



Environmental Restoration Program Naval Air Station Patuxent River



Spring 2019 Restoration Advisory Board Meeting

2 April 2019



Agenda



Introductions

Site 21 Removal Action

PFAS Update Basewide Preliminary Assessment Basewide Site Inspections

Open Discussion

Future Restoration Advisory Board Meeting Dates



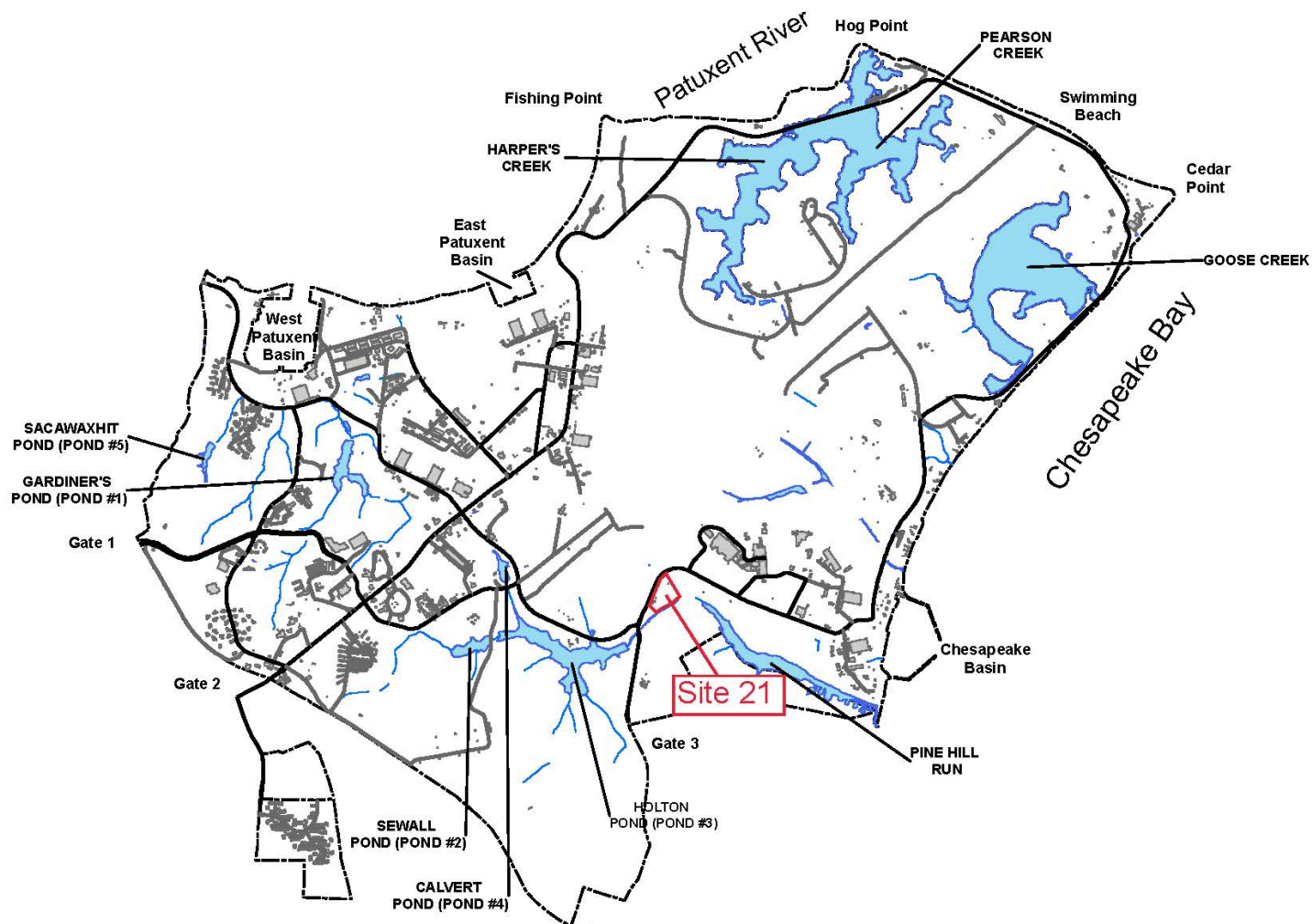
Introductions



- Introduce team members



Site 21



Environmental Restoration Program NAS Patuxent River



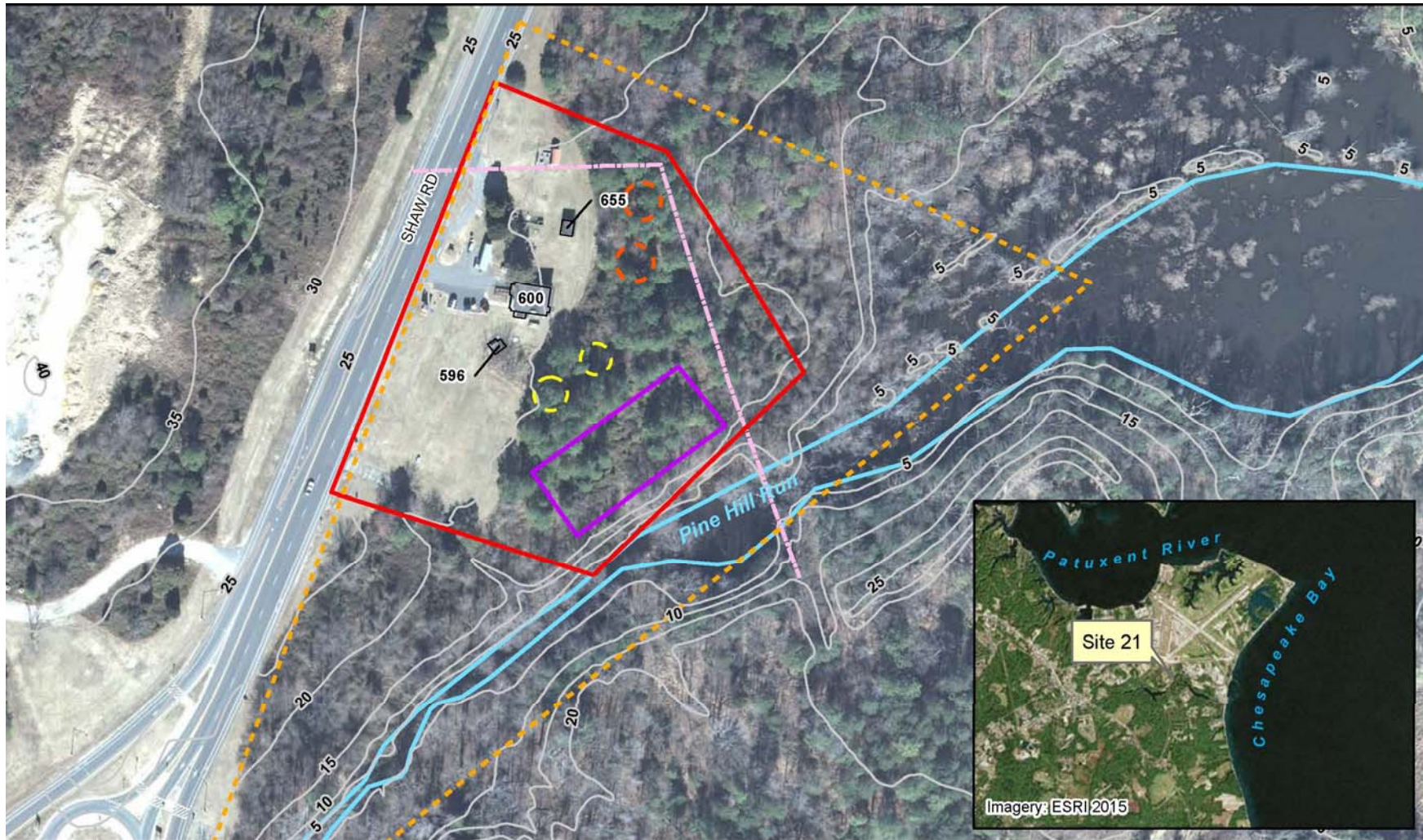
Site 21 History



- Former Base Wastewater Treatment Plant
 - Operated from 1940s to 1970s
 - Consisted of 2 clarifiers, 2 digesters, and 8 sludge drying beds
 - Sludge drying beds were later dismantled and removed
 - Clarifiers and digesters were demolished in place



