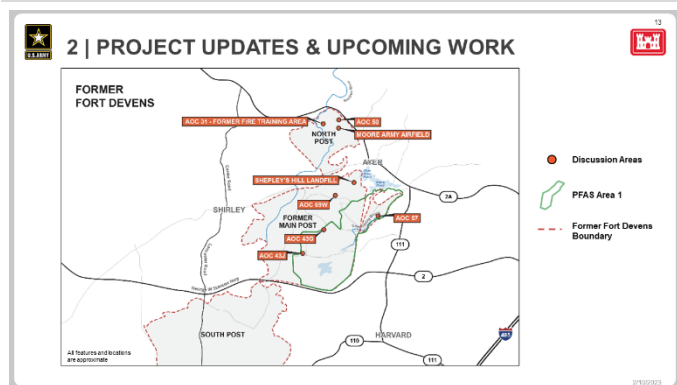


positive developments, such as the drone work and the state police driver training. She asked if the cleanup needing to happen at the airfield is impeding redevelopment of Devens. Meg Delorier replied that they are working with the regulators as partners. She noted there is continuing work being done on the airfield but that there is no flight training school on the airfield.

Amy replied that MIT Lincoln Labs had a ground-based sensor that attracted aircraft to come to the airfield. Meg commented that the sensor is no longer there, and it did not have anything to do with aircraft landing there. Amy added that the flight activity might not be sanctioned, but the airfield is used every day for flights or for flight training, and those flights can be tracked through both National Transportation Safety Board reports as well as flightradar24.com. Meg added that she is not aware of the documents that Amy was referencing nor is she aware of any aircraft landing at the airfield. She mentioned she would be happy to continue this discussion offline.

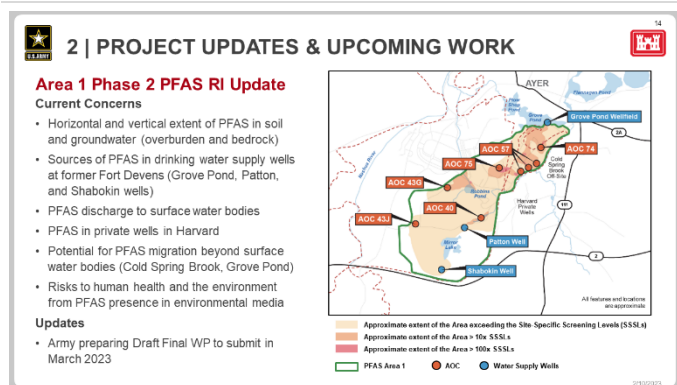
Carol Keating (USEPA) commented that regardless of the zoning on a map, the USEPA evaluates sites under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) to determine what the land use restriction would be based on the level of contaminants and relevant risk-based standards. She also mentioned that someone had asked a question before about restrictions on the Record of Decision for Area of Concern (AOC) 50. She commented that there are land use controls (LUCs) included as part of those documents, which primarily focused on the volatile organic compound (VOC) contamination and groundwater. There are restrictions and requirements for allowing certain activities to occur, primarily requiring the approval from the regulators to perform any work that may interfere with the remediation work that is going on or construction that may move a plume from one area of the site to an otherwise clean area of the site. She added that those restrictions apply not only to MassDevelopment but to U.S. Fish and Wildlife as well because they own some of that property.

Anne-Marie Dowd added that MassDevelopment is a quasi-public agency of the Commonwealth. The Commonwealth mandated MassDevelopment to acquire Fort Devens and gave \$200 million for MassDevelopment to work with the military and the regulators to clean it up, redevelop it, and invest in utilities. It is a big public investment of the Commonwealth, and any activity out there is allowed under the reuse plan, including anything that is going on at Moore Army Airfield. She added that they work very closely with the USEPA, MassDEP, and the U.S. Army on anything that goes on out there.



Andy Vitilins (S-A JV Project Manager) explained that this slide shows the layout of Devens and highlights the areas that will be discussed during the presentation. The AOCs are shown on the map as well as PFAS Area 1 (lower right of the former main post). Within PFAS Area 1, there are a few areas of contamination and some surface water bodies, namely Cold Spring Brook, which runs right next to AOC 57, and then Grove Pond to the north. Near the former Main Post there is AOC 69W where the current charter school is. Shepley's Hill Landfill (SHL) is also in that area. The former North Post is shown, which is almost entirely composed of the former Moore Army Airfield. The airfield itself is termed as AOC 50, but within it there is a former fire training area (FFTA), which is AOC 31. In addition, next to PFAS Area 1, will be Area 2,

which will not be discussed in this meeting. At the North Post where the airfield is, will be Area 3, which will also not be discussed. The per- and polyfluorinated alkyl substances (PFAS) investigation is going starting in Area 1 and will then move on the other PFAS areas.



Andy Vitilins noted that, in the past, the map on the slide had shown highlighting that represented areas that exceeded either the Massachusetts PFAS 6 drinking water limits or the USEPA health advisory limit for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) compounds. The PFAS 6 limit (20 parts per trillion or nanograms per liter) includes six PFAS compounds, two of which are PFOA and PFOS. The original USEPA health advisory was 70 parts per trillion for the sum of those two compounds. What is shown now on the map are the site-specific screening levels (SSSLs), which have been recently promulgated by the USEPA. They are risk-based values based on generic exposure criteria, in this case, ingestion of PFAS in groundwater. For example, the SSSL for PFOA is 6 parts per trillion, and

for PFOS, it is 4 parts per trillion.

