NAVAL AIR STATION JOINT RESERVE BASE (NAS JRB) WILLOW GROVE
Restoration Advisory Board (RAB) Meeting Minutes

Meeting Date: December 8, 2021
Meeting Time: 6:00 p.m.
Meeting Place: WebEx Webinar

	Name	Organization
Panelist	Dawn DeFreitas (R)	Department of Navy (Navy) Base Closure and Realignment (BRAC) Program Management Office (PMO)
	Willington Lin (R)	Navy BRAC PMO
	Brian Helland (R)	Navy BRAC PMO
	Dave Barclift	Navy BRAC PMO
	Jason Speicher	NAVFAC Atlantic
	Tricia Moore	Tetra Tech (Consultant to the Navy)
	Bill Myer	Air National Guard (ANG)
	Lee dePersia	ANG
	Jonathan Dahms	ANG
	Dr. Jayne-Anne Bond	ANG
	Keith Freihofer	ANG
	Matt Machusick	Leidos (Consultant to ANG)
	Timothy Runkle	Leidos
	Andrea Barbieri	Environmental Protection Agency (EPA) Region 3
	Nathan Doyle	EPA Region 3
	Rick Rogers	EPA Region 3
	Deb Goldblum	EPA Region 3
	Leah Zedella	EPA Region 3
	Lisa Trakis	EPA Region 3
	Kathy Davies	EPA Region 3
	Colin Wade (R)	Pennsylvania Department of Environmental Protection (PADEP) Southeast
	Josh Lookenbill	PADEP Southeast
	Brian Glass	PADEP Southeast
	Thomas Magge	PADEP Southeast
	Lora Werner	Agency for Toxic Substances and Disease Registry (ATSDR) Region 3
	Susan Schrack Wood	Pennsylvania Department of Health (PADOH)
	Tara Wilson	Blum-Moore Reporting Services
Attendees	Tina O'Rourke	Horsham Water and Sewer Authority
	Larry Burns	Horsham Land Redevelopment Authority (HLRA)

Name	Organization
Thomas Ames	HLRA
Mike McGee	HLRA
Thuane Fielding	Navy BRAC PMO
Hope Grosse	Member of the public
Lisa Senior	United States Geological Survey (USGS)
Kristeen Gaffney	EPA Region 3
Tim Cherry	PADEP Southeast
Bonnie McClennen	PADEP Southeast
Shea Bauersmith	Pennsylvania Representative Stephens' Office
Kathleen Joyce	Representative Dean's Office
Sean O'Connor	Pennsylvania Representative Schroeder's Office
Toby Kessler	Gilmore and Associates
Rocco Mercuri	Gilmore and Associates
Dustin Lipik	Tetra Tech
Linda Logan	Terraphase Engineering
Jim Rugh	Willow Grove Navy Caretaker Site Office
Martin Schy	Willow Grove Navy Caretaker Site Office

(R) Designates RAB Member

Dawn DeFreitas, the BRAC Environmental Coordinator, opened the virtual meeting by greeting the attendees. Ms. DeFreitas explained that the Horsham Library's regular meeting location was unavailable due to the COVID-19 social distancing requirements. Ms. DeFreitas noted that the meeting would include presentations from the Navy, ANG, and PADEP. RAB meeting notices were published in the newspaper on November 24 and December 1, 2021, posted to the Navy website, mailed to the mailing list, and an e-mail went out as well. For those unable to attend the meeting, an opportunity to download the presentations and have a copy sent by mail was provided.

Ms. DeFreitas informed the attendees that questions could be submitted via WebEx during the meeting. Ms. DeFreitas explained that questions would be answered at the end of each presentation by the presenters. Ms. DeFreitas also noted that the ATSDR is available after the RAB meeting to discuss health concerns. Ms. DeFreitas introduced RAB members and government representatives known to be present on the call. Ms. DeFreitas added that participants in the meetings should be able to see all the attendees on Webex, as requested in community feedback from the previous meeting.