Site 21 Site Layout



Environmental Restoration Program NAS Patuxent River



Site 21 Clarifier





Site 21 Digester





Site 21 Clarifier

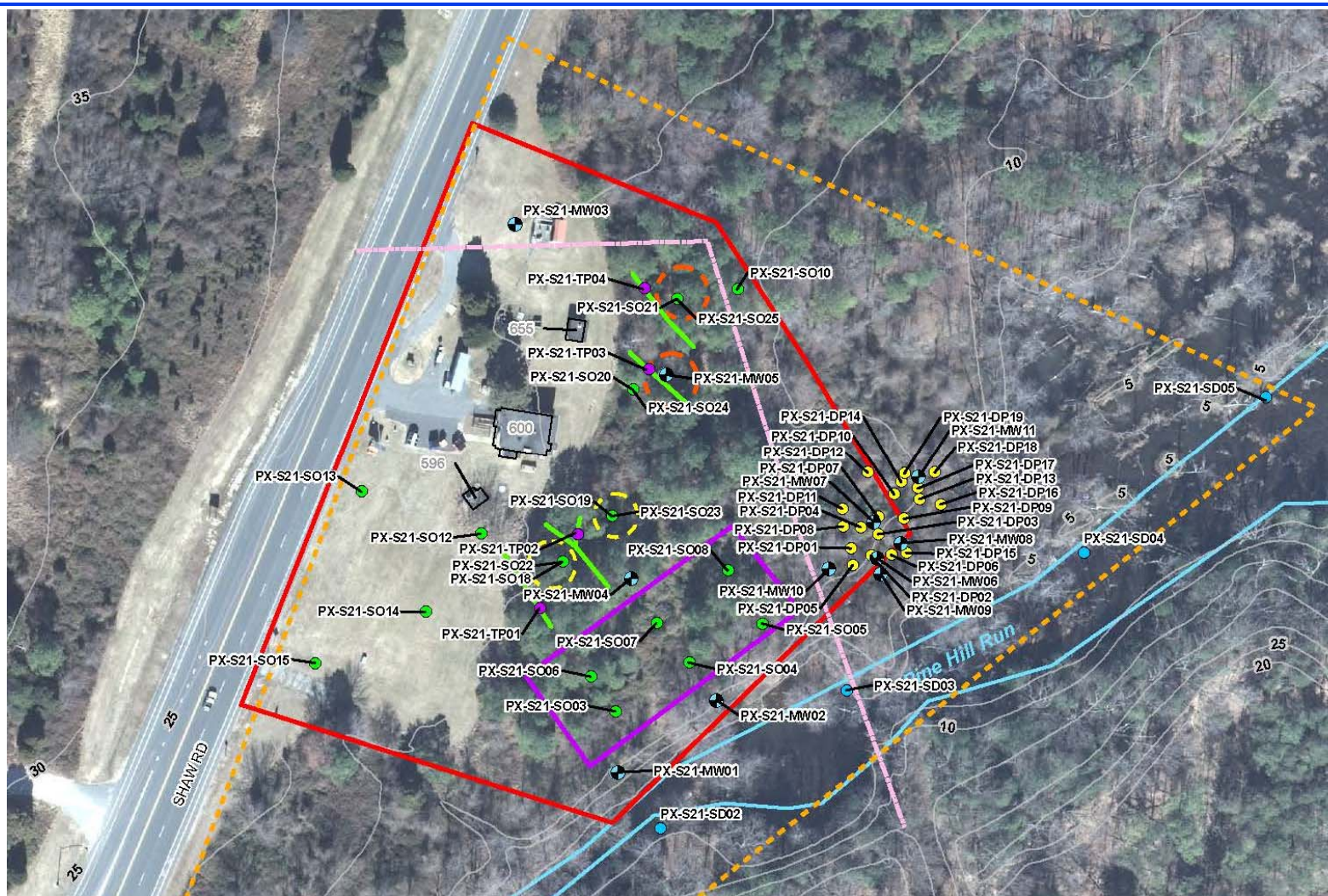




Site 21 Remedial Investigation



- Possible mercury contamination from mixing arms in the clarifiers and possible contaminants associated with sludge
 - Soil, groundwater, surface water and sediment sampling
- Demolition debris
 - Test-pitting
 - Geophysics



Environmental Restoration Program NAS Patuxent River



Site 21 Geophysics



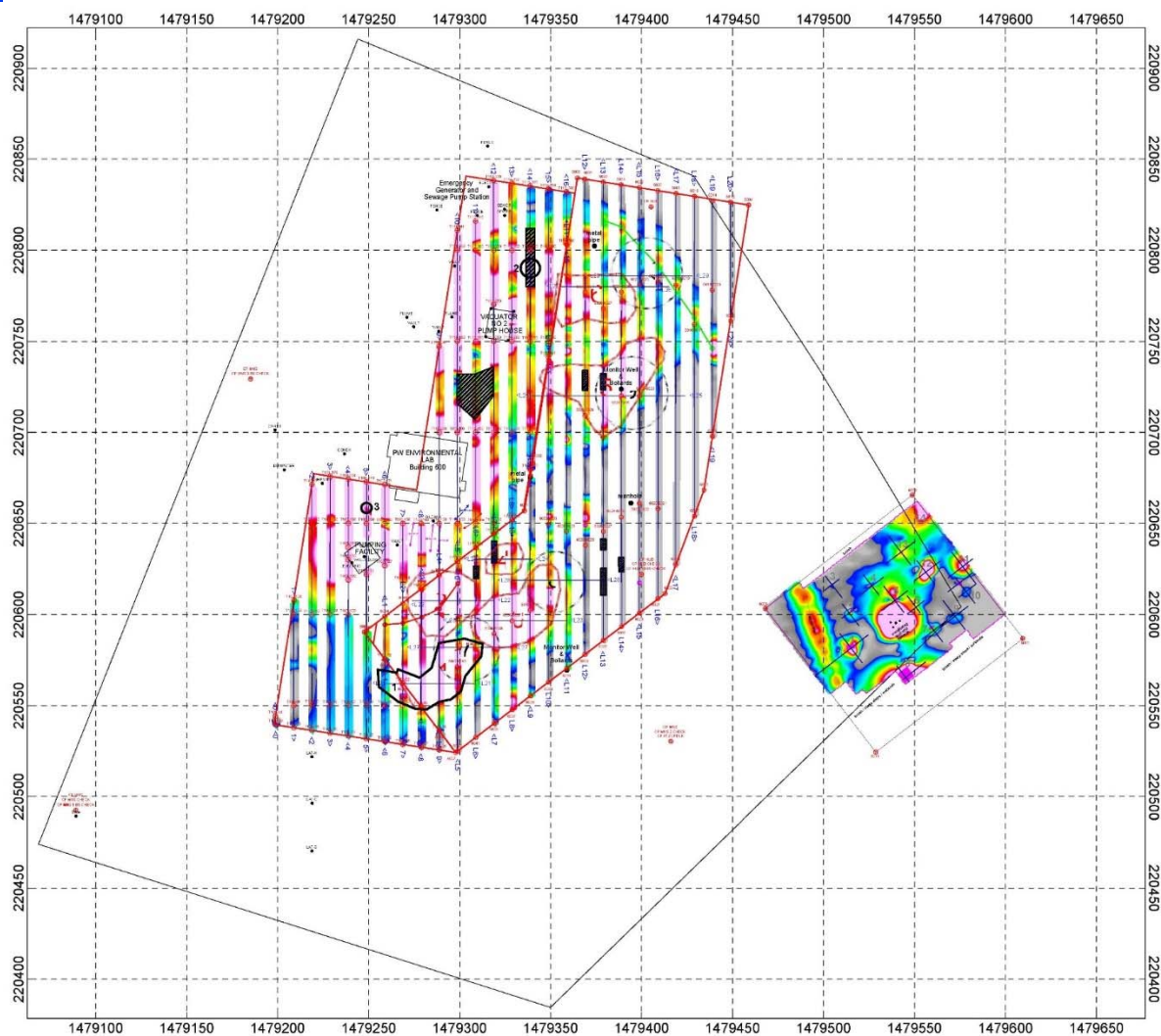
Ground Penetrating
Radar

Magnetometer





Site 21 Site Geophysics



Environmental Restoration Program NAS Patuxent River



Site 21 Results



- No contamination associated with sludge
- No detected mercury
- Significant subsurface debris associated with demolition of clarifiers and digesters
- Unrelated area of solvent contamination in soil and groundwater
 - Likely associated with past surficial disposal practices