The shaded areas on the map are meant to show where there are higher concentrations and potential source areas. The first color represents anything that exceeds an SSSL. Then, the next color represents the areas that are 10 times that SSSL, and the next represents



area that are 100 times the SSSL. The areas correspond with AOCs from the previous investigations before the PFAS investigation, but also areas where we know PFAS impacts exist, for example in the Grove Pond well field and in the Patton and Shabokin Wells.

The draft work plan is still under review. It has been through one round of review. The next phase is the draft final round, and then it will go to the final phase. There is a comment and response period in between each of those rounds. After the draft work plan was submitted, it was reviewed by USEPA and MassDEP. The agencies had comments on it, and the U.S. Army responded to those comments and is generating the draft final work plan, which is due in March 2023. One of the changes that is getting incorporated in the draft final version is to use the SSSLs that are shown on the map.

The current concerns at PFAS Area 1 have not changed since the draft was started. They include where the PFAS is coming from, where it is going, what or who is impacted, and how people might be exposed to it.

Laurie Nehring asked Andy to repeat the information about the SSSLs. Andy Vitolins replied that the USEPA has regional screening levels (RSLs) based on toxicity data, in this case toxicity for chronic human exposure. Those RSLs get converted to SSSLs for individual sites or individual regions. So, the SSSLs for Devens are provided by USEPA, and they are a guide for investigating the nature and extent of a particular compound. In the end, a site-specific risk assessment is done to assess actual risk, but the SSSLs are used as a guide. Right now, the USEPA has RSLs for PFOA, PFOS, perfluorobutane sulfonate (PFBS), perfluorononanoic acid (PFNA), perfluorohexane sulfonate (PFHxS), and Gen X (a newer compound of firefighting foams that was introduced in 2008). Most of those overlap with the Massachusetts PFAS 6, but not all of them. He noted the exact values of each can be provided. Carol Keating added via the chat that the SSSLs developed for Devens are attached to the USEPA comments on the Draft Phase 2 Area 1 Work Plan.

Julie Corenzwit asked via the chat whether the Grove Pond Wellfield label indicates Ayer wells or Devens wells. Dan Groher (USACE) replied that it a water supply for the Town of Ayer. Julie asked if the Devens Grove Pond well is missing because it is not in use. Dan replied that this is the case.

**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)
- Perchloroethylene (PCE) in groundwater; plume reduced through remediation since 2004.

**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 December 2022. Treatability study initiated in October 2022 and is ongoing.

**Next Steps:** Lysimeter installation and data evaluation.

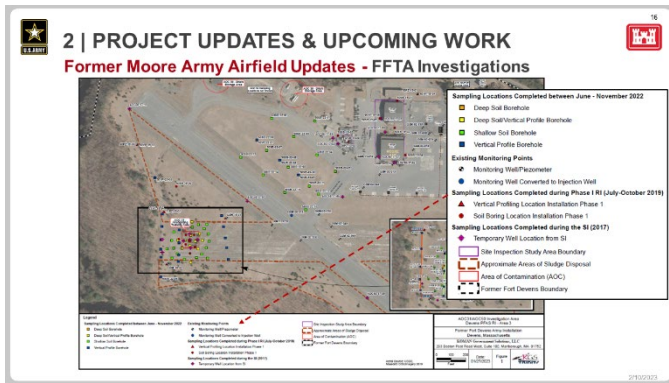
Andy Vitolins provided an overview of the former Moore Army Airfield updates. At the airfield, the main VOC has historically been tetrachloroethylene, also called perchloroethylene (or PCE). The plume existed for a long time and has been predominantly addressed through in situ treatment over time. The area where that plume existed is shown on the map, but the current extent is much smaller than what is shown.

The main area being addressed right now is the FFTA, which is shown in the red box on the slide. The concerns at the FFTA, which was used for as a location to practice with firefighting foams, are PFAS in soil and groundwater. This area is included in PFAS Area 3.

The sampling being done in this area is in advance of the remedial investigation (RI) to help evaluate some of the PFAS concentrations and potential concerns associated with them. There will be an RI for Area 3, which will follow a similar format as Area 1 and Area 2, with the same objectives to define the nature and extent of PFAS. However, the work that's being done now is more targeted to finding out where potential sources are and what the worst case is in terms of PFAS concentration.

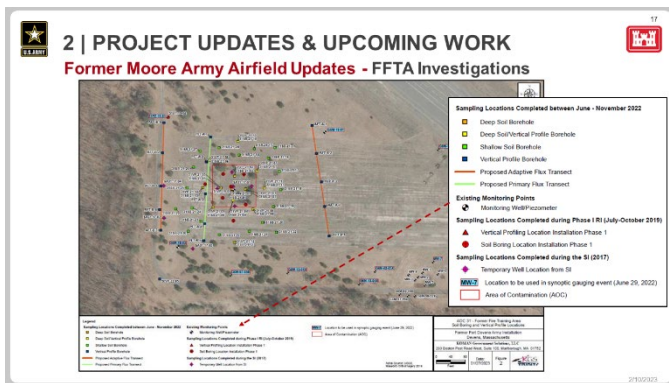
Andy noted that there was an update on the soil and groundwater samples in the last meeting. The samples are for the bench-scale pilot treatability studies that are happening in a laboratory. All the planned soil and groundwater sampling was completed right before Christmas. The treatability study started in the fall and is going to be ongoing for a while.

