



Restoration Advisory Board Biddle Air National Guard Base

Bill Myer

NGB/A4VR

14 September 2022

Updates Since 19 May 2022



- Environmental Restoration Program Sites:
 - Willow Grove Site 1 (Privet Road):
 - Starting Five Year Review (BB&E)
 - Contract action summer 2022 for Final Record of Decision/Long Term Monitoring
- Coordinating with EPA/PADEP on the transition from SDWA AO to Navy Federal Facility Agreement
- PFAS Remedial Investigation:
 - Leidos developed geologic cross sections to support data quality objectives and conceptual site model discussions for Phase II and Phase III RI to support monitoring well selection and data gap analysis
 - ANG agreed to use traditional monitoring wells in lieu of multiport wells to complete the RI
 - EPA/PADEP/ANG/Navy met on-line (2 and 16 Aug) to discuss ANG and Navy Geologic Cross Sections and way forward
 - ANG is modifying Leidos contract to include scope of work changes to RI UFP QAPP to include additional wells and additional down hole geophysics/packer testing/groundwater sampling
 - Submitted final Surface Water Technical Memorandum for Event 8 and draft final for Events 9 and 10
 - Regional Surface Water Sampling Event 13 June 2022
- PFAS Interim Groundwater Action:
 - Request for Proposals mid July 2022 to support acquisition
- PFAS surface water treatment:
 - 11 August 2021 New Surface Water Treatment System started; as of 31 August 2022 treated 125M gallons



3 Month Forecast of Activities



- Sign Navy Federal Facilities Agreement:
 - Complete Surface Water Response Action Memorandum
 - Complete Residential Drinking Water Action Memorandum
- Continued drinking water response actions (sampling, bottled water, and coordination with North Wales Water Authority (NWWA) and Warminster
- Complete RI Contract modification
- Prepare revised UFP QAPP modifications related to bedrock groundwater characterization and revised scope of work Phase II and III RI.
- Award Interim Groundwater Action Contract
- Surface Water Sampling September 12th, 2022
- Continued storm water treatment operations (Warminster)



