PFAS Update
Naval Air Station Patuxent River
And
Webster Outlying Field

28 April 2021

6:00 – 7:00 PM

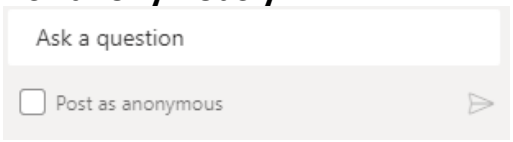
Technical

- While you wait for the presentation to begin, please familiarize yourself with this Teams Live event.
  - Check your speakers to make sure you have sound.
  - Turn on closed captions if necessary, available in English and Spanish (see instructions below)
  - Get ready for Q&A!
- If you need technical help with teams visit Microsoft support: https://support.microsoft.com/en-us/office/get-started-with-microsoft-teams-live-events-d077fec2-a058-483e-9ab5-1494afda578a

ASK A QUESTION

Select **Q&A** on the right side of the screen.

Type your question in the compose box, and then select **Send**. If you want to ask your question anonymously, select **Ask anonymously**.

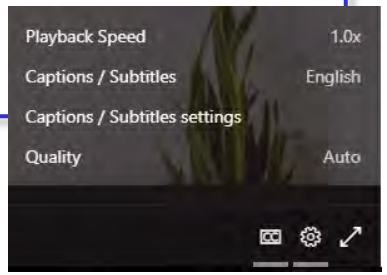


USE LIVE CAPTIONS AND SUBTITLES

To turn on live captions and subtitles, select **Captions/Subtitles On** in your video controls in the Teams toolbar.

To change the caption language, select **Settings** > **Captions/Subtitles**, and choose the English or Spanish.

Multiple CC Languages Supported



Technical

- The presentation will be shown in full-screen
- During the presentation, there will be audio only, no video
- Questions:
  - In advance via e-mail pax_rab@navy.mil
  - During the meeting via Q&A Feature
  - Names used in the Q&A Feature will only be used for the recorded meeting; you can also select anonymous when asking a question

Agenda

- Introductory Remarks
  - CAPT John Brabazon, Commanding Officer, NAS Patuxent River
- PFAS Update
  - David Steckler, Remedial Project Manager, NAVFAC Washington
- Question and Answer
  - David Steckler
  - Andrew Sochanski, Remedial Project Manager, USEPA
  - Jenny Herman, Remedial Project Manager, MDE
- Closing remarks
  - CAPT John Brabazon

PFAS Update
Naval Air Station Patuxent River
And
Webster Outlying Field

Presentation Overview

- What are PFAS and sources of PFAS
- CERCLA and Navy PFAS policy
- Basewide Preliminary Assessments
- Basewide Site Inspections
- SI report contents and schedule
- Future phases of investigation

Per- and Polyfluoroalkyl Substances (PFAS)

- Chemicals of emerging concern
- 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 (PFAS)

- Environmentally persistent and bioaccumulate
- Includes thousands of compounds, most still unknown
- USEPA approved analytical method can detect 18 compounds
- Human health screening levels* are available for 3 compounds
  - Perfluorooctane sulfonate (PFOS): 40 parts per trillion (PPT)
  - Perfluorooctanoic acid (PFOA): 40 PPT
  - Perfluorobutanesulfonic acid (PFBS): 400 PPT
- Number of detectable PFAS and screening levels likely to increase in the future

*Assistant Secretary of Defense Memorandum, 15 October 2019

Sources of PFAS in the Environment

Firefighter Training

Fire Suppression Systems

Incident Response

At military installations, historic firefighter training and fire suppression using AFFF are the primary sources of PFAS in the environment

CERCLA and Navy PFAS Policy

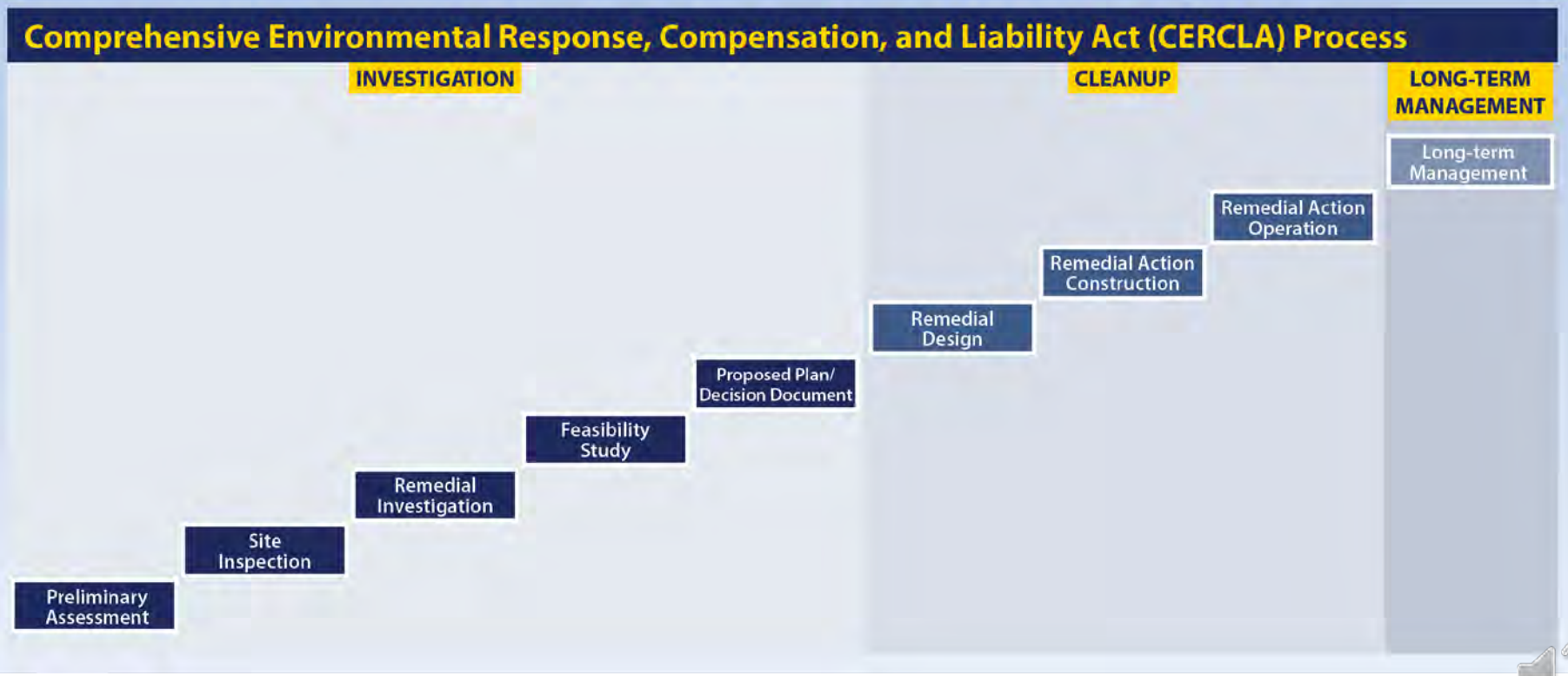
- Comprehensive Environmental Response, Compensation, and Liability Act
  - Governs the Environmental Restoration Program
  - October 2014 DASN(E) Memo
    - "…identify all known and suspected sites where PFOS and/or PFOA may have been released on active and BRAC installations"
    - Prioritized the protection of drinking water
    - Brought potential PFAS sites into ERP

