



Restoration Advisory Board Biddle Air National Guard Base

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NGB/A4VR
19 May 2021

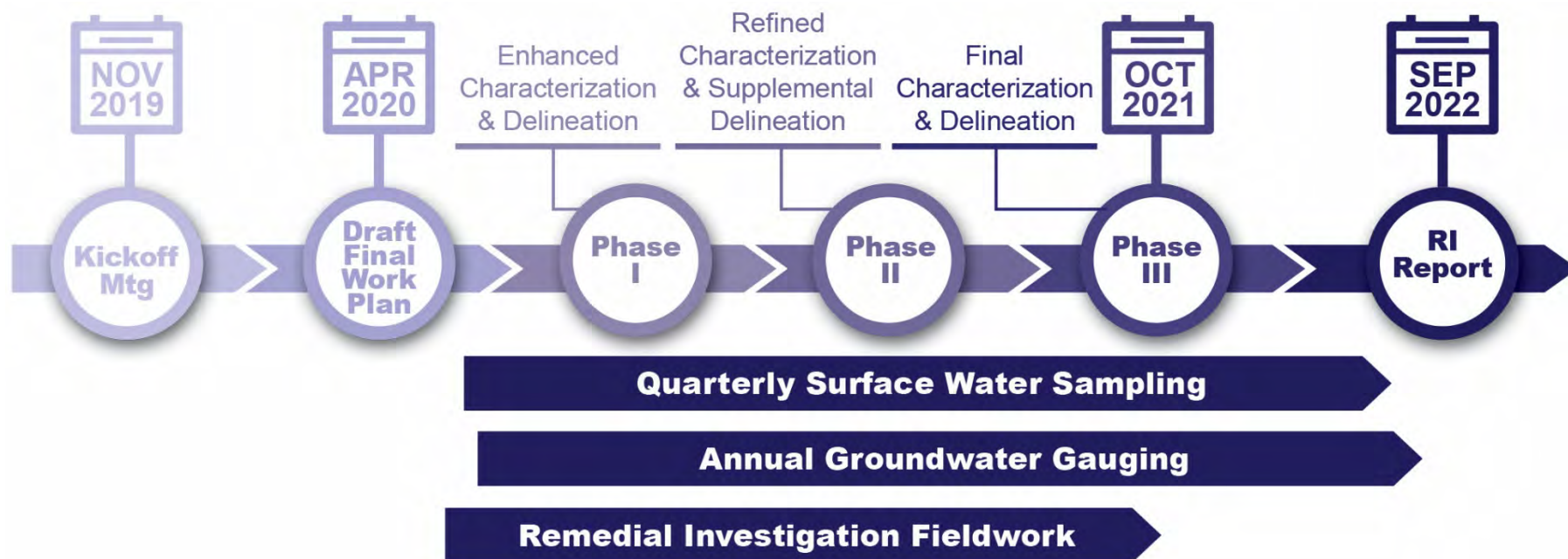


Updates Since March



- Environmental Restoration Program Sites:
 - No Updates
- PFAS Remedial Investigation:
 - 30 March: Held technical consultation with EPA covering Phase II investigation activities
 - 19 to 27 April: Completed Phase II groundwater and surface water sampling
 - Conducted regional surface water sampling in coordination with the Navy
- PFAS surface water treatment:
 - 180 gallons per minute system continues to operate
 - 500 gallons per minute surface water treatment system under construction
 - Final NPDES Permit issued
- New 111th Attack Wing Commander: Col Deane Thomey

Remedial Investigation General Project Steps and Schedule





Remedial Investigation Progress



- 1 March: Submitted Draft Final Tech Memo for Phase I field investigations to EPA, DEP, Townships, Navy, and USGS
- 11 March: Submitted Draft Tech Memo for Round 6 regional surface water sampling to ANG, electronic data deliverable previously provided to Navy
- 15 & 16 March: Completed Round 7 regional surface water sampling in coordination with the Navy
- 30 March: Held technical consultation with EPA covering Phase II investigation activities
- 19 to 27 April: Completed Phase II groundwater and surface water sampling
- Ongoing: Coordinating access for offsite monitoring well locations with Warrington Township