Remedial Investigation Project Objectives

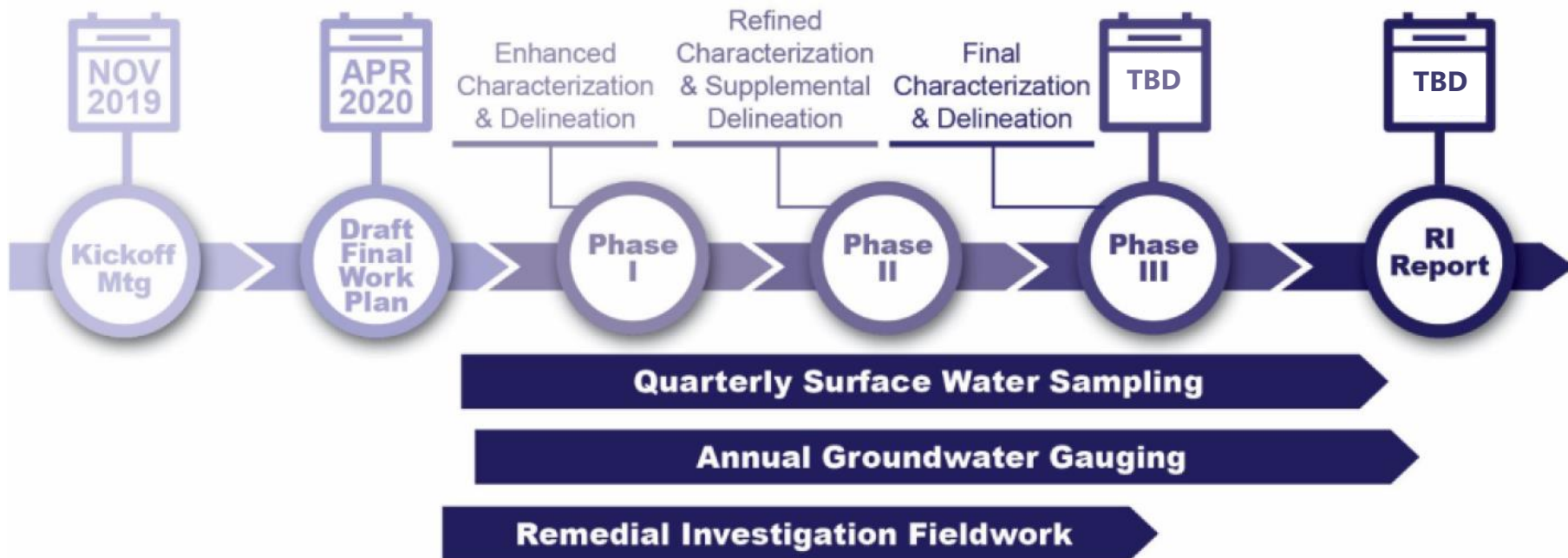


- Delineate the nature and extent of PFAS contamination, the threat to human health and the environment and prepare a Remedial Investigation (RI) Report.
 - Collect soil, sediment, surface water, and groundwater PFAS data on and around Biddle ANGB.
 - Conduct Baseline Risk Assessment (BRA).
 - Investigate link between groundwater and unnamed tributary to Park Creek.
 - Obtain data required to inform future development of a Feasibility Study.
 - Conduct quarterly surface water sampling for PFAS in coordination with the Navy.
 - Conduct annual potentiometric gauging, as needed to support USGS model.

Previously Identified Potential PFOS/PFOA Source Areas



Remedial Investigation General Process and Schedule



Remedial Investigation Progress



- EPA, PADEP, ANG, and Leidos are developing the path forward for the RI. A UFP-QAPP addendum will be developed to address revised scope
- Revised scope of work and contract modification in progress for additional/modified RI effort
- Developing a series of cross-sections to evaluate nature and extent of PFAS impacts to guide subsequent investigation. Presented and discussed draft cross-sections with EPA/PADEP/Navy on August 2nd and 16th.

Quarterly Surface Water Sampling



- Performed regional Surface Water Sampling with Navy and USGS in June 2022
- Delivered Draft Final Sampling Memo for Rounds 9 and 10 to EPA/PADEP. Awaiting comments
- Submitted Draft Sampling Memo for Round 11.
- Preparing Sampling Memo for Round 12.
- The next Surface Water sampling event (Round 13) is planned for the week of September 12

Actions Planned for Next 3 Months



- Pending contract modification, refine scope of work for RI Phase II and III in consultation with EPA and PADEP
- Prepare UFP-QAPP Addendum
- September 20th: Meeting with EPA/PADEP to discuss cross sections, data gaps, and next steps
- Finalize quarterly Surface Water Memos for Rounds 9 and 10
- Submit Draft Final Surface Water Memo for Round 11
- Submit Draft Surface Water Memo for Round 12
- Perform next Surface Water sampling event the week of September 12

PFOS/PFOA Water Treatment

Biddle ANGB



- PFOS/PFOA has been detected in surface water leaving the Biddle Air National Guard Base. This water is primarily groundwater that discharges to a storm water detention basin on the northwest boundary of the Base and flows to Park Creek which flows to the Little Neshaminy Creek.
- 500 gallon per minute treatment plant began operations on 11 August 2021. ~ 125M gallons treated through the end of August 2022.
- First media change-filter train #1 in July/August. All replaced but resin. Removed media staged on base until final disposal.
- Treatment plant effluent PFOS+PFOA < 2ppt (<70 ppt required)
- Construction and O&M through Warminster Cooperative Agreement

NWWA Activities



- North Wales Water Authority assumed responsibility for Warrington water service area
- Cooperative agreement for water system actions
- PFAS treatment added to 5 municipal wells, 99% complete
- Two water main extensions completed.
- 12 Service line connections completed since last RAB, 4 scheduled for September 2022. Private well decommissioning ongoing.