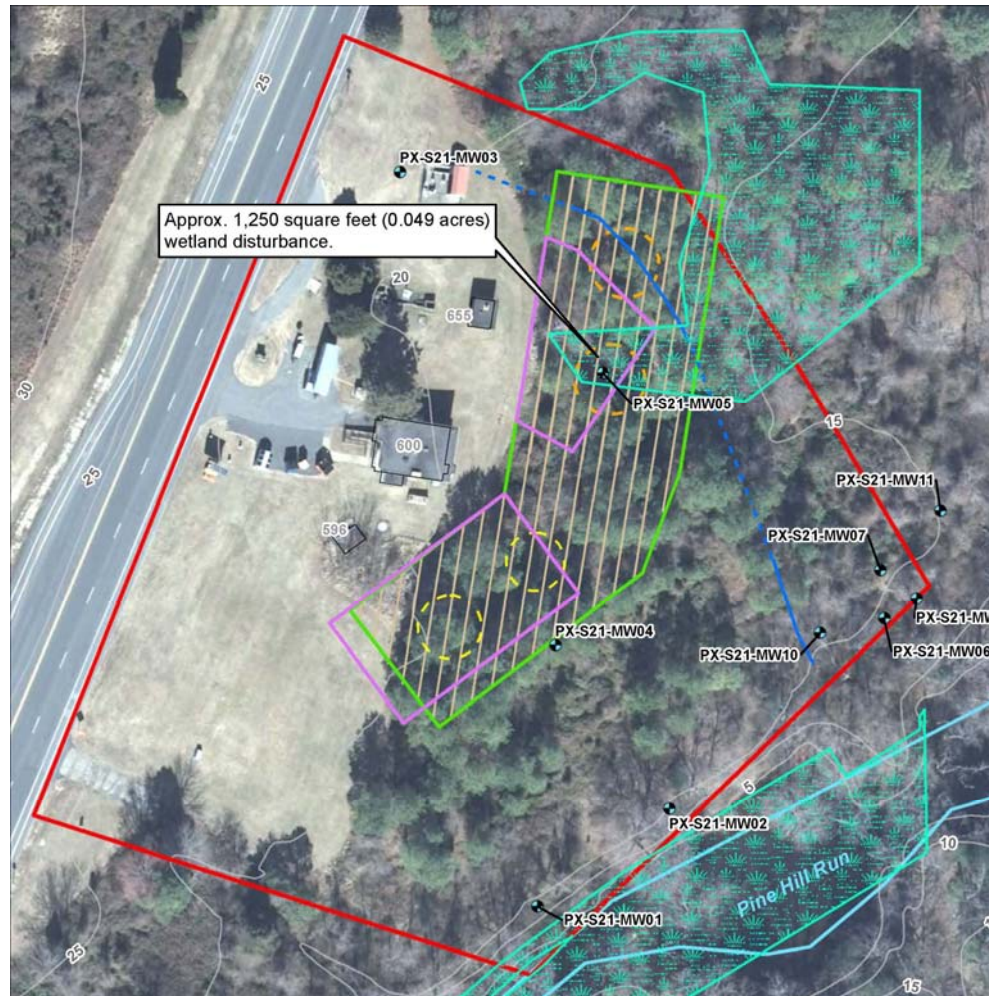
Site 21 Removal Action



- Excavate debris
 - Recycle metal and concrete
 - Dispose of any waste
 - Sample for mercury
 - Reuse clean soil
- Excavate and dispose of solvent-contaminated soil