Comprehensive Environmental Response, Compensation, and Liability Act

Federal Environmental Investigation Process

For more information on EPA processes, visit
https://www.epa.gov/superfund

For more information on Maryland processes, visit
www.mde.maryland.gov



Basewide Preliminary Assessments

- First step in CERCLA process
- “Desktop” evaluation
  - Crash reports
  - Fire suppression system release reports
  - Firetruck and equipment check records
  - AFFF purchase records
  - Firefighter interviews
  - Other industrial operations associated with PFAS

PA Results
NAS Patuxent River

- 16 Areas of Interest (AOIs) identified
  - Firefighter training areas
  - Firefighter demonstration areas
  - Crash response areas
- 3 ERP sites
  - Site 34
    - Tested for PFAS unrelated to PA
  - Two former landfills (Sites 1 and 11)
    - Possible past disposal of AFFF

PA Results
NAS Patuxent River

PA Results Webster Field

- 2 AOIs identified
  - AFFF Crash Truck Maintenance Area
    - Historical AFFF equipment spray checks
      - Discontinued in 1990s
      - Since then only checked with water
  - Fire Station 3 (Building 8076)
    - Storage of AFFF

PA Results Webster Field

Basewide Site Inspections

- Second step of CERCLA process
- Answer the question “Is PFAS present in environmental media at identified AOIs?”
- Focuses on likely movement pathways
- Collect
  - Soil samples
  - In-situ “grab” groundwater samples
  - Surface water and sediment samples (if present at site)

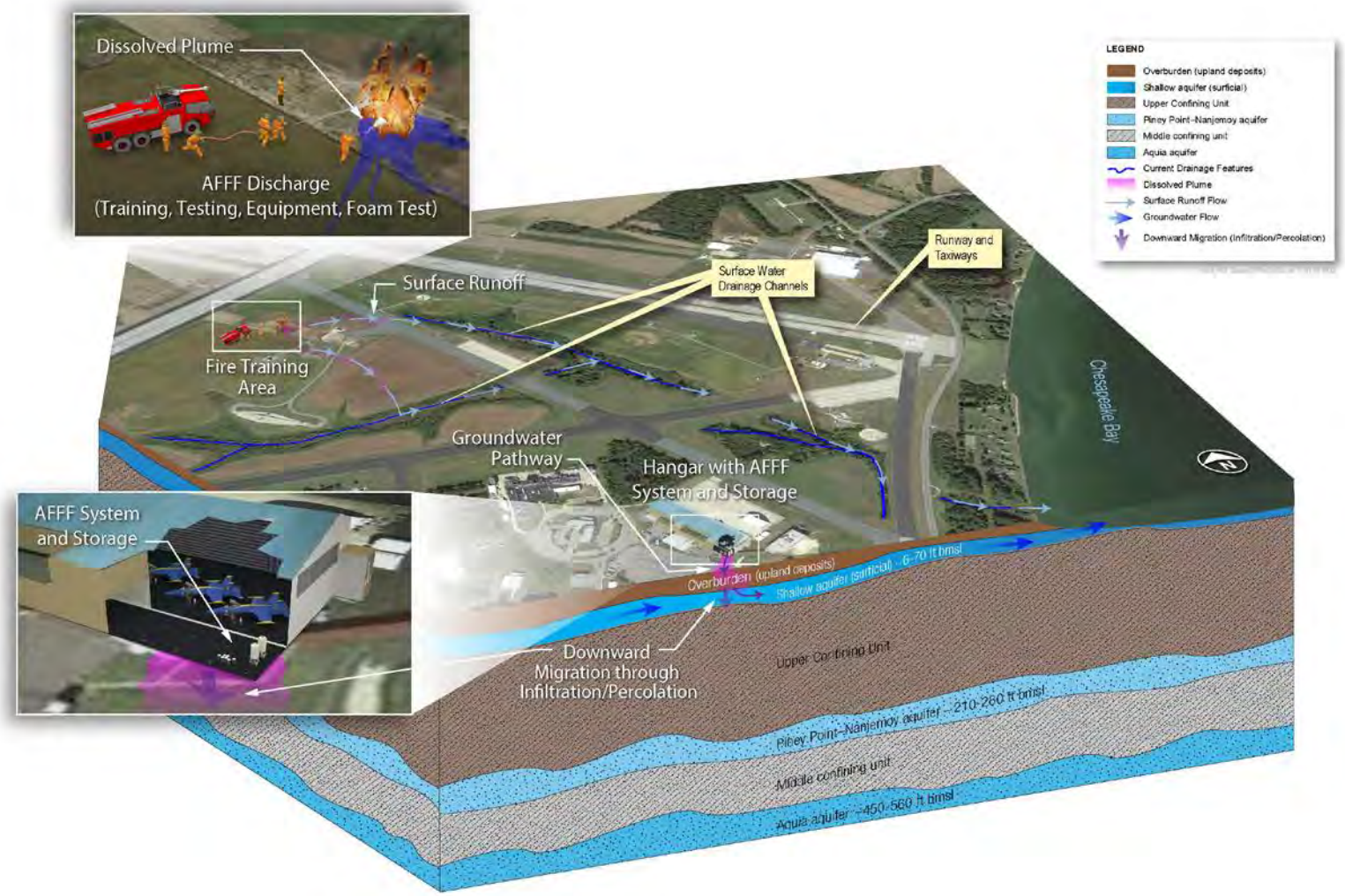
NAS Patuxent River
Crash Truck Equipment Check Area