A brief overview of WebEx features was presented to the attendees to explain the commenting process during the presentations.

Brian Helland commenced the Navy presentation with an update on the cleanup sites, including landfill Sites 3 and 12, and Site 5 Former Fire Training Area. Mr. Helland provided background on Sites 3 and 12, stating that they were former landfills used by the Public Works Department. The Site 3 Record of Decision (ROD) was finalized in September 2021. The selected remedy

included limited soil and sediment removal, on-site consolidation, construction of a landfill cover, land use controls, and long-term monitoring. No remedial action for groundwater was determined to be necessary at Site 3. The Site 12 ROD was finalized in October 2021. The selected remedy included limited soil and sediment removal, on-site consolidation, construction of a landfill cover, land use controls, and long-term monitoring. The additional groundwater sampling that EPA requested for Site 12 was completed in July 2021. The results are being evaluated and will be presented in an upcoming technical memo. The results will aid in determining if a groundwater remedy is needed at Site 12. Site clearing is expected to begin in January 2022 with the construction of the landfill cap to begin in March or April 2022.

Mr. Helland discussed the remediation for Site 5 groundwater. The anaerobic bioremediation system continues to operate at Site 5, and performance monitoring is being conducted in accordance with the approved plan. Sampling results continue to show that the breakdown of volatile organic compounds (VOCs) is occurring. Therefore, amendments will now be injected twice per year instead of annually as was done before to improve performance. The 2021 annual report is undergoing internal review, and the next quarterly monitoring event is planned for later in December 2021.

Willington Lin began the presentation for the next agenda item, per- and polyfluoroalkyl substances (PFAS). First, Mr. Lin provided a summary of the Navy's funding support for the Horsham Water and Sewer Authority. He then summarized the Navy's private well sampling activities. As of December 2021, 584 private wells have been sampled, 102 private wells had results above the lifetime health advisory levels, and 60 wells are still being monitored.

Tricia Moore discussed the remedial investigation (RI) for PFAS. The tenth round of surface water sampling is scheduled to be performed later in December 2021. Round 8 of the sampling occurred in June 2021, and the figures are currently being reviewed by the EPA, PADEP, and USGS at the time of the meeting. The data from the ninth round of sampling that occurred in September 2021 is currently being validated. The sampling was performed in conjunction with the USGS, and the local water purveyors were invited to participate. The annual report is currently being reviewed. The results will be posted to the BRAC PMO website once the report is finalized.

Ms. Moore provided an update on the off-base groundwater investigation and evaluation of existing off-base monitoring and production wells. Horsham Water and Sewer Authority (HWSA) has offered access to 15 existing observation and supply wells. Work was initiated in August 2020 and included geophysical logging and packer testing. Geophysical logging has been conducted at 12 well locations to date. Packer testing has been performed at 10 well locations. PADEP has also offered access to nine existing monitoring wells, and it is planned to sample those wells in the Spring of 2022.

Additionally, a draft sampling and analysis plan for on-base soil was submitted for regulatory review in November 2020. The draft sampling and analysis plan (SAP) for on-base groundwater sampling was submitted for regulatory review in April 2021. A response to comments is currently being drafted.

Ms. Moore discussed the pilot test for groundwater treatment in the aircraft maintenance facility area around Hangar 680, where the highest PFAS levels were identified. On March 2, 2020, the

system was placed online. All effluent results have met all the discharge requirements issued by the PADEP. Approval to extend the pilot test for another six months was granted by PADEP in July 2021. A request to modify the system by adding an extra extraction well was granted by the PADEP and placed online in November 2021. A summarized layout of the pilot was reviewed.

Ms. Moore summarized the aqueous investigation-derived waste (IDW) groundwater treatment system. The IDW will now be treated on-site instead of sending the waste off-site for treatment as a cost-saving measure. The water discharged by this system will fall under the same permit equivalency as Hangar 680. The system was installed in September 2021. Following PADEP approval in November 2021, it was started in December 2021.