In the spring, lysimeters will be installed, and the data from those lysimeters will be evaluated. The lysimeters are like mini wells that are placed above the water table. The intent of a lysimeter is to capture water that is percolating down from the surface and evaluate the concentration of a contaminant (in this case, PFAS) in that infiltrating water. There are theoretical calculations to determine the concentrations at which a compound present in the soil will leach into the groundwater, but by using lysimeters one can obtain the actual concentration at an individual site.



Andy Vitolins indicated that the image on this slide is intended to show the different types of sampling that have been done to date either as part of the site inspection activities or the current work.

- Vertical profile locations where groundwater samples are collected by depth but do not leave a permanent well behind
- Soil borings where soil samples are collected from different intervals
- Temporary monitoring wells or actual monitoring where wells have been drilled and leave a well behind that can be sampled.



Andy Vitolins explained that the image on this slide focuses on the FFTA, with the Nashua River being just to the west (left). Groundwater flow here is going from right to left. The lines on the image connecting vertical profile boreholes (blue square) are called transects and are meant to give a cross section of the profile of contamination upstream and downstream of the FFTA.

Laurie Nehring asked if the results for all the monitoring wells are available to review. Andy noted that the laboratories produce data, which then needs to be validated by a third party to verify all of the quality assurance/quality control protocols and calibrations of the instruments were correct. This process is important for any investigation but most definitely with PFAS because of the low detection limits and

the low QC tolerances. The validated data just came in, so those data will now be part of a future submission. It is under discussion what the reporting is going to be for that. The data may get included into the work plan or another deliverable. However, it will be supplied to the regulators soon. Laurie replied that PACE would like to see that data as soon as possible.

Martha Morgan (Nashua River Watershed Association) asked what the depth to groundwater is. Andy replied that depth to groundwater is fairly deep, 60 to 80 feet depending on the area being drilled, because there is a large drop off to the west toward the Nashua River. Although the depth is large, the material that the airfield is composed of is very easily infiltrated by the water. The borings can take up to 1 week to complete because in some cases they need to go down to as much as 120 feet. Martha asked if some of the wells are isolated down below the groundwater. Andy replied that the permanent wells are typically screened with a fairly small interval. They are not open all the way from the top of the groundwater to the bottom of the formation or the bedrock. Usually that interval is 10 feet. Martha asked if the Nashua River itself has been sampled up- and downgradient of this area and if those results are available. Andy noted that the sampling of the Nashua River was done as part of the Phase 1 RI, and those results are available on the website. Martha asked if a plume had been defined yet. Andy explained that AOCs were defined during the Phase 1 RI, but this work is being done to expand on that.

Steven Perry mentioned that there is a PFAS investigation effort getting underway in Area 1 to the south, but this is a location in Area 3 where the U.S. Army has jumped ahead to focus on this known PFAS location. The U.S. Army gathered several kinds of data in this area, as shown on the map, to help characterize and understand what is happening here rather than waiting until Area 3 gets underway later.

Julie Corenzwit asked Andy to briefly explain the difference between primary and adaptive flux transects. Andy replied that flux shows how much mass of a contaminant is moving in the groundwater. Dan Groher noted that there are three transects from right to left on the image, and the water flows through them. The goal is to figure out what the differences are between the water going through the one on the right and the one in the middle and the one on the left. Based on that, it is possible to guess what the impact of the contamination in the soil is on the groundwater. The concept of adaptive is not necessary other than that it indicates the locations were chosen based on some of the information that was gathered.



**2 | PROJECT UPDATES & UPCOMING WORK**

**FFTA Soil Laboratory "Bench" Pilot Study**

**Description**

- Army conducting laboratory pilot study of two potential remedial technologies for PFAS on soil collected from FFTA during 2022 drilling activities
  - ✓ In-Situ Solidification/Stabilization (ISSS)
  - ✓ Soil Washing

**Objectives**

- Evaluate whether these technologies are potentially applicable to FFTA

**Updates**

- Testing underway – TS Soil Washing to be completed by Summer 2023, ISSS to be completed by Fall 2023



Andy Vitolins mentioned that the U.S. Army is doing some laboratory pilot studies on the soil that has been collected from the FFTA as site-specific research on a voluntary basis. They are testing a couple of technologies that exist already for other compounds to see how well they work on PFAS. In this case, they are looking at laboratory bench testing of two technologies: (1) in situ solidification and stabilization (ISSS) and (2) soil washing.