Webster Field
Firehouse 3

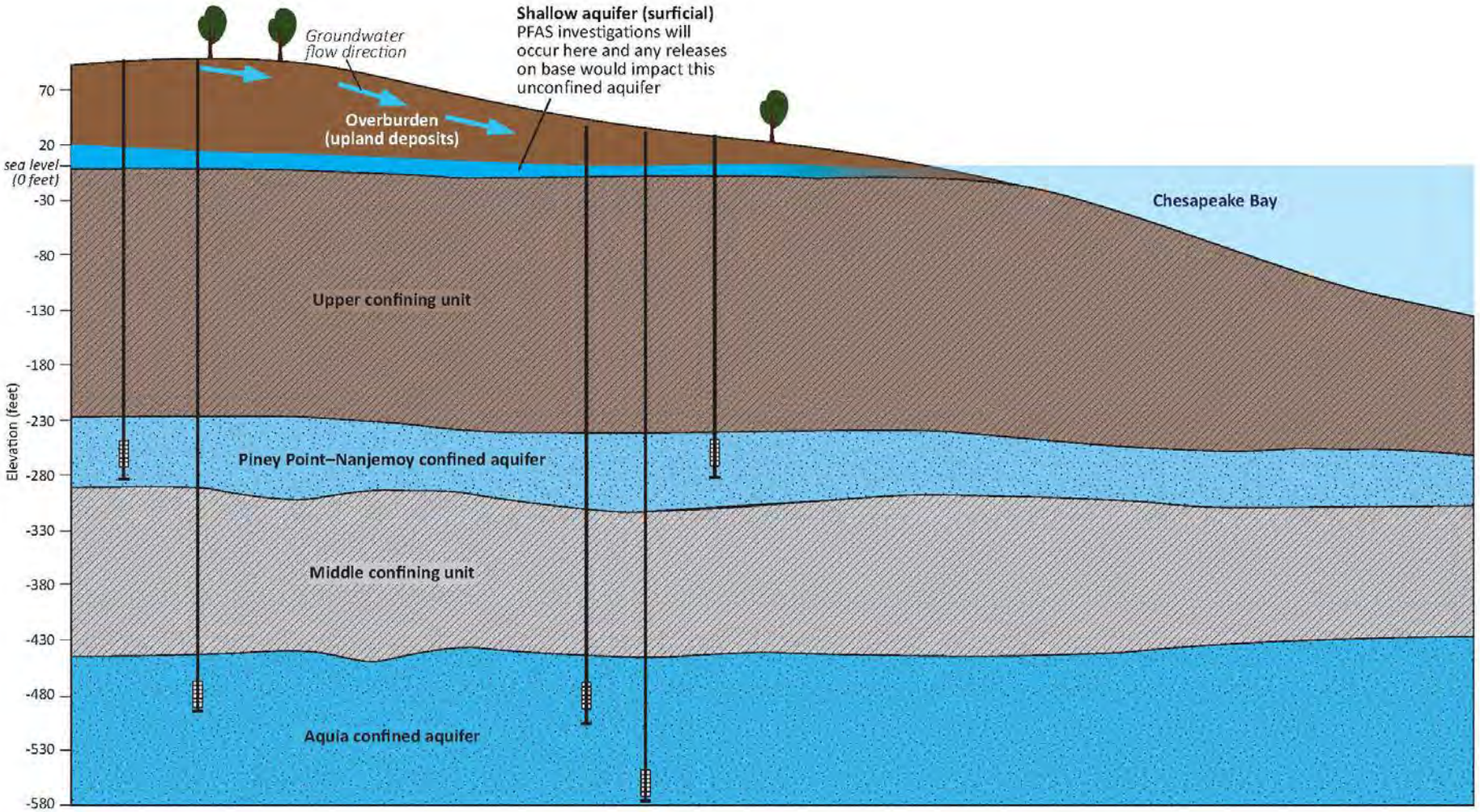
Conceptual Site Model and Drinking Water Evaluation

- PFAS releases impact shallow groundwater
- Shallow groundwater discharges to nearby streams and rivers
- Deeper groundwater protected by thick clay layers that isolate aquifers from surface releases
- **No known concerns with off-base drinking water supplies**
- **Both base's drinking water sampled twice**
  - **No detections of PFAS**