Ms. Moore discussed the Site 5 pilot test for PFAS treatment. The wells and treatment cannot interfere with the existing in-situ bio-stimulation treatment system for VOCs. Lessons learned from the Hangar 680 pilot test will be applied. The final work plan was submitted to the regulators in September 2021. Construction of the system started in October 2021 and was completed in November. The discharge permit was effective as of February 2021and is valid for five years. Confirmation sample results were sent to the PADEP for review and approval. The DEP has approved the discharge of water. Fifteen extraction/monitoring points were installed between October and November of 2020. This includes the two extraction wells used for the Site 5 pilot test. These 15 wells have been sampled, and geophysical logging has been completed. A brief overview of the process to supply power, treatment trailers, and piping for the pilot test were reviewed.

The Engineering Evaluation/Cost Analysis (EE/CA) for a non-time-critical removal action was submitted to the regulators for review in May 2021. Following the EE/CA finalization, a public comment period will be held. A final interim action memo will be drafted after the public comments are received.

Ms. DeFreitas finished the Navy presentation by giving an action summary of the current progress that had just been discussed, and actions anticipated to be completed before the next RAB meeting. Then Jackie Boltz gave a brief overview of how the question and answer interface worked within WebEx for all the attendees before the floor was opened to questions regarding the Navy's presentation.

Mr. Lin read a question from Tom Ames regarding the status of the remedial design for the landfill caps at Sites 3 and 12 and the installation schedule. Mr. Helland responded that the draft final work plans are under review by the regulators and that construction is set to begin in March or April 2022.

With no further questions for the Navy, Mr. Lin introduced Bill Myer to commence the ANG presentation.

Mr. Myer gave a brief update on changes that have occurred since the last RAB meeting, as well as a future forecast for upcoming activities. The final tech memo for the Round 6 regional surface water sampling and the stormwater treatment completion report was submitted to the EPA and PADEP in November 2021. A meeting with the EPA and PADEP is scheduled for January 2022 to discuss the interim groundwater action scope of work. Additionally, in January 2022, there will

be a meeting with the EPA to discuss a revised scope of work for the Phase 2 remedial investigation. Ongoing activities involving stormwater operations and treatment will be ongoing.

Mr. Myer introduced Matt Machusick with Leidos to discuss the RI they have been contracted to perform. Mr. Machusick explained that the RI will be conducted to determine the nature and extent of the contamination and the potential threat to human health and the environment. Leidos will be collecting soil, sediment, surface water, and groundwater on the Biddle Air National Guard Base (formerly Horsham Air Guard Station) and off-site. A Baseline Risk Assessment will also be completed. In addition, there will be four quarters of groundwater sampling, twelve quarters of surface water sampling, and an annual stream gauging event.

Mr. Machusick discussed the progress of the RI as of the time of the RAB meeting. Leidos has received back comments from the regulators on the Uniform Federal Policy for Quality Assurance Project Plan (UFP QAPP). This document will serve as the work plan for the RI. In addition, Leidos is working on a revised scope of work and contractual modification with the ANG to conduct the additional work. The results from the Phase 2 groundwater sampling event in April 2021 have been reported. Slide 9 was displayed to the attendees to give a visual summary of the April 2021 sampling event. The final sampling memos for Rounds 5 and 6 of quarterly surface water sampling were submitted. Responses to the Round 7 memo are currently pending. Mr. Machusick turned the presentation over to Lee DePersia.

Mr. DePersia provided an overview of PFOS and PFOA in the surface water on the Horsham Air Guard Station. The ANG has taken action to reduce PFOS and PFOA releases by implementing the treatment system discussed earlier in the meeting. There is a permanent treatment system currently in operation at the stormwater basin that went online in August 2021. This system captures and treats base flow. The new system increases the treatment capacity between 200 and 500 gallons per minute (gpm). Monthly monitoring of the plant's effluent water has been ongoing since August 2021. The combined PFOA plus PFOS concentration is consistently below 2 ppt (parts per trillion). Between August and November 2021, the plant has treated roughly 35 million gallons of water. The new plant consists of a sand filter, zeolite filter, GAC, and IX resin. Construction on the new plant began in October of 2020. A graphic showing the plans for the new system was presented to the audience.