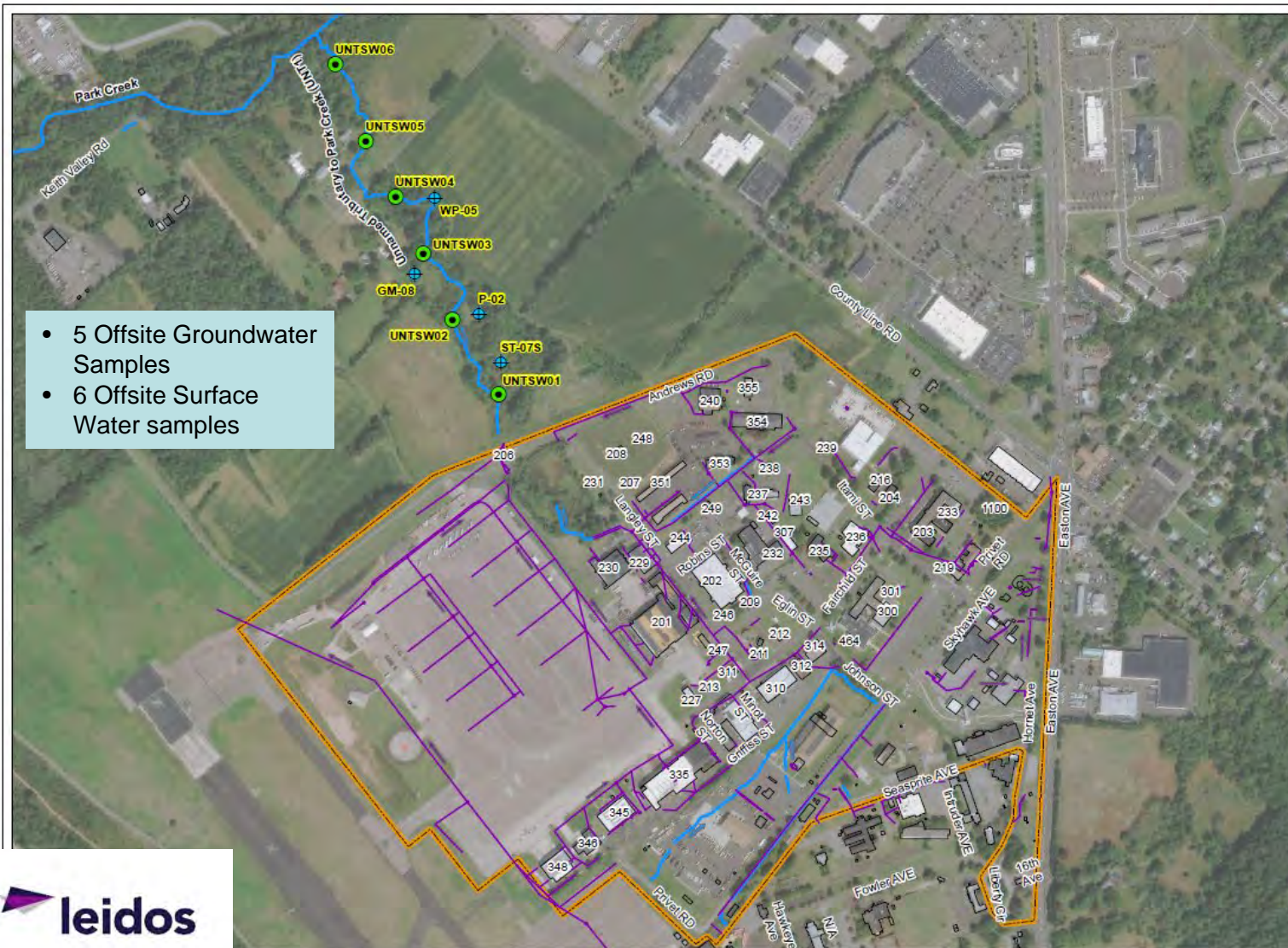


Phase II Comprehensive Onsite Groundwater Sampling



Phase II Offsite

Groundwater and Surface Water Sampling



LEGEND:

- Existing Site ST-01 Well
- Surface Water Sample Location
- Stream*
- Storm Sewer Line*
- Building*
- Installation*
- Stream Flow Direction
- Storm Sewer Line Flow Direction
- UNTSW01** Sample Identifier

NOTES:

* Source: Common Installation Picture (CIP) and Mission (MDS) geodatabases provided by ANG GeoBase on 08/14/2015. Storm drainage system from DWG provided on 08/28/2017.