Conceptual Site Model



Conceptual Site Model



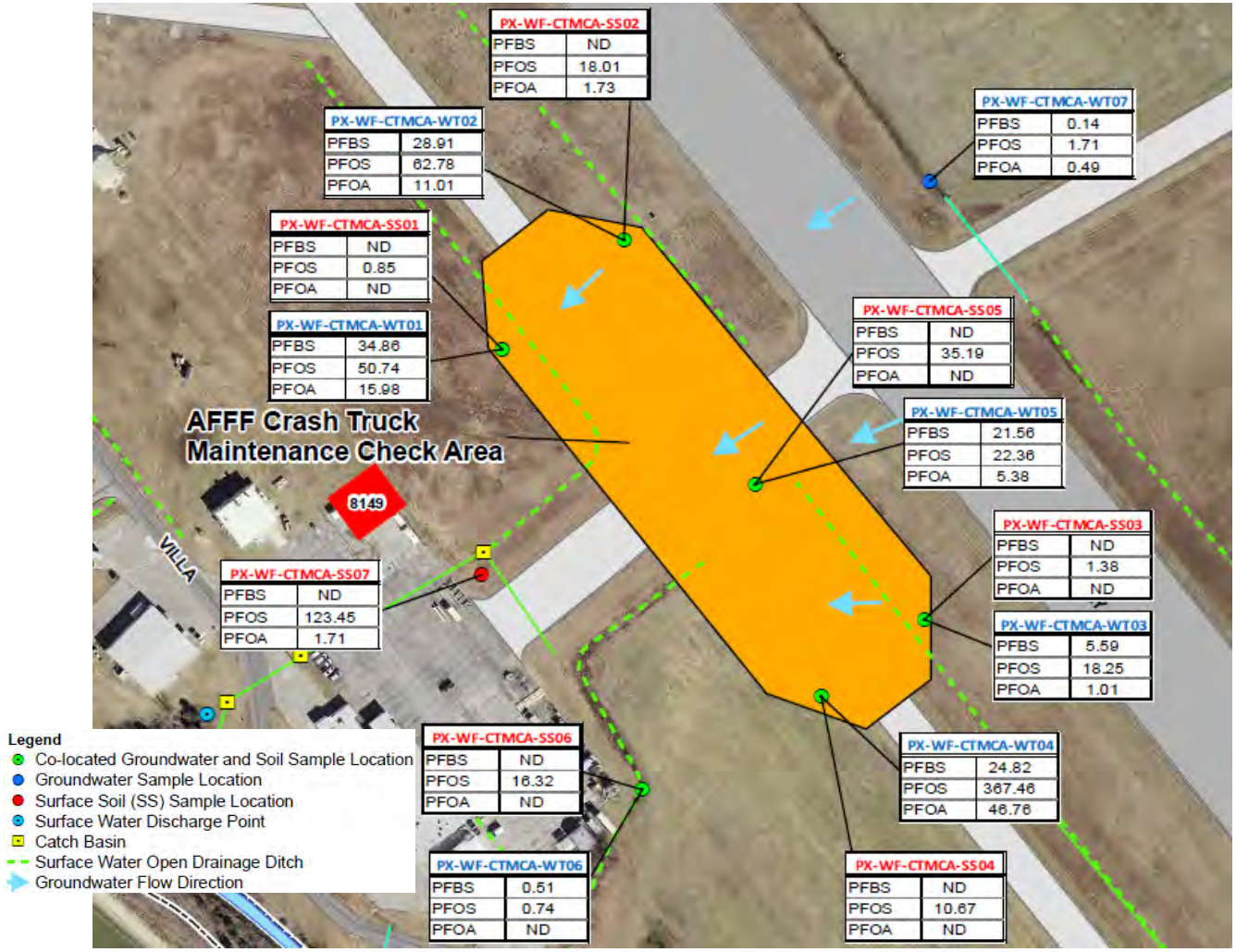
Site Inspection Results

- Fieldwork completed in October 2020
- Received final validated data December 2020
- Detections of PFOS, PFOA, and/or PFBS in groundwater at all 16 Pax River AOIs and both Webster Field AOIs
- Concentrations above applicable screening levels
  - PFOS: 40 PPT
  - PFOA: 40 PPT
  - PFBS: 400 PPT

Firehouse 3


PX-WF-B8076-SS01
PFBS ND
PFOS 74.19
PFOA ND
PX-WF-B8076-WT01
PFBS 343.18
PFOS 1,738.14
PFOA 243.91
PX-WF-B8076-SS02
PFBS ND
PFOS 88.09
PFOA 0.92
PX-WF-B8076-WT02
PFBS 1,254.14
PFOS 84,756.77
PFOA 1,836.14
Fire Station 3
Building 8076
PX-WF-B8076-SS03
PFBS 0.62
PFOS 452.79
PFOA 2.63
PX-WF-B8076-SS04
PFBS 9.81
PFOS 854.07
PFOA 11.8
PX-WF-B8076-WT03
PFBS 4,804.83
PFOS 42,939.38
PFOA 2,816.04
PX-WF-B8076-WT04
PFBS 1,753.82
PFOS 26,930.69
PFOA 1,203.55
Legend
Co-located Groundwater and Soil Sample Location
Groundwater Sample Location
Surface Soil (SS) Sample Location
Surface Water Discharge Point
Catch Basin
Surface Water Open Drainage Ditch
Groundwater Flow Direction
St. Mary's River
WOLF ROAD E
WOLF ROAD E