The objective of the studies is to evaluate whether these technologies could be used at the FFTA if it were found they were needed. The soil washing testing is going to be completed this summer. The ISSS testing is going to be completed this fall. The first step of the studies is to collect the soil. When laboratory sampling is done, it is typically collected in a 4-

or 8-ounce jar. For these studies, up to 40 gallons of soil were collected from various borings, all within the FFTA and all within the top 15 feet (the most impacted zone for PFAS). The image on the slide shows what the collected soil looks like.

**2 | PROJECT UPDATES & UPCOMING WORK**

**FFTA Soil Laboratory "Bench" Testing**

- FFTA Soil Characteristics
  - 97% Sand
  - 3% Fines (i.e., silt)




Andy Vitolins mentioned that the first thing that must be done is to determine the grain-size distribution, which is how much fine material is present and how much bigger material is present. This is important for these technologies, specifically the soil washing technology. Unsurprisingly, all the soil at this location is pretty much 100% sand, which is defined as being less than a certain grain size. The Moore Army Airfield soil sample is shown in the image. The top grain size for sand is shown on the top left of the image; those are the largest particles at this site. The fines, referred to as silt, are really small particles. These fines are important for contaminants that are organic like PFAS because the contaminants tend to stick to these smaller particles.

**2 | PROJECT UPDATES & UPCOMING WORK**

**In-Situ Solidification/Stabilization (ISSS)**

- Cleanup methods that prevent or slow the release of contaminants from soil or sediment into the surrounding environment (i.e., groundwater or surface water)
- **Solidification** binds the contaminants in a solid block of material and traps it in place.
- **Stabilization** causes a chemical reaction that makes contaminants less likely to be leached into the environment.
- The technologies can be used separately or together, depending on the contaminant and objectives.



A Citizens Guide to Solidification and Stabilization (EPA.gov)  
[https://www.epa.gov/sites/default/files/2015-04/documents/a\\_citizens\\_guide\\_to\\_solidification\\_and\\_stabilization.pdf](https://www.epa.gov/sites/default/files/2015-04/documents/a_citizens_guide_to_solidification_and_stabilization.pdf)

Andy Vitolins gave an overview of ISSS. He noted there is a link below the graphic on the slide to a USEPA fact sheet on ISSS explaining what it means and what it has been used for historically—  
[https://www.epa.gov/sites/default/files/2015-04/documents/a\\_citizens\\_guide\\_to\\_solidification\\_and\\_stabilization.pdf](https://www.epa.gov/sites/default/files/2015-04/documents/a_citizens_guide_to_solidification_and_stabilization.pdf).  
 It is currently being tested for a new use with PFAS, but it has been used for other sources nationwide. The goal with this technology is not to remove the contamination but to keep it where it is; it stops the contamination from leaching or precipitating to the groundwater. Solidification means turning soil into a solid, like cement. Stabilization takes advantage of chemical properties to not allow the chemicals to leach off the soil. The two treatments can be used separately or

together depending on the contaminant distribution and the objectives.

Steven Perry clarified that this is an evaluation of potential technology, not a determination that it is going to be used. Andy replied that the U.S. Army is not the only one evaluating these technologies, but the success or degree of applicability of these types of technologies has a lot to do with the site-specific soil and the contaminant concentrations.





**2 | PROJECT UPDATES & UPCOMING WORK**

**FFTA Soil In Situ Stabilization/Solidification (ISSS) Laboratory Study**

<p><b>Stabilizing Agent Optimization</b> Arcadis Treatability Lab</p> <p>Testing various proprietary PFAS stabilizing reagents at multiple dosages for their ability to adsorb PFAS, thus preventing leaching.</p>	<p><b>Solidification Optimization</b> Arcadis Treatability Lab</p> <p>Evaluating cement addition to solidify site soil to encapsulate PFAS by preventing contact with water.</p>	<p><b>Stabilization Leaching Test</b> Eurofins Pittsburgh</p> <p>Leaching soils that have had stabilizing reagent(s) dosages added using LEAF Method for unconsolidated soils.</p>	<p><b>Solids Leaching Test</b> Eurofins Pittsburgh</p> <p>Leaching Soils that have had stabilizing reagent(s) dosages added and been solidified with cement using LEAF Method "solid" materials.</p>
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Andy Vitolins described the steps that have been undertaken so far for the ISSS testing. The first two photos on the slide show steps that were taken in the Arcadis Treatability Lab in North Carolina, and the last two photos are example photos. First, testing of different reagents or materials to stabilize or solidify the soil is performed using the same mixing and test periods. The goal is to find the reagents that work the best for a particular scenario. Next, two tests are performed in laboratories. In the first test, fluids are pushed through the sample in a column, and the leaching at the other end is measured. In the other test, the solid is immersed into a liquid which is then tested to see what leaches out of it over time. The setup of the test does not take long, but the leaching tests take a while because they need to be tested over

longer periods of time.

**2 | PROJECT UPDATES & UPCOMING WORK**

**Soil Washing**

- Soil washing removes the portion of the soil that is most polluted, thereby reduces the volume of soil needing further cleanup.
- Organic contaminants, like PFAS, tend to stick (sorb) more to fine-grained soils like silt and clay than to larger-grained soils like sand.
- Soil washing helps separate the silt and clay from the larger-grained, cleaner soils.
- Soil washing works best when the soil contains a much bigger portion of larger-grained soils (sand) than fine-grained soils (silt/clay).