1. Background Source: ESRI World Imagery (DigitalGlobe, 07/2017).

BIDDLE AIR NATIONAL GUARD BASE
HORSHAM TOWNSHIP,
PENNSYLVANIA

PROPOSED PHASE **6**
SURFACE WATER SAMPLING

FIGURE: 6 | DATE: 3/18/2021



Quarterly Surface Water Sampling



- Performed regional Surface Water Sampling with Navy during March Quarterly Event.
- Data validation is in progress.



Actions Planned for Next 3 Months



- Actions Planned for Next 3 Months
 - Continue regional surface water sampling in coordination with the Navy
 - Obtain access for offsite monitoring wells and begin installations

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 stormwater 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 under construction to replace current temporary plant
 - Construction started October 2020
 - Treatment building and treatment vessels installed, interior work continuing. Detention basin recovery trench completed.
 - Anticipated completion and start-up summer 2021
- Final NPDES Permit issued by PADEP in March 2021 includes discharge from the new treatment plant.

NWWA Activities



- North Wales Water Authority assumed responsibility for Warrington water service area
- Cooperative agreement for water system actions
- PFAS treatment added to 3 municipal wells
- Design and construction underway to add PFAS treatment to 2 additional wells – 2022 completion
- Two water main extensions – Fall 2021
- Service line connections and private well decommissioning ongoing