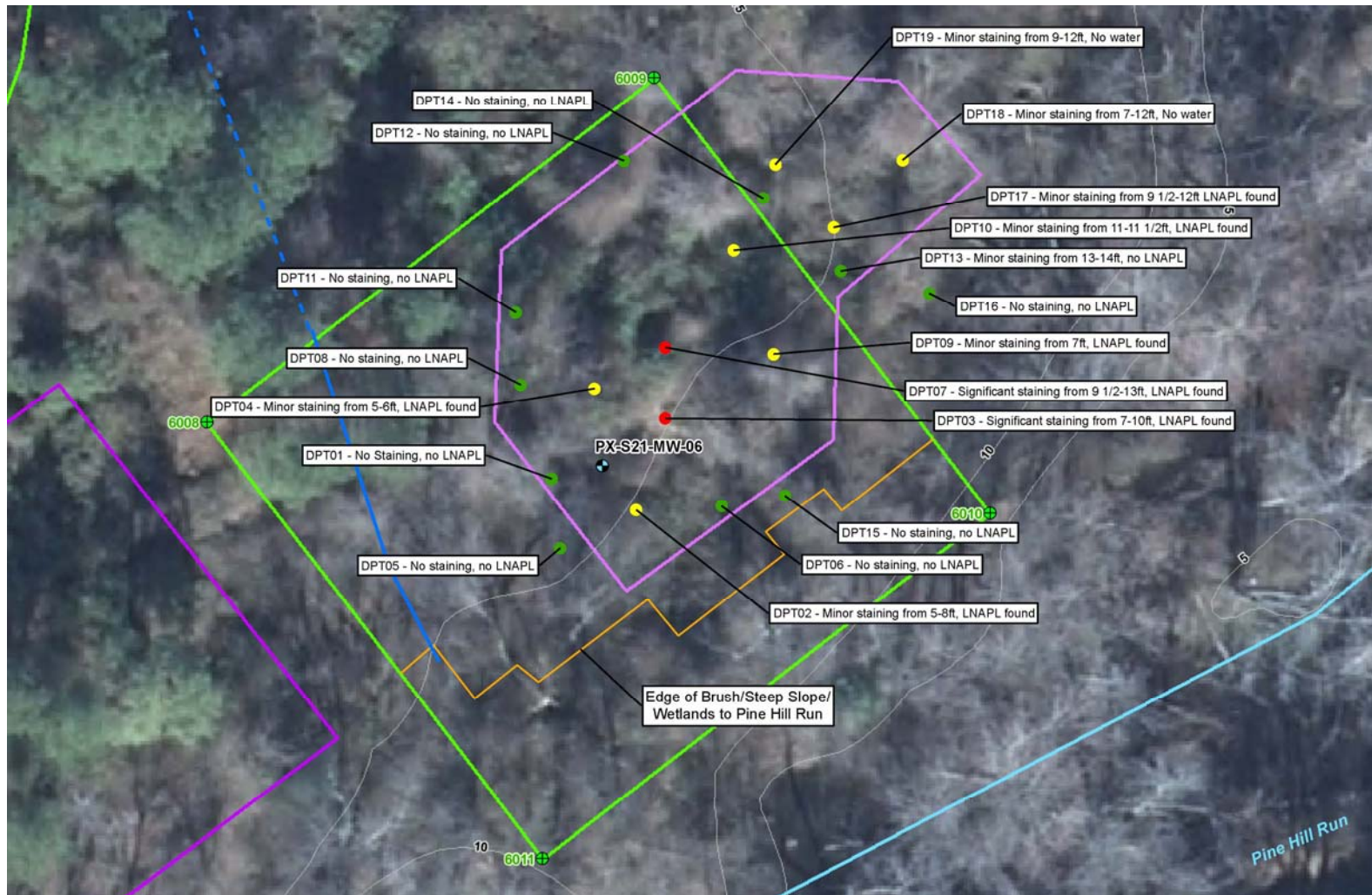


Site 21 Limits of Excavation Digester/Clarifier Area





Site 21 Limits of Excavation Solvent Area



Environmental Restoration Program NAS Patuxent River



Site 21 Removal Action Clearing



Environmental Restoration Program NAS Patuxent River



Site 21 Removal Action Sheet-Piling Install



Environmental Restoration Program NAS Patuxent River



Site 21 Removal Action Excavation Solvent Area



Environmental Restoration Program NAS Patuxent River



Site 21 Removal Action Excavation D/C Area



Environmental Restoration Program NAS Patuxent River



Site 21 Removal Action Mercury Analysis



Environmental Restoration Program NAS Patuxent River



Site 21 Removal Action Concrete and Metal Stockpiling



Environmental Restoration Program NAS Patuxent River



Site 21 Removal Action Site Restoration





PFAS Update



- Per- and polyfluoroalkyl substances
- Basewide Preliminary Assessment
- Basewide Site Inspections
- Path forward



Per- and Polyfluoroalkyl Substances



- An emerging class of entirely man-made contaminants
- Found widely in the environment
 - Aqueous film-forming foam (AFFF)