CLU-RI | Technologies > Remediation > About Remediation Technologies > Soil Washing > Overview  
[https://clu.in.org/techfocus/default.focus/sec/Soil\\_Washing/cat/Overview/](https://clu.in.org/techfocus/default.focus/sec/Soil_Washing/cat/Overview/)

Andy Vitolins noted that there is a link on the slide to the USEPA fact sheet on soil washing—[https://clu.in.org/techfocus/default.focus/sec/Soil\\_Washing/cat/Overview/](https://clu.in.org/techfocus/default.focus/sec/Soil_Washing/cat/Overview/). This technology does not treat things in place; it removes the portion of the soil that contains the most contaminant mass and puts back what is no longer contaminated. Contaminants, especially organic ones, like to stick to the smaller soil fraction. This means there is a lot less material to dispose of or treat with some other method in the end. Soil washing is not going to help very much with a material that is made up mostly fines because the contaminant will not be concentrated. A material like the soil at Moore Army Airfield, with very few fines, can be a good material for soil washing because, if most of the contamination is present in 3%

of the soil, there is less volume of contaminated soil to treat or dispose.

**2 | PROJECT UPDATES & UPCOMING WORK**

**FFTA Soil Washing Laboratory Study**

- 1. Soil Homogenization**
  - Homogenizing large volumes of soil is an important part of the treatability study so that results from the evaluation of multiple treatment approaches can be compared. The method used is "coning and quartering".
- 2. Oversize Separation**
  - Wet sieving is used to separate particles between 2.0 and 4.75 mm. There was very little to no oversize larger than 4.75 mm.
- 3. Sand Fraction Creation**
  - Wet sieving is used to separate sand into 5 or 6 fractions between 2.0 mm and 0.038 mm
- 4. Soil "Fines" Flocced and Settled**
  - Water treatment chemical used to "floc" colloidal soil particles ("fines") to increase settling velocity.

Andy Vitolins explained that, in the laboratory, the soil is mixed so that the mass is equally concentrated throughout. Samples of the material are then collected for laboratory analysis. The soil is then sieved to separate the small fraction from the larger material. The portion containing the fines is analyzed, and the mass of the initial volume is determined as well as the mass that remains. From that, the percent of the mass removed by separating the material is determined, which can be used to estimate how successful this treatment would be for a specific site.

The next step is to look at the profile of the PFAS concentrations in the groundwater flow from the results of the borings and the lysimeters. The two pilot tests will be used to determine if other actions are needed

or what technologies might be useful in the remedial actions.

Laurie Nehring asked if MassDevelopment is part of the reviewing and decision-making process regarding the bench-scale testing results, in addition to the U.S. Army, USEPA, and MassDEP. Andy replied that the U.S. Army meets regularly with the USEPA, MassDEP, and MassDevelopment. Laurie noted that, in the past, PACE was able to help discuss those issues and now they have to wait until everybody else talks about it. Steven Perry commented that although the RAB executive meetings are not as extensive as that they are still a good opportunity for RAB members to be able to talk in more detail directly with all the parties.

Carol Keating asked what the timeline is for Areas 1, 2, and 3 for PFAS testing. Andy replied that, for Area 1, the draft final work plan will go to the USEPA in March. The intent is to have that field work start this summer and continue through the rest of the calendar year. The Area 1 work plan is being used as a template for Area 2 and Area 3, and the work plan process for those will start this fall. Carol asked if the work plans for Areas 2 and 3 would start in the fall together or if the Area 2 work plan would be first, followed by testing for Area 2, and then the work plan for Area 3. Andy noted that has not been decided yet whether the other areas will be done in series or in parallel. Area 1 is the most important to get going first because that is where all but one of the drinking water supply wells are.



**2 | PROJECT UPDATES & UPCOMING WORK**

**Nashua River Military Munitions Updates**

**Project Plan**

- Final Munitions Response Quality Assurance Project Plan (MR-QAPP) submitted on 30 November 2022

**Geophysical Investigation**

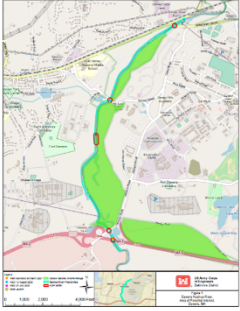
- Side-Scan Sonar (SSS)/Bathymetry Survey Operations to commence in February/March 2023 followed by Quality Control Seeding and then Underwater Digital Geophysical Mapping (DGM)

**Anomaly Avoidance Activities**

- Planned to support next Nashua River Watershed Association (NRWA) volunteer event in Summer 2023

**Underwater Intrusive Investigation**

- Investigation of underwater anomalies to begin following approval of anomaly list resulting from geophysical investigation



Peter Phillips (project manager with the USACE Baltimore District) introduced himself and provided an update on the Nashua River military munitions investigation. He noted that the Munitions Response Quality Assurance Project Plan, which contained the approach and procedures for the upcoming field work, has been finalized and accepted. It has been uploaded and is available online in the document repository. The geophysical investigation associated with this plan will commence with mobilization of the side-scan sonar and bathymetry survey at the end of this month and is dependent on site conditions that would impact safety or data quality such as ice or snow. That survey will evaluate the underwater conditions to verify depths and identify obstructions. Following this survey, quality control seeding will be performed, which

involves installing instrument controls. Underwater digital geophysical mapping will then be performed to map the river bottom for anomalies (deviations from an expected background condition). These anomalies could be buried metal objects or discarded military ammunition in the subsurface, or they could be related to various kinds of interference related to the geophysical equipment.