Crash Truck Maintenance Check Area

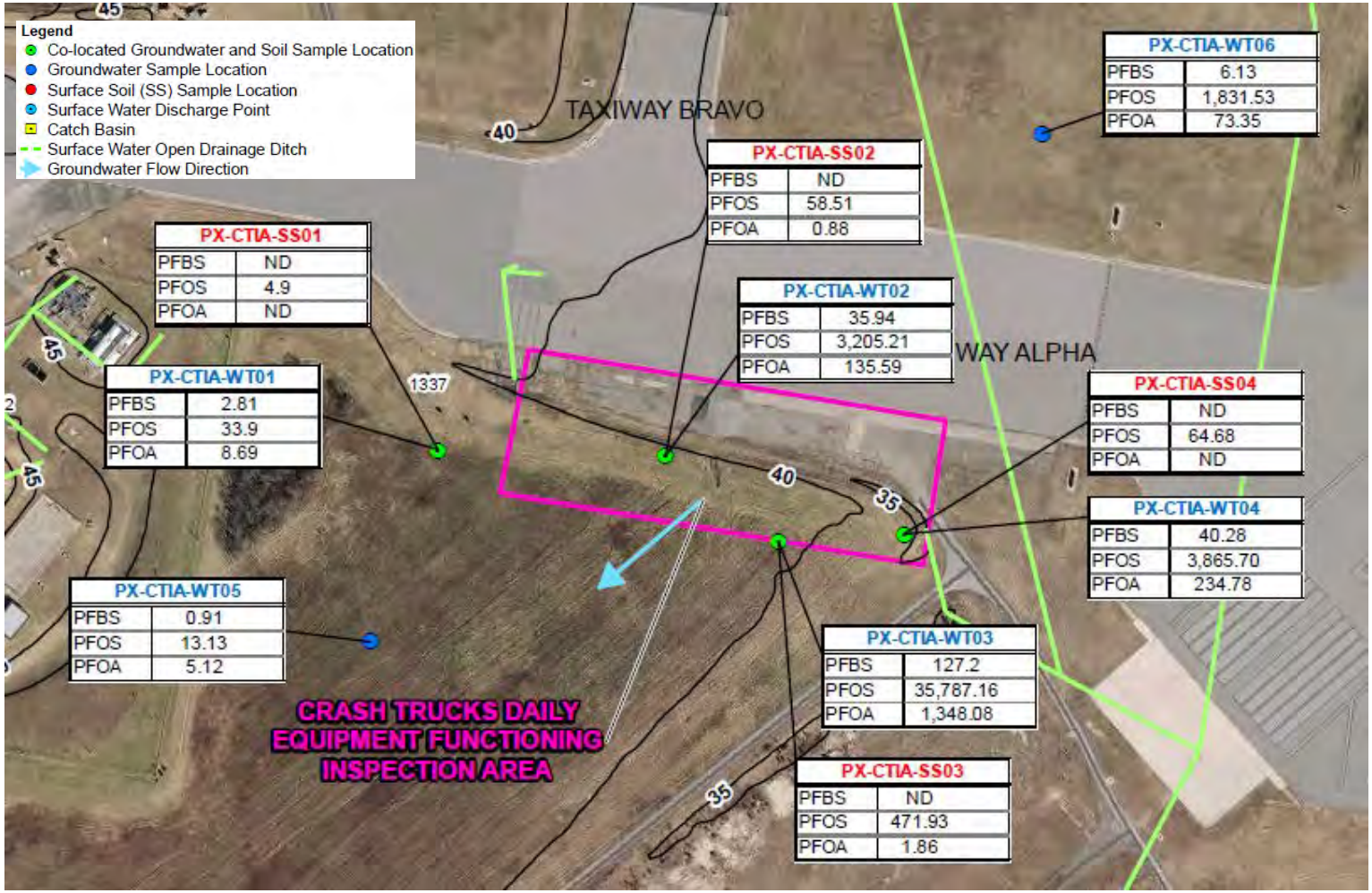


Site Inspection Results
NAS Patuxent River

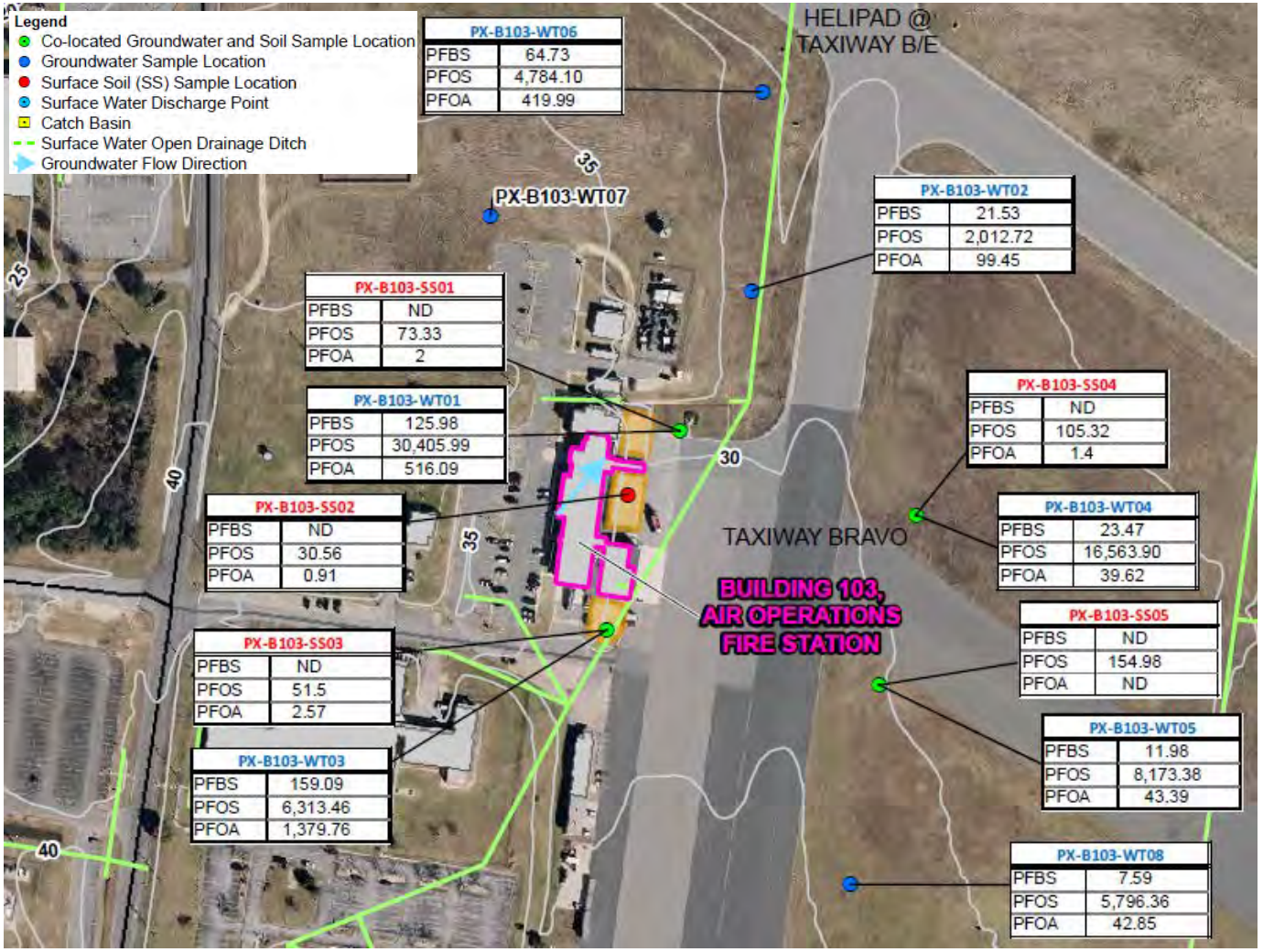
- PFAS detected at all 16 AOIs
  - 4 contained concentrations of PFOS or PFOA in shallow groundwater above 10,000 PPT
  - 3 contained concentrations of PFOS or PFOA in shallow groundwater between 1,000 PPT and 10,000 PPT
  - 9 contained concentrations of PFOS or PFOA in shallow groundwater between 100 PPT and 1,000 PPT
- The following focuses on the 4 AOIs with concentrations above 10,000 PPT
- Figures for the remaining 12 AOIs are provided at the end of the presentation