Mr. DePersia then discussed the involvement of the North Wales Water Authority. There was an agreement with Warrington Township to install carbon filtration on five of their supply wells and extend water mains for connections. Warrington Township has sold its water system to the North Wales Water Authority. The ANG has transferred the cooperative agreement to the North Wales Water Authority, who will continue the connections to municipal water for private well locations with detections above 70 ppt.

Mr. Myer presented PFOS and PFOA results in drinking water in the Horsham, Warrington, and Warminster areas. Mr. Myer discussed slides 14 and 15 of the ANG presentation showing the number of private wells sampled above the 70 ppt EPA health advisory level and the number of connections completed. In addition, the National Pollutant Discharge Elimination System (NPDES) industrial stormwater permit was issued by PADEP in March 2021.

Mr. Myer then concluded the ANG presentation.

Ms. Boltz reminded the attendees to utilize the question and answer box in the WebEx during the meeting. Then, the floor was opened to questions.

Mr. Lin read a question from Hope Grosse about the potential effects of new PFAS regulations at the state level. Mr. Barclift responded that the Navy is currently in the remedial investigation phase. State levels are evaluated as part of the feasibility study stage. In addition, state maximum contaminant levels (MCLs) are evaluated to determine if they are potentially applicable and appropriate requirements. If they are identified in this stage, they will help determine remediation goals. As of the RAB meeting, Pennsylvania state MCLs for drinking water have not been finalized.

Mr. Lin read a follow-up question from Ms. Grosse about any additional soil removal activities that may have occurred. Mr. Helland replied that no additional soil removal had taken place since 2018. Mr. Lin added that the Completion Report is available in the Administrative Record.

With no more questions regarding the ANG presentation, Mr. Myer introduced Dr. Jayne-Anne Bond to the attendees. Dr. Bond commenced the presentation with a brief overview of the relative risk site evaluation (RRSE). The RRSE is an internal Department of Defense (DoD) approach for evaluating the relative risks to human health and the environment posed by chemicals that may be present at a DoD site. The evaluation is then characterized into high, medium, or low-risk categories. The assigned categories are then used for sequencing installations for environmental restoration activities today and in the future.

Dr. Bond discussed the basic framework for the RRSE. First, sites are selected at each installation. Data is then collected at those sites, including the chemicals of concern, potential exposure pathways, and possible receptors. Three evaluation factors are then used, and the relative risk categories are assigned.

A summary of the types of restoration sites that require RRSEs was provided by Dr. Bond. Restoration sites in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) phases prior to remedy in place or remedy complete require an evaluation. As the CERCLA process continues, RRSEs will be reviewed and updated if needed. If additional data becomes available, RRSEs can be amended.

Dr. Bond delved further into the evaluation factors used in the RRSE process. An example for groundwater was displayed to the attendees. Dr. Bond explained that contaminant hazard factors, migration pathway factors, and receptor factors are all used to create a media-specific relative risk rating. These ratings are then used to determine the overall site rating, which is put into an algorithm that assigns final site ratings for each installation.

Dr. Bond then concluded the presentation, and Mr. Myer opened the floor to questions.

Mr. Myer delivered a question from Ms. Grosse regarding clarification on the PFAS levels used in the high, medium, and low-risk categories. Dr. Bond responded that comparison values would be the same. Each site will have individual detection values, affecting the contaminant hazard factor. Dr. Bond clarified that RRSEs are separate from other types of risk assessments.