Anomaly avoidance activities were conducted last July by an USACE ordnance and explosive safety specialist. The specialist used a handheld detector to support volunteers during the Nashua River Watershed Association water chestnut scouting and removal event. Similar avoidance activities are planned for the next event this summer.

After the geophysical investigation, the underwater intrusive investigation will commence following the approval of the anomaly dig list. Investigation of anomalies will involve dive operations to investigate for munitions and explosives of concern, or munitions potentially presenting an explosive hazard.

Steven Perry asked Laurie Nehring and Martha Morgan if there were any updates on the summer plans for the volunteer events at the Nashua River. Martha Morgan replied that the Nashua River Watershed Association will be removing water chestnuts again starting from the Bill Ash Visitor Center. Last year, they did not use volunteers, only staff of the Nashua River Watershed Association, because they were concerned about the ordinance there. They will be aiming to do their event earlier in the summer instead of in July like last year because the plants were big by that time and harder to pull out. She asked when the underwater intrusive investigation will happen. Peter replied that it is based on the results of the geophysical investigation. The anomalies from the investigation will be evaluated, and there will be reporting that will need to be done. It could take place next spring depending on the review process. Peter confirmed that it will not be completed before June, but the results of the digital geophysical mapping will be obtained before then.


Laurie Nehring noted that PACE is also conducting water chestnut removal this summer, potentially starting in April. They will try to use rakes to get the nuts out before they sprout. There are about 80 people who have expressed interest in helping so far. Peter asked what extent of the river they were planning to perform those removals on. Laurie replied that they will not be in the river; they will be at Grove Pond. However, they did receive training last year on being careful if anyone happened to find anything that might be an anomaly.

**2 | PROJECT UPDATES & UPCOMING WORK**

**Shepley's Hill Landfill Updates**

**Current Concerns**

- Ability of existing groundwater extraction system to meet cleanup goals
- Safety and reliability of existing aboveground groundwater treatment system (aka, ATP)



Andy Vitolins gave an update on SHL. He noted the features of the area including the cap, groundwater extraction system, barrier wall, Plow Shop Pond, the North Impact Area (NIA), and Nonaqueous Brook. A lot of the elements of work that are being done have been brought out of informal disputes and subsequent agreements with the USEPA in 2015 and in 2020. The major concern is the ability of the existing remediation system—the groundwater extraction system—to meet the cleanup goals for arsenic. A separate, but just as important, concern is the safety and reliability of the system that treats that groundwater, which is the arsenic treatment plant (ATP).



**2 | PROJECT UPDATES & UPCOMING WORK**

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

**Groundwater Remedy Evaluation**

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

**Tasks:** Focused Feasibility Study (per USEPA 2016 SHL SOW Phase 3).

**Updates:** Draft Focused Feasibility Study to be submitted March 2023; 3<sup>rd</sup> Extraction Well Installation and Pilot Testing Summer/Fall 2023

**Improve Performance of Existing Groundwater Extraction System**

**Objectives:** Optimize the aboveground treatment process; Pilot test improved groundwater capture with 3rd extraction well.

**Tasks:** Replace oxidant with permanganate (currently chlorine) and "improve" filtration in Spring 2023

**Updates:** Final Design Memo for metals removal systems submitted to Agencies in October 2022; system upgrades estimated Spring/Summer 2023.

Andy Vitolins noted that the groundwater remedy evaluation is being done with a focused feasibility study. This is where technologies are evaluated using a process that is set by USEPA guidance to meet the goals for a specific site. The study is being done in accordance with the 2015 informal dispute, which resulted in a 2016 scope of work that is listed on the slide. That focused feasibility study has been drafted. It is undergoing internal review and will be submitted to the USEPA and MassDEP in March. During this time, the U.S. Army is going to be pilot testing the installation of another extraction well for that system. There are currently two wells that operate; however, one of the concerns in the past was whether two wells is enough. So, there is going to be a test to see how the system behaves with the new well in place.

The other concern is the safety of the ATP. Right now, the ATP uses chlorine gas as part of the oxidation process for removing the arsenic and iron out of the groundwater. Dealing with chlorine gas can be dangerous although there are plenty of controls in place in the current plant for that. However, a test determined that using permanganate for the oxidation was successful. So, the design for eliminating the use of that chlorine gas and changing to permanganate has been submitted and approved, and the U.S. Army is going to be moving forward with that this spring and summer.

**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 (Summer/Fall 2023). Annual fact sheet describing Land Use Controls for groundwater sent out in Fall 2022.

**Long-Term Monitoring**

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

**Updates:** Draft 2022 Annual Report on data collected Spring and Fall 2022 to be submitted May 2023; Spring 2023 sampling scheduled for May 2023.