 - Nonstick cookware
 - Cleaning products
 - Cosmetics
 - Paints and varnishes
 - Water resistant clothing





Per- and Polyfluoroalkyl Substances



- Environmentally persistent and bioaccumulate
- Includes hundreds of compounds, most still unknown
 - Perfluorooctane sulfonate (PFOS),
 - Perfluorooctanoic acid (PFOA),
 - Perfluorobutanesulfonic acid (PFBS),
 - Perfluorohexanesulfonic acid (PFHXS),
 - Perfluoroheptanoic acid (PFHPA),
 - Perfluorononanoic acid (PFNA)
- PFOS, PFOA, and PFBS are the only PFAS for which a regulatory standard exists



PFAS in the Environment



Firefighter Training



Fire Suppression Systems



Incident Response

Fire training and fire suppression using AFFF
Are primary sources of PFAS contamination



Navy PFAS Policy



- October 2014 ASN(I,E&E) Memo
 - “...identify all known and suspected sites where PFOS and/or PFOA may have been released on active and BRAC installations.”

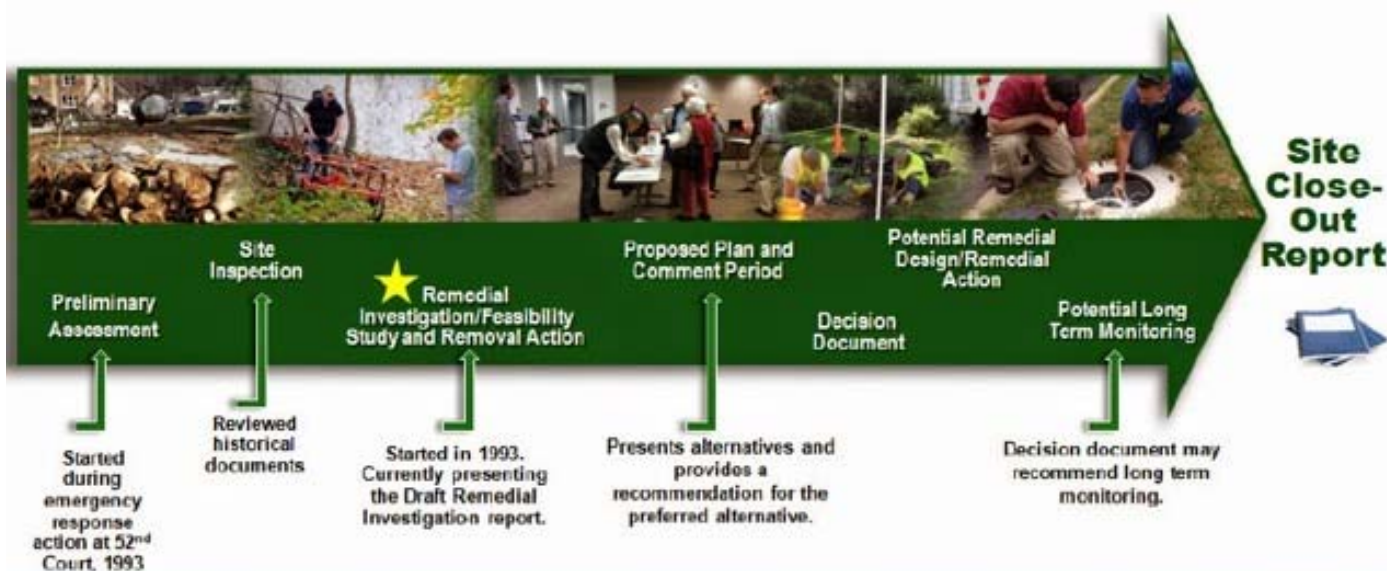


Comprehensive Environmental Response Compensation and Liability Act



CERCLA Process

(The Comprehensive Environmental Response, Compensation, and Liability Act)