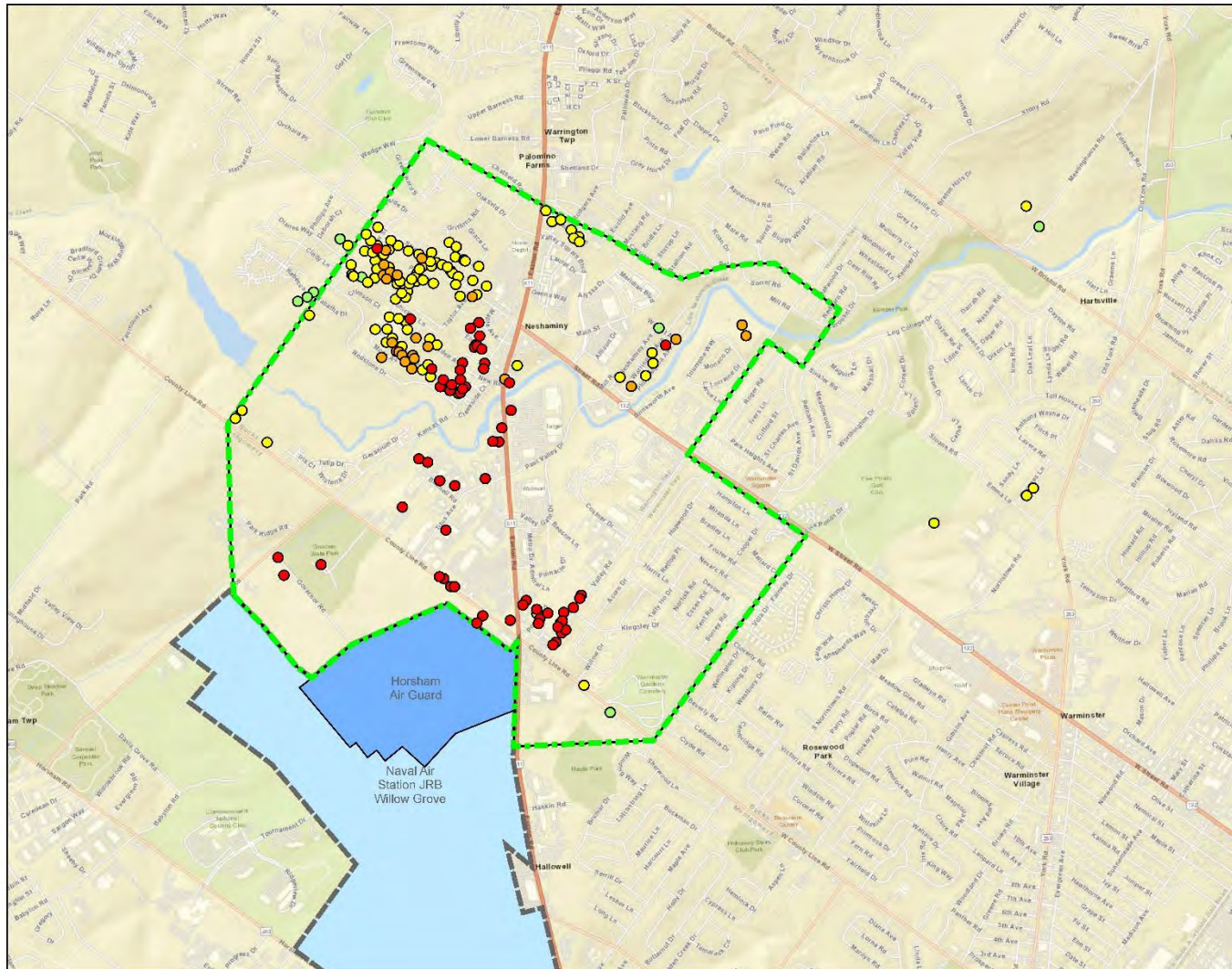
Private Well Sampling



- 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 EPA Lifetime Health Advisory level (LHA) for residents within our area of responsibility in Horsham, Warminster, and Warrington
 - The number of private wells sampled by ANG are:
 - Horsham: 6, 5 above LHA; 4 have been connected to municipal water (remaining one not in use)
 - Warrington: 150, 46 are above LHA; 35 have been connected
 - Warminster: 12*, 11 are above LHA; 8 have been connected
- *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: David Side at david.side@woodplc.com or (610) 877-6111



Private Well Sampling Map



PFAS Sample Results for January 2021

Horsham Air Guard Station
Horsham and Warrington
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://go.to.arcgisonline.com/maps/World_Street_Map

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Feet

wood.

Wood
Environment & Infrastructure Solutions
511 Congress St. Suite 200
Portland, ME 04101
(207) 828-3200