Andy Vitolins noted a barrier wall is in place at SHL, which deflects groundwater from going toward Plow Shop Pond. Part of the requirements of the Five-Year Review was to see how well that barrier wall is working. Andy noted that, based on the data collected to date, it is working as designed, but a more detailed evaluation will be performed in the summer and fall. The work plan for that evaluation was approved last year, and work will be moving forward.

In addition, the draft report for last year's long-term monitoring to verify current groundwater conditions is underway. All the data has been collected, and it will be submitted to the agencies in May.

Laurie Nehring asked what the problems were with the barrier wall.

Andy replied that, based on groundwater flow patterns, the groundwater monitoring well data, and visual observations, the wall is performing as it was designed. The investigation that is going to happen this summer and fall is going to include a more detailed analysis. It will include sediment and surface water sampling, as well as pore water sampling. Pore-water sampling will look at water that is coming into the pond from groundwater to see how much, if any, arsenic is there and what the geochemical conditions are. There is also going to be some additional monitoring well installation. The performance looks good so far, but the USEPA has asked for a more detailed analysis. Laurie asked if Carol Keating had any other concerns. Carol replied that because the barrier wall is a component of the remedy, its performance needs to be evaluated in the Five-Year Review; however, the USEPA felt that there was insufficient data to do that. So, the U.S. Army had to prepare a work plan to collect the sediment and surface water data necessary to evaluate baseline conditions and then resample prior to the next Five-Year Review. USEPA is going to collect some split samples while the U.S. Army is out in the field to have them independently evaluated.

**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 submitted Oct. 2022; Draft Final Work Plan for AOC 43G submitted in Jan. 2023; Draft Final Work Plan for AOC 57 submitted in Feb. 2023; field work scheduled start Spring 2023 (following approval of Work Plans).

**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 Final LUCIPs for AOCs 69W (Dec. 2022) and 57 (Jan. 2023) submitted to agencies; EPA submitted comments on Draft 44/52 and SA71 LUCIPs Jan. 2023.

Andy Vitolins gave an update on the former Main Post. He noted a couple of the items on the slide also came out of the informal disputes and the subsequent scopes of work. The first item is the supplemental RIs that are happening after the Record of Decision was established for three of the petroleum sites: AOC 69W (Parker Charter School), AOC 57 (along Cold Spring Brook), and AOC 43G (former gas station). The concern here is whether the current groundwater remedy is effective and protective. The original requirements from the USEPA were to expand the monitoring program. However, the U.S. Army is taking it a step further by doing a full supplemental RI to try to get a bigger picture of what is left there, if anything, and what risk it poses. The work plans are on the same path as the PFAS Area 1 work plan and are also

scheduled to be implemented this summer and fall, and groundwater monitoring will continue for a year after. There's going to be temporary groundwater sampling points and also permanent groundwater monitoring wells installed for several rounds of groundwater



sampling. The work plans for these are all going through the same process, which includes draft, draft final, and final submissions with comments and responses to comments in between.

The second item is the land use control implementation plans (LUCIPs). The LUCs have been carried forward as part of property transfers, and some are memorialized in individual standalone LUCIPs while others are within base-wide monitoring plans and operations and maintenance plans. These new LUCIPs will memorialize the LUCs for each of the sites: AOC 44/52 (currently the Devens Reserve Training Center), AOC 69W, AOC 57, and SA 71 (former railroad roundhouse). The LUCIPs document what the LUCs are and how they are going to be inspected to make sure they are maintained over time. These documents also follow that same review process as discussed earlier.

Laurie Nehring asked if there is a contact at the Parker Charter school who is aware of the LUCs since there has been a very large staff turnover. She noted the school may want to do gardening kinds of programs or other science experiments on their land, which may not be safe. Andy noted that the U.S. Army is required as part of the existing LUCs to have an annual certification that the school is aware of the LUCs and that they are being practiced and monitored. That conversation just happened for last year, and the contact list and plans are constantly updated so that the team knows who that contact is. He noted there is only one area where they are restricted from doing anything like that and that is in a parking lot area.

Laurie noted that she wanted to make sure that conversations are happening in addition to a document being sent to the school for someone to read. Anne-Marie Dowd commented that MassDevelopment had just met with the school because the school has plans to repair a retaining wall and sidewalk. MassDevelopment had a site visit with the facilities person and another person in the administration and reviewed the excavation soil management plan. The school knows that it needs to create a health and safety plan and have a soil management plan and submit it to USEPA, MassDEP, and the U.S. Army for review. Carol Keating added that the school is not prohibited from doing anything, they just have to submit a soil management plan and health and safety plan that has been approved by a licensed site professional and reviewed by the regulators. Anne-Marie Dowd added that the land use restriction is for the soil under the parking lot and underneath the building, which is a paved and covered area. She noted that they pushed for having these site-specific LUCIPs because it can be difficult to find out what the LUCs are from a huge long-term monitoring plan. So, by developing these site-specific documents, they will be a lot easier to access and understand.