NAS Patuxent River SI Results
AOIs > 10,000 PPT

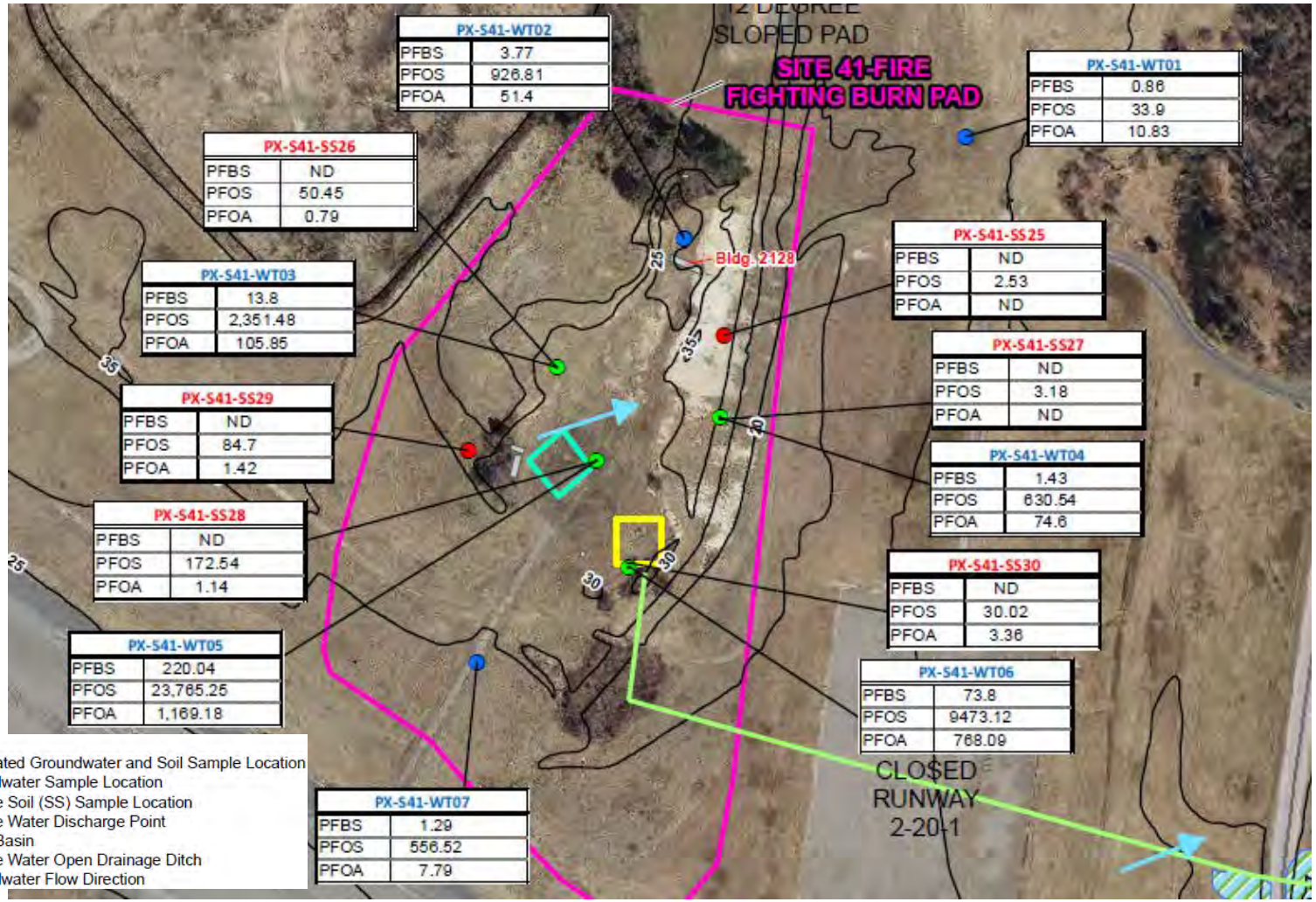
Crash Truck Daily Equipment Inspection Area