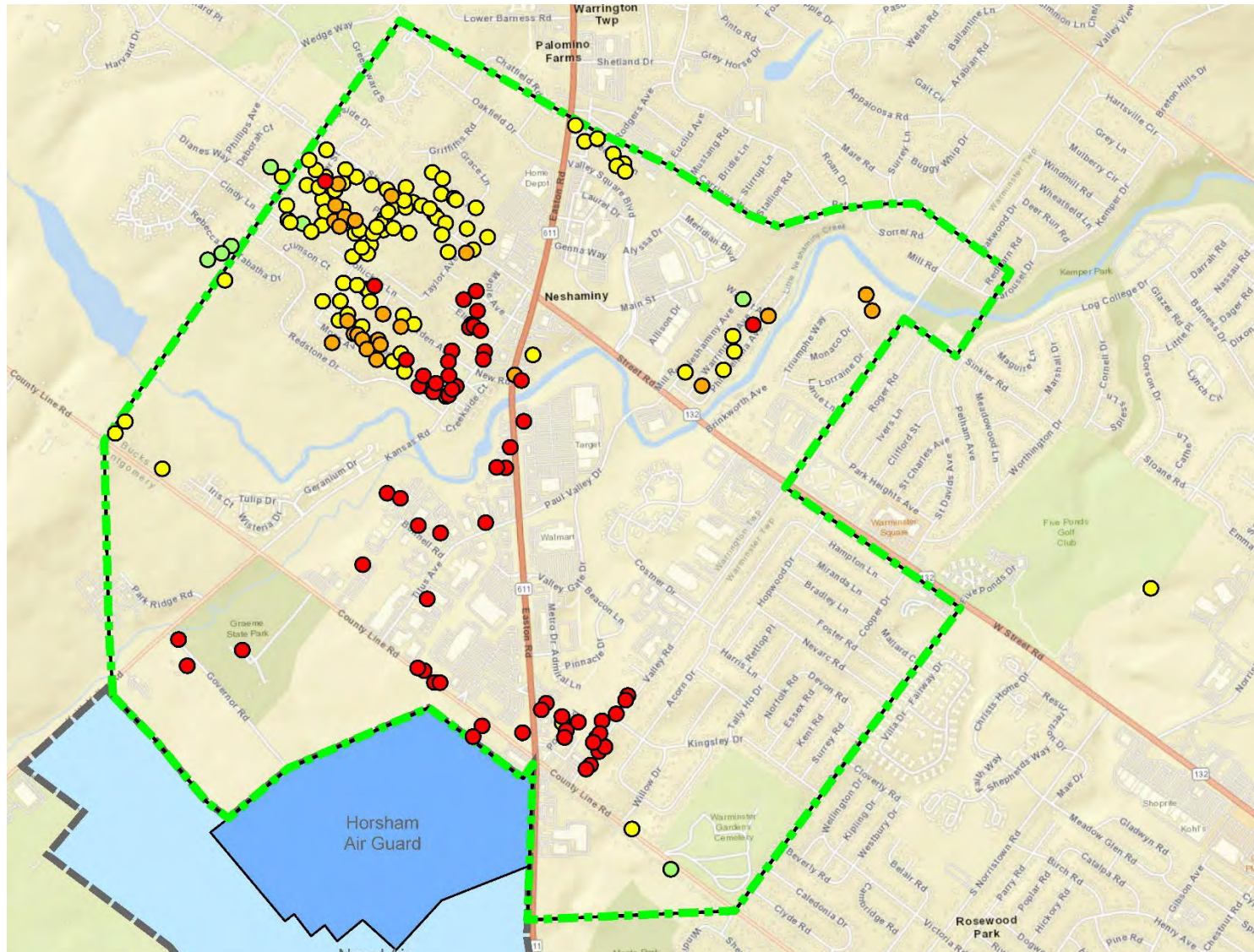


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Private Well Sampling Map





NPDES Permit Status



- Final NPDES Permit issued by PADEP in March 2021 assigned PFOS/PFOA discharge limits to two surface water outfalls on Biddle ANGB effective January 2022
 - Air Force has appealed this permit because PADEP does not have surface water standards for PFOS/PFOA; permit is in effect during appeal process
- ANG intends to continue to construct and operate PFOS/PFOA treatment systems on the primary surface water outfall
 - The temporary treatment systems have operated under an Authorization to Discharge from PADEP with a 70 ppt PFOS+PFOA limit since October 2017



Actions Planned for Next 3 Months



- PFAS Remedial Investigation:
 - Continue regional surface water sampling in coordination with the Navy
 - Obtain access for offsite monitoring wells and begin installations
- Surface water treatment:
 - Continue construction of permanent treatment plant
- Continued private well sampling
- Note: Administrative Record now listed under Biddle ANGB: <https://ar.afcec-cloud.af.mil/>