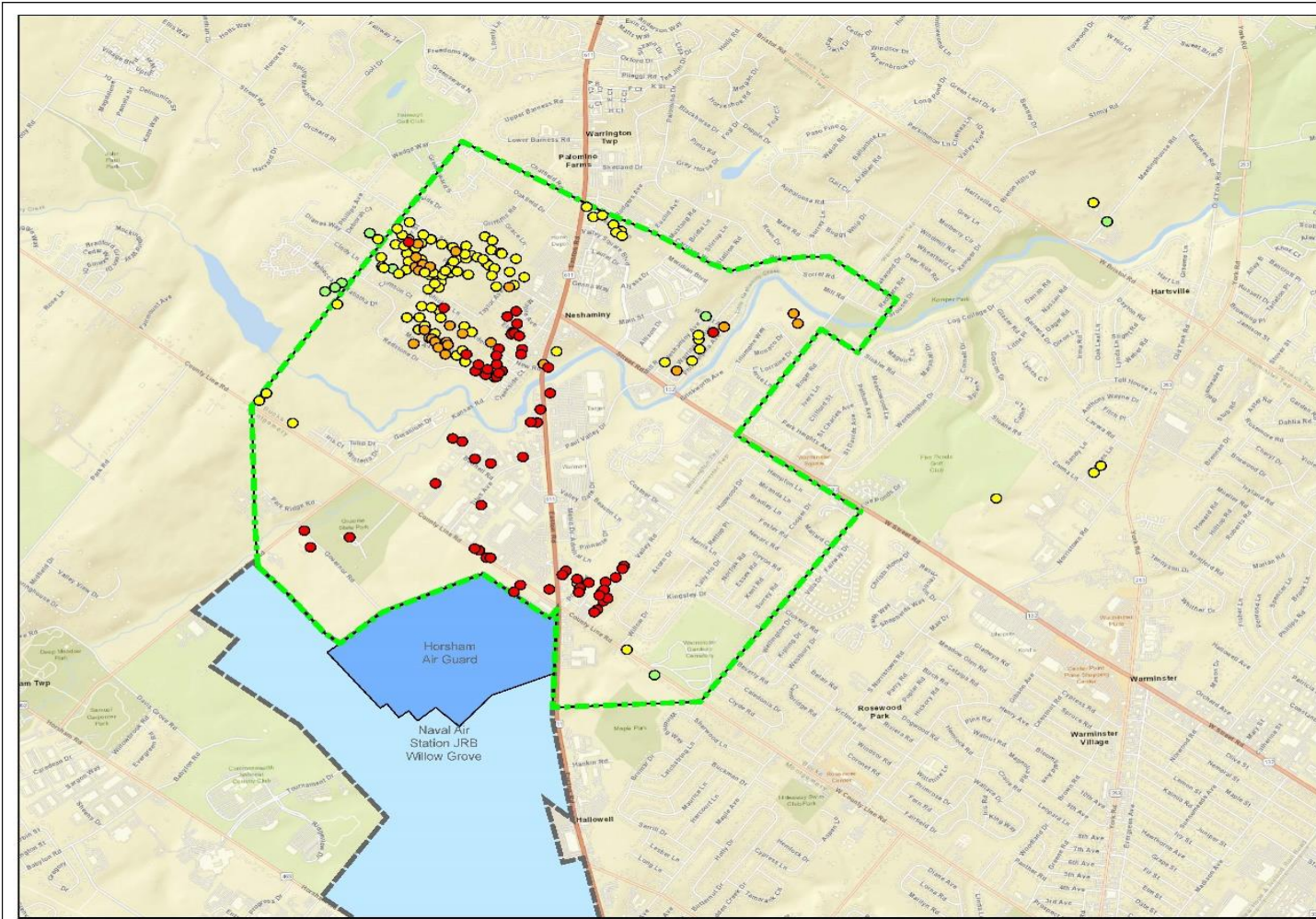
Private Well Sampling



- ANG has contract in place with Wood to provide PFOS/PFOA testing of private drinking water wells and supply bottled water to properties with PFOS/PFOA at or above the 2016 EPA Health Advisory level (HA) for residents within our area of responsibility in Horsham, Warminster, and Warrington
- Total number of private wells sampled by ANG are:
 - Horsham
 - 6 wells sampled
 - 5 were above HA
 - 4 have been connected to municipal water
 - 1 well abandoned by Wood
 - Warrington:
 - 150 well sampled
 - 53 are above HA
 - 55 have been connected, NWWA has 13 signed agreements to connected this summer
 - Warminster: 12* well sampled
 - 11 are above HA
 - 8 have been connected municipal water
- *Some of these properties are on Valley Road with Warminster mailing addresses but are located in Warrington Township
- Sampling contact for ANG area of responsibility: Transitioning to Weston, Mr. Bob Wagner, 570-466-4026, r.wagner@westonsolutions.com



Private Well Sampling Map



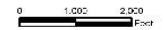
PFAS Sample Results for January 2022
 Biddle Air Guard Base
 Horsham and Warriminer Townships, Pennsylvania

Legend

- PFOS+PFOA not detected
- PFOS+PFOA at or below 0.040 µg/L
- PFOS+PFOA between 0.040 and 0.070 µg/L
- PFOS+PFOA above 0.070 µg/L
- ANG Sampling Area
- Horsham Air Guard
- Former NAS JRB Willow Grove

Notes & Sources

Notes:
 µg/L - micrograms per liter
 PFAS - Per- and polyfluoroalkyl substances
 PFOS - Perfluorooctanesulfonic acid
 PFOA - Perfluorooctanoic acid
 Health Advisory Level (HAL) is the sum of PFOS+PFOA (0.070 µg/L)
 Base Map Source:
 Street map data from ArcGIS Online map services.
 Map service information available at:
http://gto.arcgisonline.com/maps/World_Street_Map



wood.
 Environment & Infrastructure Solutions
 511 Congress St, Suite 200
 Portland, ME 04101
 (207) 628-3200

FIGURE
2