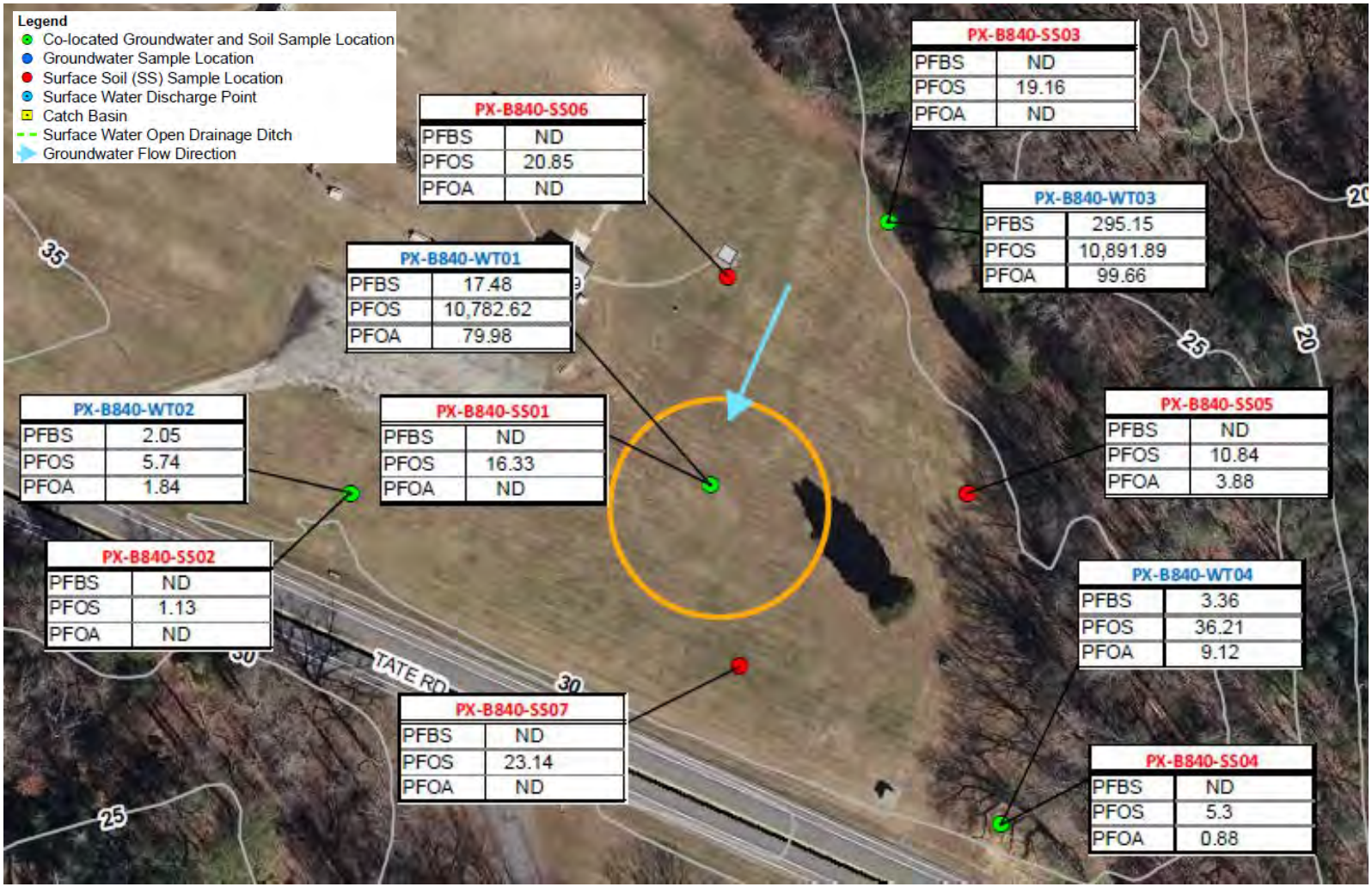
Air Operations Fire Station



Site 41-Fire Fighting Burn Pad



Skeet Range Aircraft Crash Site



Site Inspection Report Contents

- Introduction
- Discussion of each AOI
  - Site Description and history
  - Environmental setting (topography, geology, hydrology, etc).
  - Sampling results and comparison to applicable screening levels
- Summary and Conclusions
- Figures
- Tables
- Appendices

Site Inspection Reports Tentative Schedule

- Webster Field
  - Draft to regulatory partners, March 2021—completed
  - Regulatory comments, April 2021—completed
  - Response to comments, May 2021
  - Final report to public (published on NAS Patuxent River public website*), June 2021

https://go.usa.gov/xnBga

Site Inspection Reports Tentative Schedule

- NAS Patuxent River
  - Drafted in phases to speed release
    - Each phase covers 3 to 4 AOIs
  - Phase I draft to regulatory partners, May 2021
  - Regulatory comments due, June 2021
  - Response to comments, June 2021
  - Draft final report to public, July 2021
  - Future phases drafted as quickly as possible
  - Final report will include all AOIs in single document

Future Phases of Investigation

- Detected PFAS at all AOIs above applicable screening levels
- All will move to the next step of CERCLA process
  - Remedial Investigation
    - Nature and extent of PFAS impacts
    - Fate and transport of PFAS in environmental media
    - Human health and ecological risk assessments
  - $3.6M awarded in FY2020
  - $2.2M budgeted this FY