Previously Presented Data



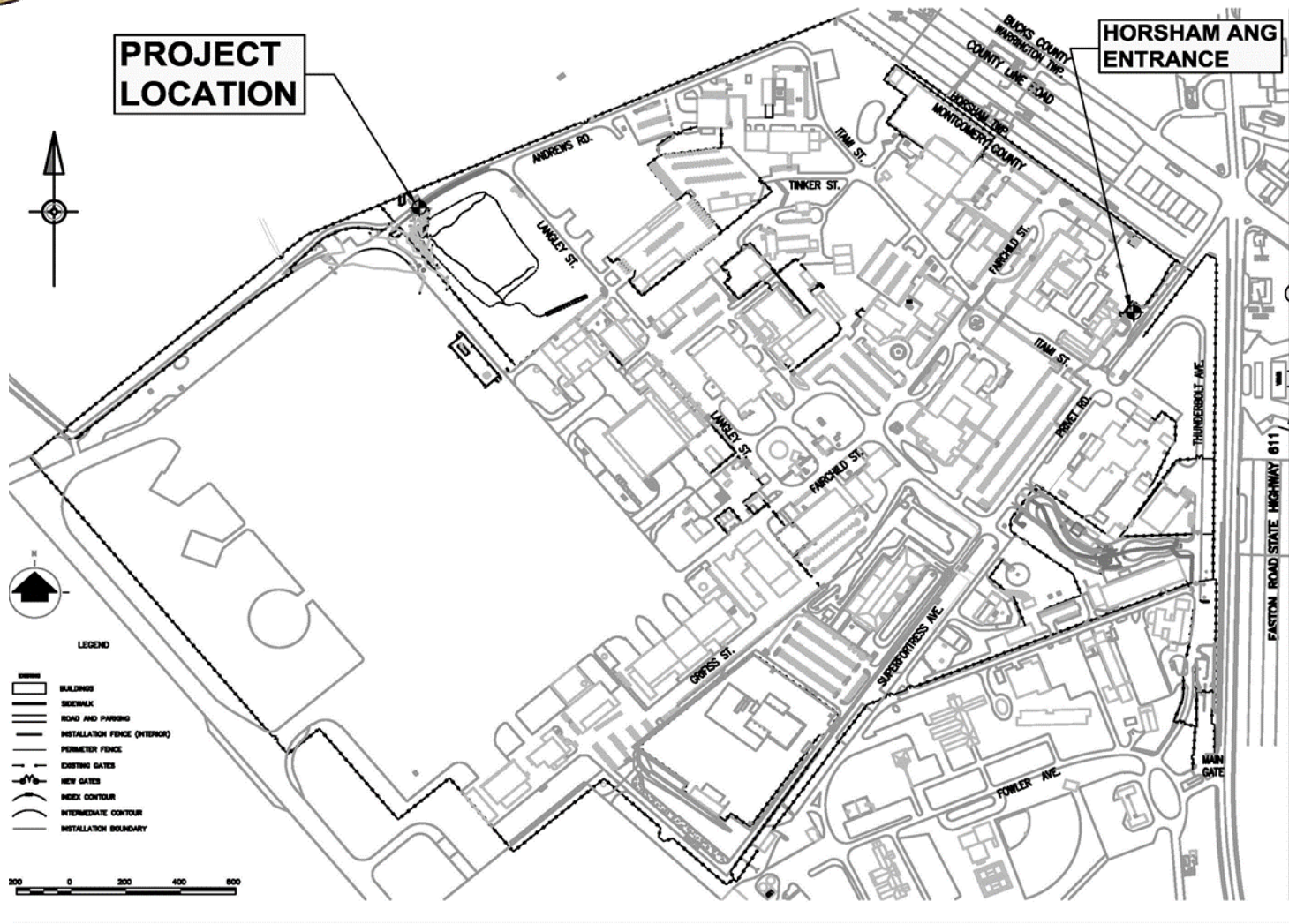
Air Force Reserve ST-01 POL



- Former Air Force Reserve Petroleum Tank Area
 - Originated from a jet fuel spill in the 1970's
 - Injections of persulfate and Epsom salt followed a biosparge system in 2016
 - Petroleum tanks were dismantled in 2016
 - Disposed 175 tons of petroleum impacted soil at licensed facility
 - Confirmatory sampling In accordance with 25 Pennsylvania Code, Section 245.310 results were accepted by PADEP on 10 Sep19
 - Remedial Action Plan approved by PA DEP 8 Feb 21
 - Remedial Action programmed for FY22
- POC: Ms. Margaret Patterson: margaret.patterson@us.af.mil