With no more questions regarding the RRSE presentation, Mr. Myer introduced Colin Wade of the PADEP to the attendees. Mr. Wade began the PADEP presentation with a synopsis of the role the agency fulfills in Superfund sites. The PADEP works to ensure that cleanups comply with Pennsylvania's laws and regulations by identifying relevant requirements that pertain to actions or conditions at the Superfund site. Common PADEP requirements include erosion and sedimentation control, regulations on air emissions, discharges to surface water, waste storage and disposal, and cleanup standards for soil and groundwater. Mr. Wade then turned the presentation over to Brian Glass to discuss the regulatory updates.

Mr. Glass commenced with an overview of the regulatory process in Pennsylvania. For a proposed regulation to be successfully promulgated, it must proceed through multiple external and internal review layers. First, a draft and proposed rulemaking are submitted and reviewed before becoming a final regulation. At the outset, the PADEP has several advisory committees that review a draft proposed rulemaking before it becomes officially proposed. Once this stage is complete, the PADEP recommends it to the Environmental Quality Board (EQB), which considers adoption's proposed rulemaking. Following this step, it gets forwarded to the Office of General Counsel, reviewed for form and legality. It is then passed on to the Senate and House Environmental Resource and Energy Committees for review and comment. It is also published in the Pennsylvania Bulletin for a public comment period during this stage. After that period expires, the PADEP considers the comments and makes a final rulemaking. The final rulemaking is then sent to the EQB for adoption and then onto the Senate and House Environmental Resource and Energy Committees for a vote. Finally, it is reviewed by the Office of the Attorney General for final review before publication in the Pennsylvania Bulletin as a final regulation.

Currently, there are two PFAS rulemakings within this regulatory process. The PFAS drinking water rulemaking was just adopted as a proposed rulemaking by the EQB and will be undergoing public comment. The PFAS cleanup rulemaking was just published as a final regulation in the Pennsylvania Bulletin. In 2019 the PADEP proposed to add groundwater and soil median specific concentrations (MSC) for PFBS, PFOS, and PFOA. The EQB adopted the final PFAS cleanup rulemaking in June 2021, and it was published in the Pennsylvania Bulletin in November 2021. The PFAS drinking water rulemaking was begun as a petition in 2017 to establish an MCL for PFOA. Following this action, the PADEP contracted Drexel University to evaluate PFOA in addition to other PFAS compounds. Drexel recommended maximum contaminant level goals (MCLG) for six PFAS compounds at the end of their review. Concurrently with Drexel's study, the PADEP embarked upon a statewide sampling plan to collect occurrence data for PFAS compounds to determine their prevalence in the environment. After considering all this information, PADEP determined that MCLs were appropriate for PFOA and PFOS.

Mr. Glass outlined the most current activity in the PFAS drinking water rulemaking. On November 16, 2021, PADEP recommended that the EQB adopt a proposed rulemaking to establish MCLGs and MCLs for PFOA and PFAS. The EQB voted to accept the recommended MCL of 14 ppt for PFOA and MCL of 18 ppt for PFOS. However, the PADEP did not recommend MCLGs and MCLs for the other PFAS compounds due to insufficient information. Once published, there will be a 60-day public comment period. Mr. Glass noted that any person who wanted to track the rulemaking progress could do so by using the DEP's e-notice system.

Mr. Glass then concluded the PADEP presentation, and Mr. Lin opened the floor to questions.

Mr. Wade read a question from Ms. Grosse regarding results from the sampling completed in the Fall of 2021. Mr. Wade clarified that this question refers to the PADEP non-target analysis for PFAS sampling. The PADEP collected samples for non-target analysis from roughly half a dozen PFAS sites in eastern Pennsylvania. Rick Rogers added that almost all the data had been analyzed at the time of the RAB meeting. The data will be released once it has been validated.

Mr. Wade relayed a question from Ms. Grosse regarding the possibility of delivering questions from the attendees via a microphone at future RAB meetings. Mr. Lin replied that it might be possible to accommodate this in future meetings.

There were no other questions. Ms. DeFreitas announced the next RAB meeting would be held on March 9, 2022 and adjourned the RAB meeting. After a short break, Lora Werner of the ATSDR and Susan Schrack Wood of the PADOH led a health discussion with community members.