Libby Levison noted that Chris Mitchell from the Harvard Board of Health was not able to attend, but he sent a couple of questions. Specifically, Harvard would like more detail on scope and schedule for Area 1 Phase 2 and also what and where the U.S. Army will be sampling in Harvard and why those areas were selected. Andy replied that rights of access for all this work still have to be obtained; however, sampling and wells are proposed for the eastern side of Cold Spring Brook and to the east of the golf course. The schedule for those will be summer and fall, but the U.S. Army also has to get rights of entry before any of that can happen. The eastern side of Cold Spring Brook has been a concern of the agencies because of the groundwater flow from Devens to that brook. The location east of the golf course in the housing areas was chosen to evaluate the hydrogeology in that area and to determine whether Devens could be the source of concentrations of PFAS in the groundwater detected in residential wells in the area. Libby asked Andy if there is talk about having monitoring wells east of Shabokin Well. Andy replied that there will be wells and sampling in the Shabokin Well area and the Patton Well area. Libby asked if those would be on Devens or in Harvard. Andy answered that he could not say for certain.

**2 | PROJECT UPDATES & UPCOMING WORK**

**Final Documents Posted Since Last RAB Meeting**

- Final Munitions Response Quality Assurance Project Plan—Nashua River

**Draft Documents Since Last RAB Meeting**

- Draft Proposal – Installation and Pilot Testing of 3<sup>rd</sup> Extraction Well at SHL

**Responses to Comments/Revised Documents Since Last RAB Meeting**

- Draft Final AOC 69W LUCIP
- Draft Final AOC 57 LUCIP
- Draft Final AOC 43G Post-ROD Supplemental Remedial Investigation Work Plan
- RTCs: Draft AOC 44/52 LUCIP
- RTCs: Draft AOC 57 LUCIP
- RTCs: Draft SA71 LUCIP
- RTCs Revised Draft AOC 57 Post-ROD Supplemental Remedial Investigation Work Plan

Andy Vitolins noted the documents that have been submitted and those that are currently in progress. The Munitions Response Quality Assurance Project Plan was posted, and there will be more final documents posted throughout the rest of the winter and in the spring.



**3 | COMMUNITY INVOLVEMENT & RAB**

Physical document information repository (IR) is at the Ayer Library

Digital Administrative Record (AR) continues to be populated with project documents

Military munitions notifications and public outreach efforts continue

The next quarterly RAB meeting will be May 11, 2023

The Community Involvement Plan (CIP) and other information is available on the Fort Devens Environmental Cleanup website at:  
<https://www.nae.usace.army.mil/missions/projects-topics/former-fort-devens-environmental-cleanup/>  
 Digital AR link is now live and initial documents are available at:  
<https://www.nae.usace.army.mil/Missions/Projects-Topics/Former-Fort-Devens-Environmental-Cleanup/Administrative-Record/>

Steven Perry gave an update on some of the other supporting activities for the project. The physical document repository is fairly limited right now, but the digital administrative record is continuing to be updated with physical documents that have been sorted, scanned, digitized, and then put onto the website. Since the last meeting, there has been a change in the webmaster for the USACE, so there has been a little bit of a delay in making the handoff to upload additional documents. However, there are approximately 40 documents available right now, and another 70 or 80 ready to be posted. He noted that they are working on what kind of interface or index would be useful to users and mentioned that perhaps Laurie Nehring as a former librarian could provide suggestions. He also noted that, there is ongoing outreach to help keep people updated and get information about munitions safety. He noted the next RAB meeting will be held on May 11, 2023.

**4 | QUESTIONS & ANSWERS**

Please see the list of additional questions and answers (received via the chat box in Microsoft Teams) at the end of these minutes.

**THANK YOU!**  
**YOUR PARTICIPATION IS APPRECIATED!**

**NEXT RAB MEETING IS:**  
**MAY 11, 2023**

(Second Thursday of the month)

Steven Perry again noted that the next meeting is May 11, 2023. He added that the RAB member business/technical meeting would be moved up a couple of weeks to be perhaps 6 weeks ahead of the quarterly meetings. This is so that there is time to get together and talk about the agenda, prepare the materials, and get enough time for everybody to review.

Question	Answer
Laurie Nehring (PACE) via chat box—Does the lysimeter check rainwater as well for PFAS?	Dan Groher (USACE) answered that the PFAS content in the rainwater needs to be measured separately.
Martha Morgan (Nashua River Watershed Association) via chat box—I was wondering if there was ongoing sampling of the river.	Penny Ready (USACE) answered that they have not done any sampling following that event.
Laurie Nehring via chat box—Could ISSS be used on the bottom of a pond, like Grove Pond, for permanent stabilization of a range of contamination?	Dan Groher answered that ISSS is sometimes used for saturated sediment, but solidification would make the bottom of the pond completely solid, like concrete, which is probably not desirable. He noted that stabilization might also be undesirable for a pond.
John Kastrinos (Haley & Aldrich, Inc.)—What does NIA stand for?	Dan Groher replied that it stands for north impact area.



RAB MEETING INVITE

**Former Fort Devens Army Installation  
Notification**



**Please join us for the next Former Fort Devens RAB Meeting,  
Thursday, February 9, 2023, 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:

963 752 124#

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

Welcome to existing members and new participants!

Project Updates & Upcoming Work

Presentation by MassDevelopment

Community Involvement & RAB Board Updates

Questions & Answers

Next Steps & Meeting

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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/>

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

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