BUILDING STRONG®

Environmental Restoration Program NAS Patuxent River



Basewide Preliminary Assessment



- “Desktop” evaluation
 - Crash reports
 - Fire suppression system release reports
 - Firetruck and equipment check records
 - AFFF purchase records
 - Interviews



Basewide Preliminary Assessment



- 16 Sites identified
 - Firefighter training areas
 - Firefighter demonstration areas
 - Firetruck and equipment check areas
 - Fire suppression systems in building and hangars
 - Crash response sites
 - Plating facilities with mist suppression systems





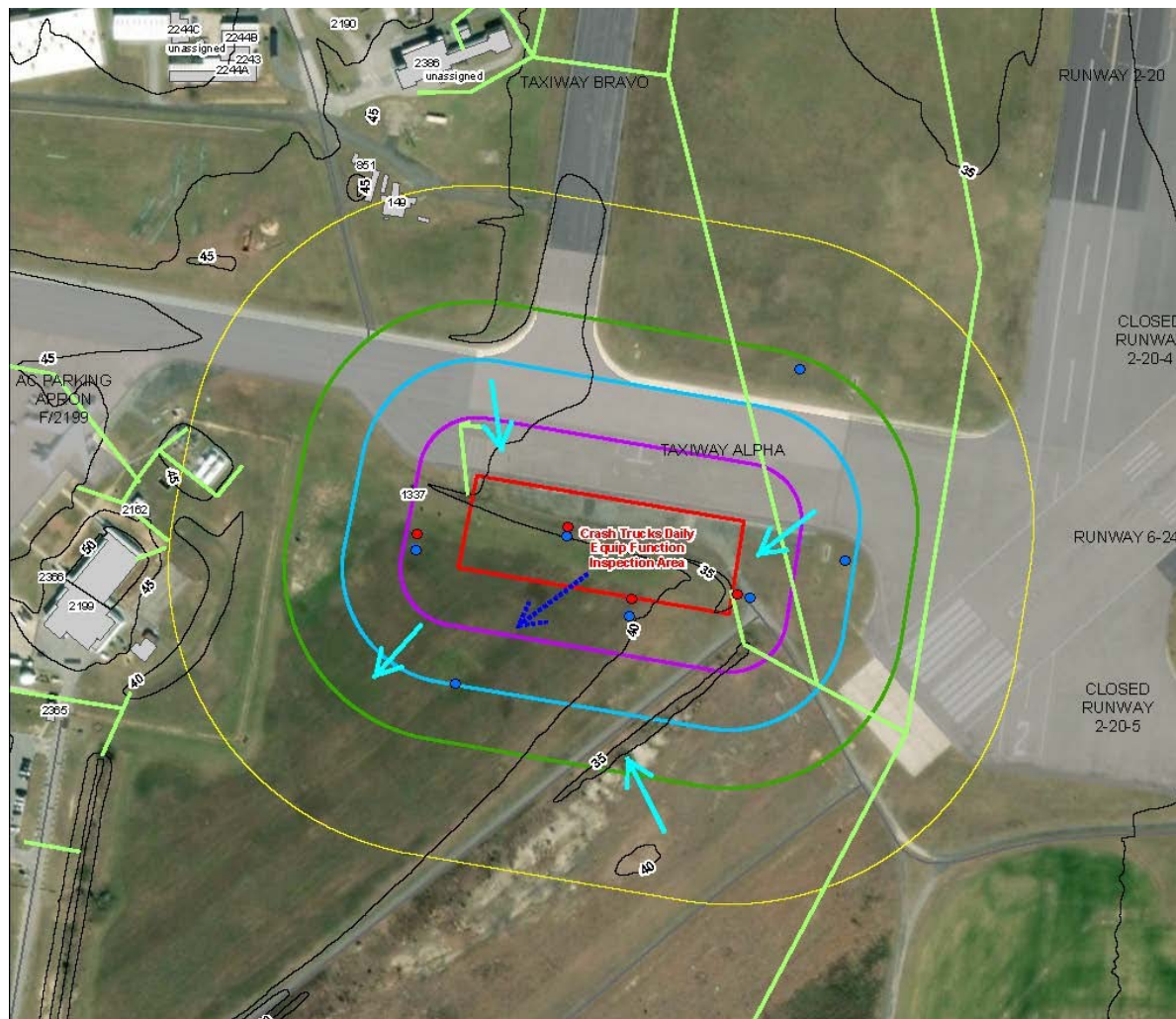
Basewide Site Inspections



- Answer the question “Is PFAS present in environmental media?”
- Focuses on likely movement pathways
- Collect
 - soil samples
 - Insitu “grab” groundwater samples
 - Surface water and sediment samples (if present at site)