PFOS/PFOA in Surface Water on Horsham AGS



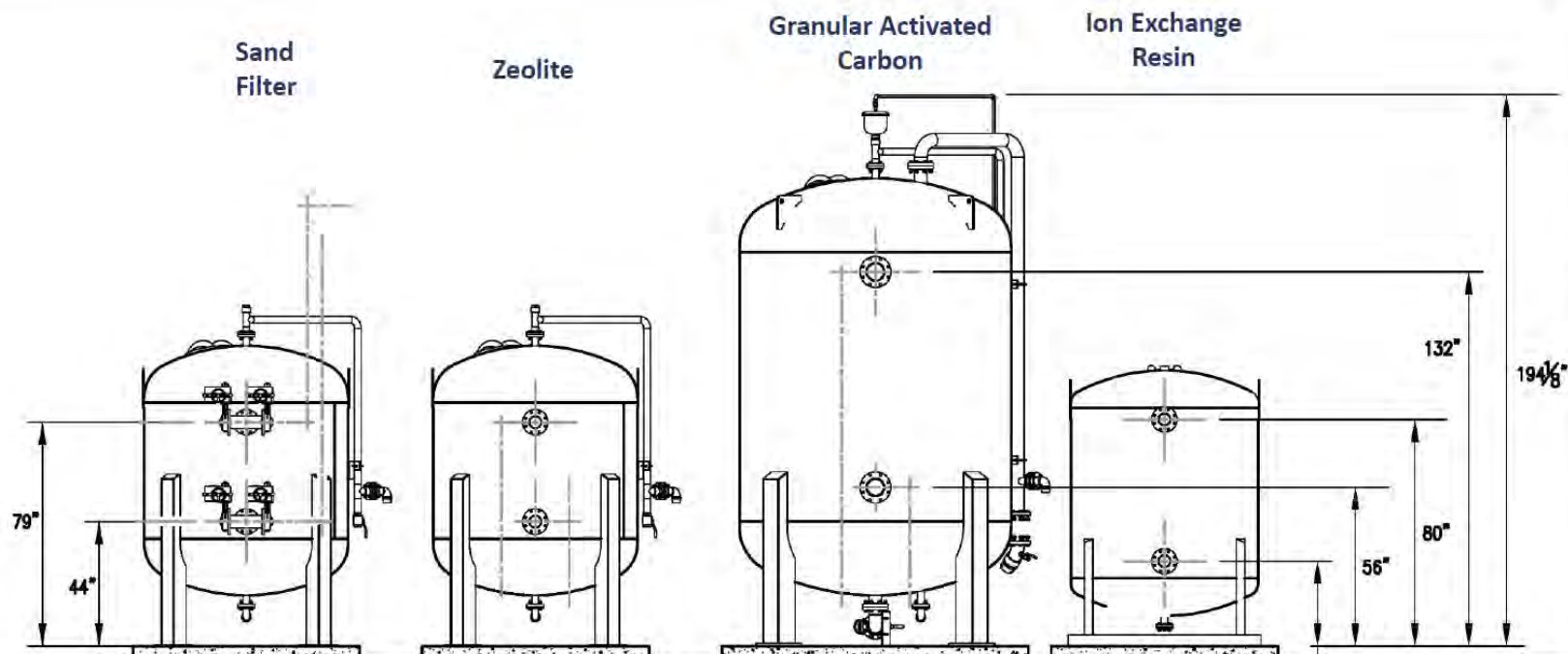
PFOS/PFOA in Surface Water on Horsham AGS



PFOS/PFOA in Surface Water on Horsham AGS



New Treatment System Process/Layout



PFOS/PFOA on Biddle ANGB



- In 2015, ANG completed a Preliminary Assessment of potential PFOS/PFOA release sites at the Biddle Air National Guard Base (ANGB). Ten potential source areas identified in the PA include:
 - Buildings that contained foam fire suppression systems
 - Areas that may have received runoff from foam releases
 - Stormwater sediment basin
 - Former waste water treatment plant
 - Former storage area for wastewater treatment sludge
- These potential source areas were further investigated by Leidos in a PFOS/PFOA Facility Investigation and additional investigation is underway in the Remedial Investigation (RI)



Potential PFOS/PFOA Source Areas





Groundwater Data Update



- Gauging conducted 8-9 March 2018
 - Semi-confined multilayer aquifer system, subdivided into four zones for contouring
 - Gradients trends northwest in each zone
- Sampling event conducted 5-15 March, 2018
 - Concentrations similar to previous events
 - 78 of 85 locations exceeded 70 PPT (ng/l) (combined PFOA/PFOS)
 - Highest concentrations found in three general areas: along the southern boundary, near Building 335, and near Building 201.
 - Highest concentrations at PMW01, Zones A, B, and C: 329,500 PPT, 147,400 PPT, and 186,900 PPT, respectively.
 - Next highest concentration at IMW-06 (49,000 PPT) along the southern boundary).
 - Four wells near Buildings 201 and 335 contained concentrations above 10,000 PPT.