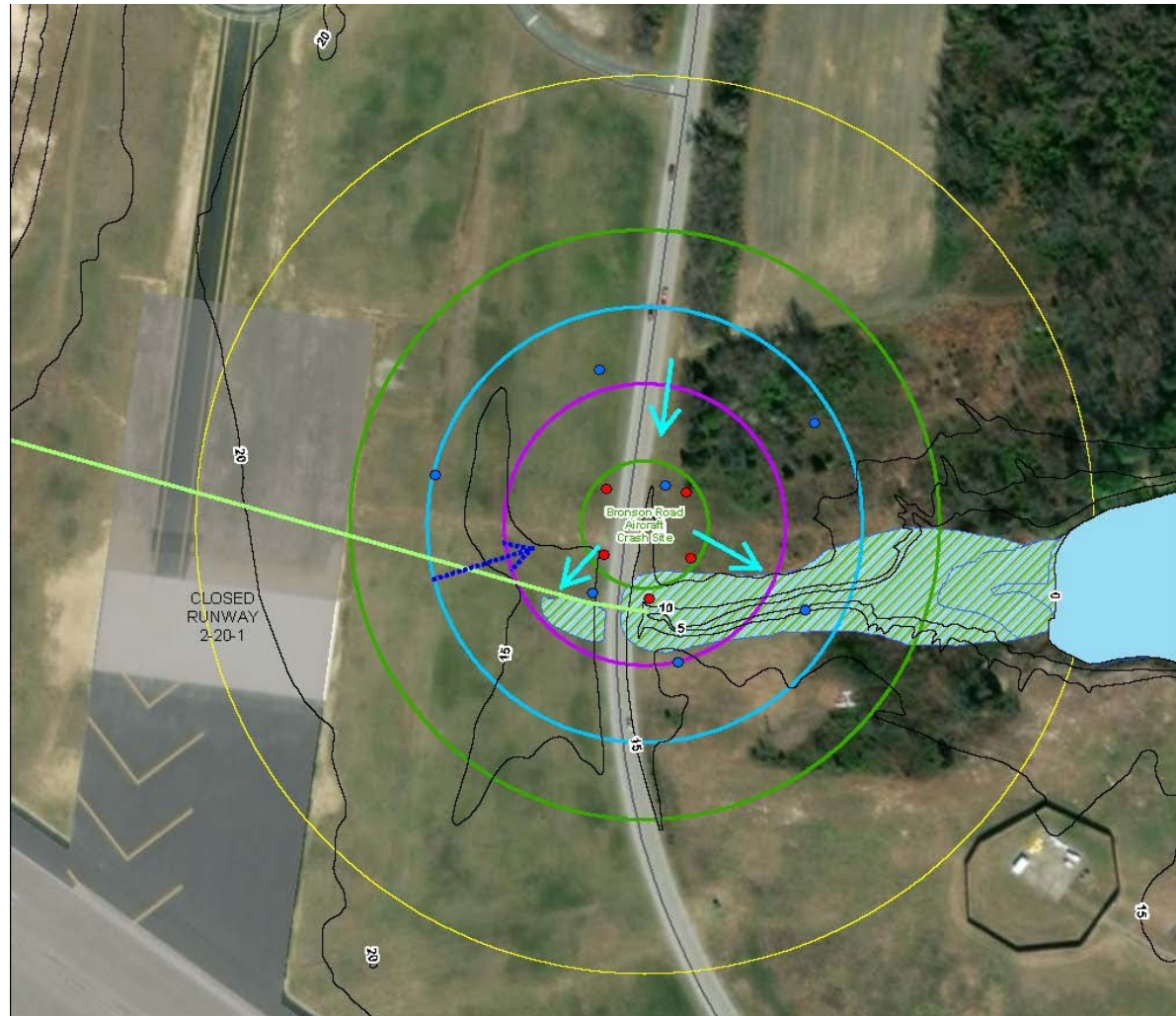
Crash Truck Daily Equipment Check Area



Environmental Restoration Program NAS Patuxent River



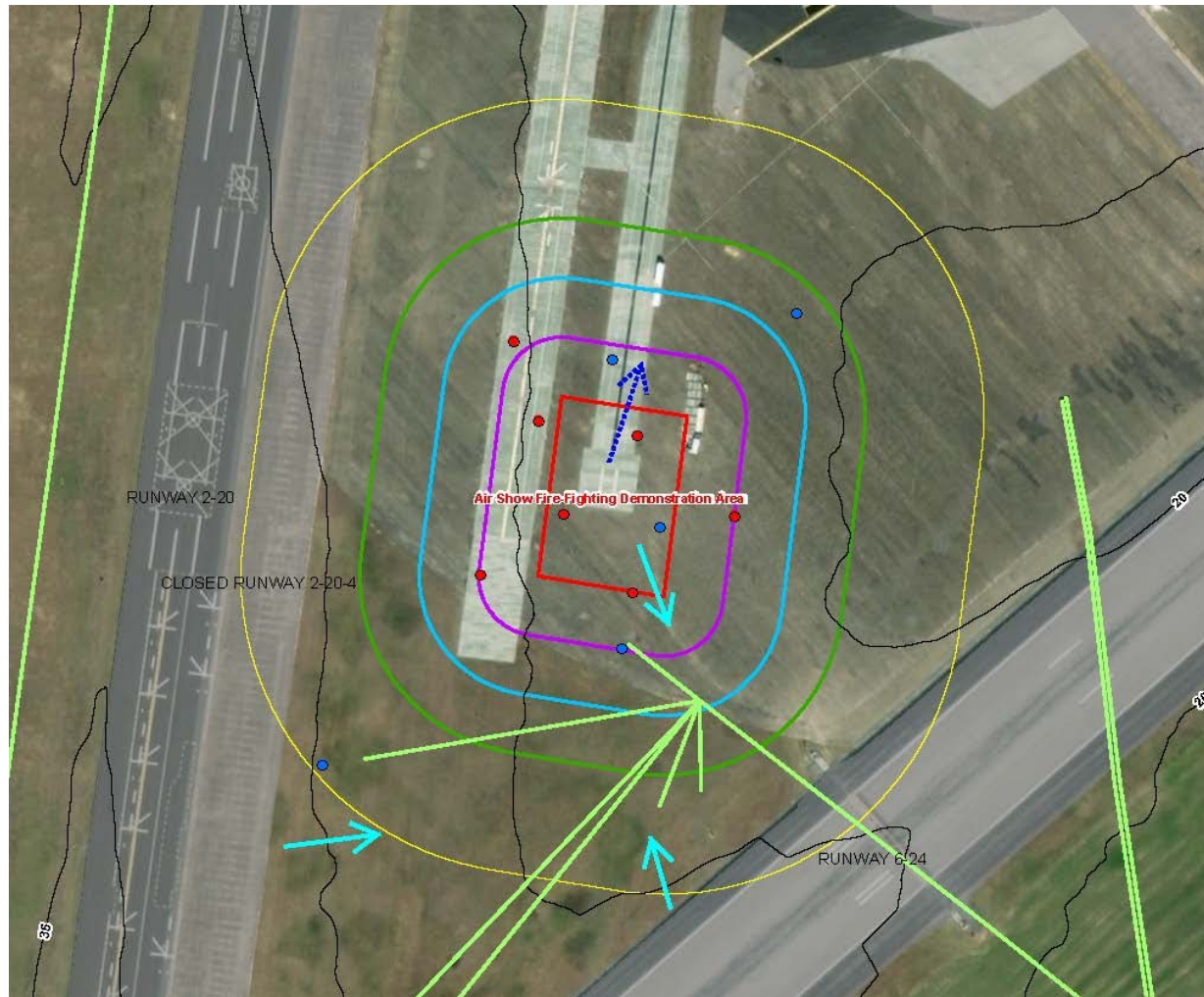
Bronson Road Aircraft Crash Site



Environmental Restoration Program NAS Patuxent River



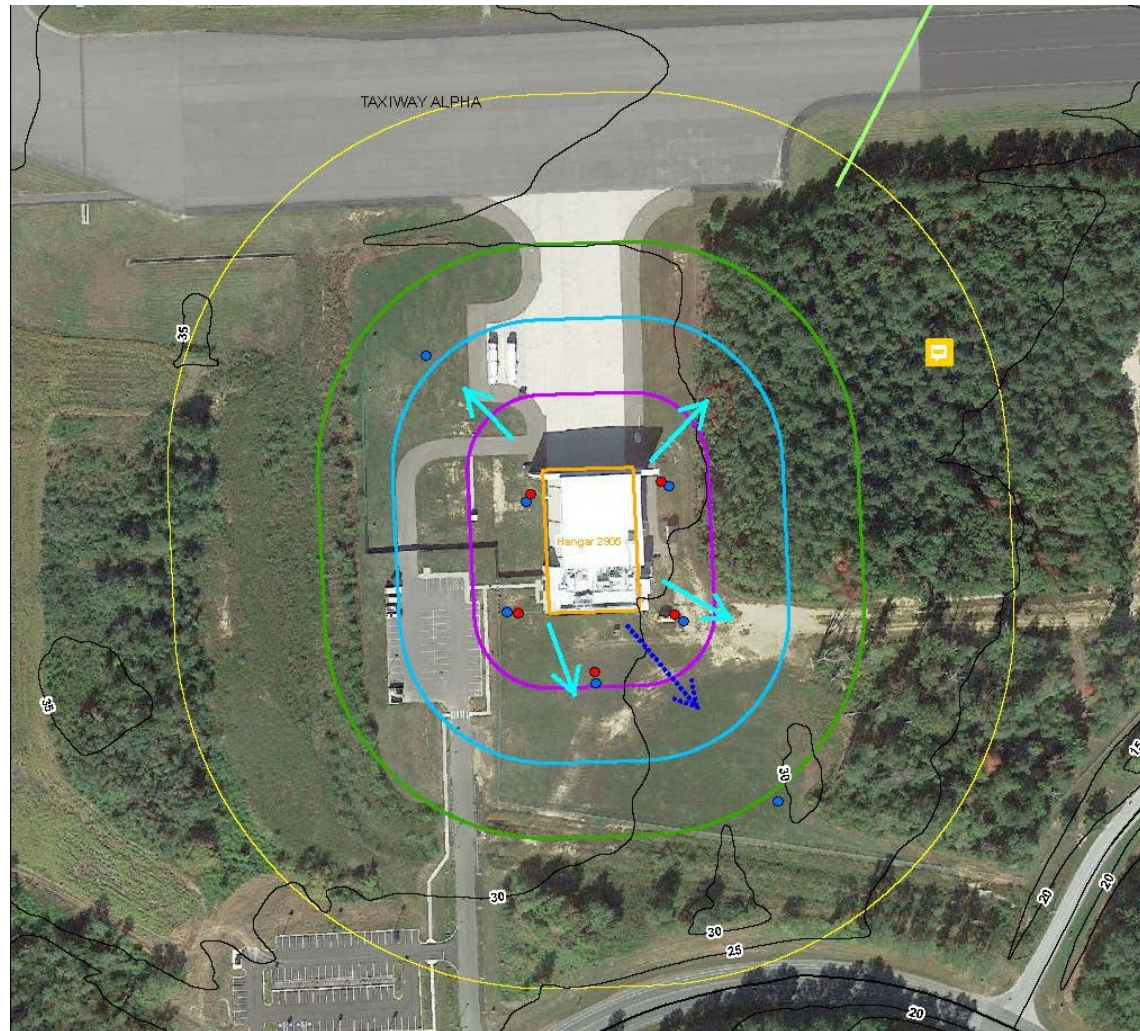
Airshow Fire Fighter Demonstration Area



Environmental Restoration Program NAS Patuxent River



Hangar 2905



Environmental Restoration Program NAS Patuxent River



Path Forward



- Complete field work
- Compare results to USEPA Lifetime Health Advisory (LHA)*
- Eliminate sites where no PFAS identified (or below LHA)
- Initiate expanded Site Investigations at sites where PFAS exceeds LHA

*USEPA 2016



Questions/Open Discussion



- Questions?
- Comments?
- Input?



Proposed Future RAB Meeting Schedule



- Fall 2018: 16 October 2019
- Spring 2019: March/April 2020



Environmental Restoration Program



Enjoy your summer and
make it a safe one!