PFAS NAS Patuxent River Restoration Advisory Board

NAS Patuxent River Environmental Restoration Public Website

https://go.usa.gov/xnBga

PFAS

https://www.secnav.navy.mil/eie/pages/pfc-pfas.aspx

https://www.defense.gov/Explore/Spotlight/pfas/

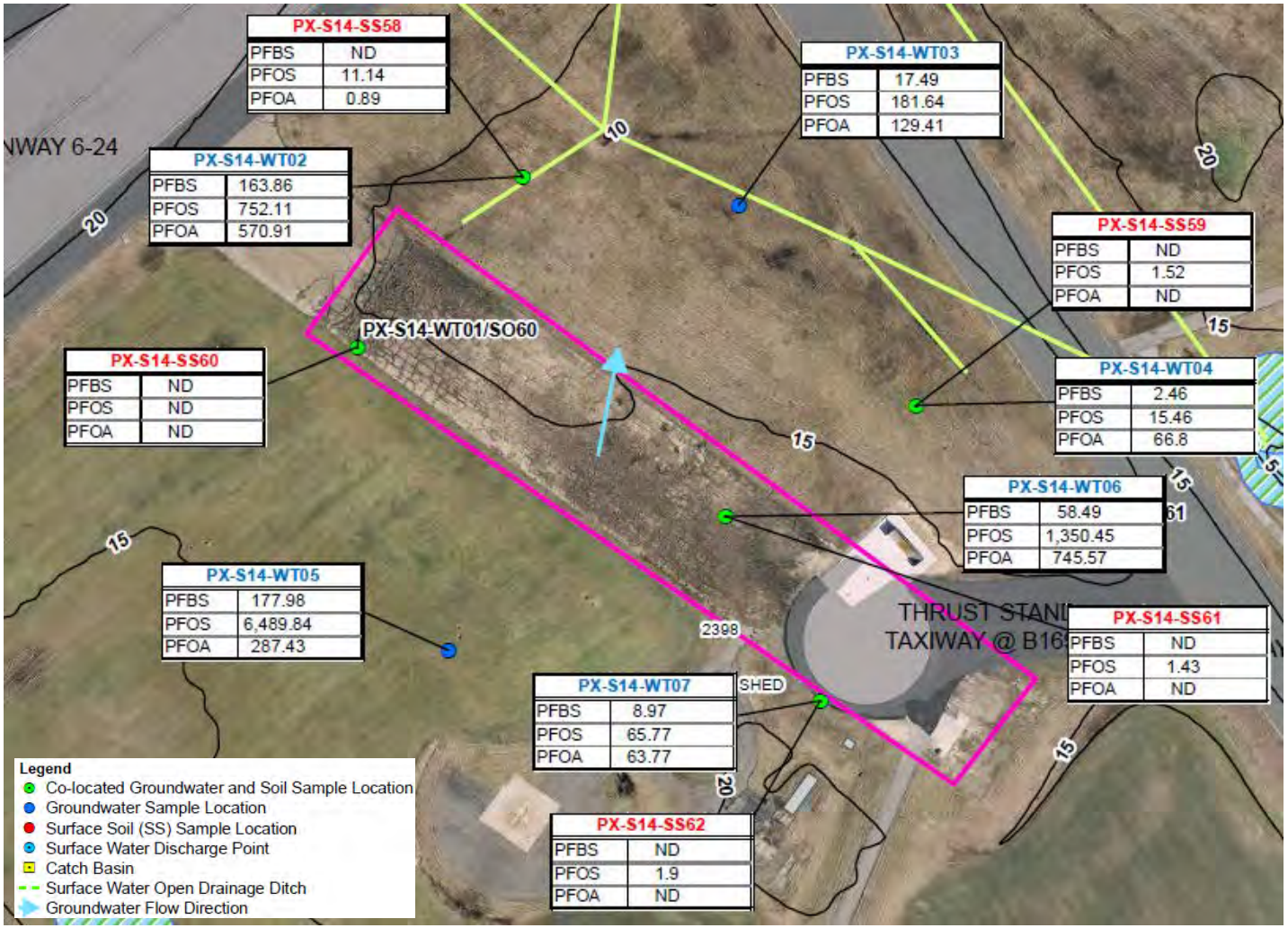
Question and Answer

NAS Patuxent River
SI Results

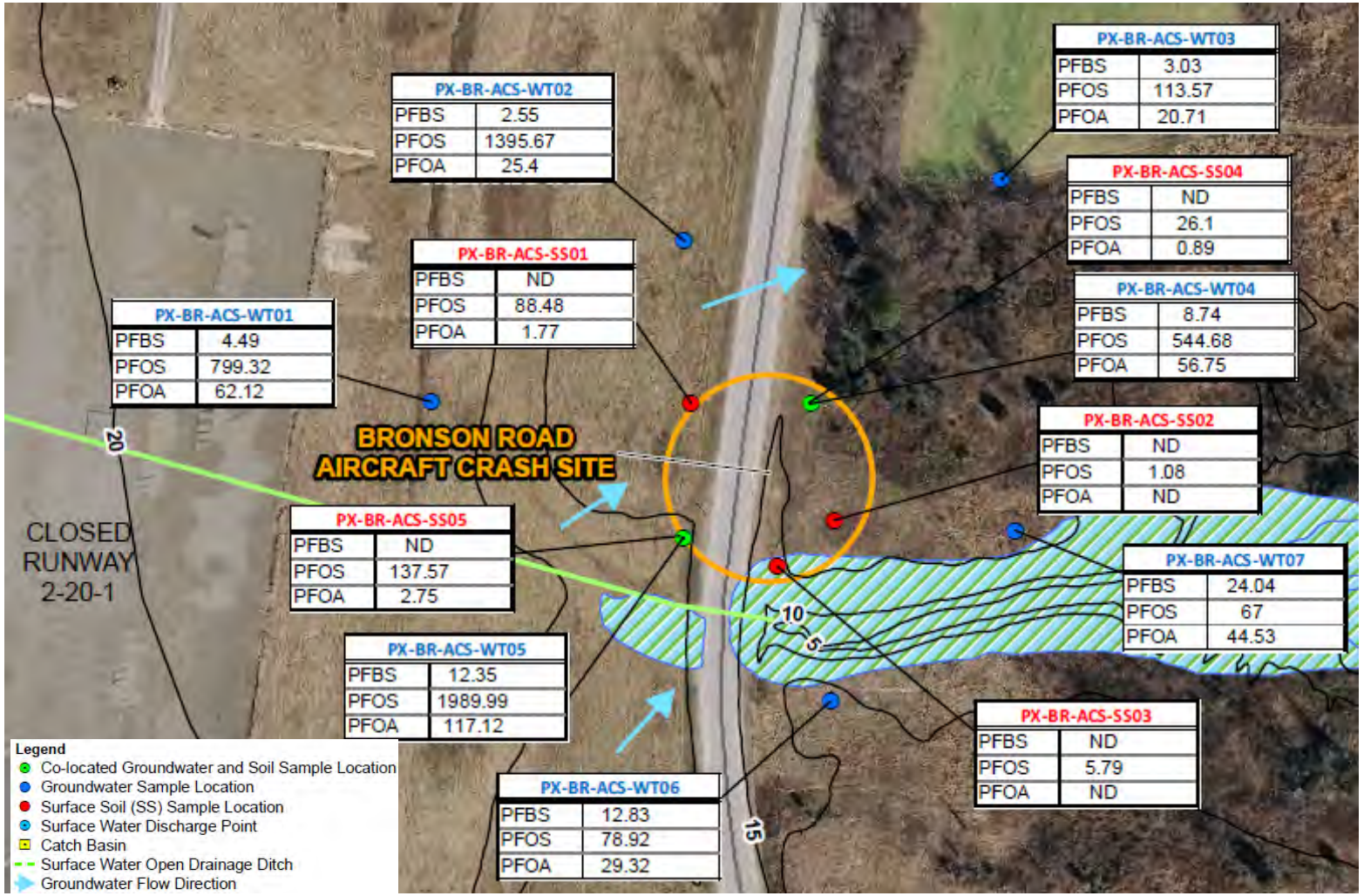
Sampling results and figures for the 12 AOIs with PFOS or PFOA, in groundwater below 10,000 PPT

NAS Patuxent River SI Results
AOIs < 10,000 PPT

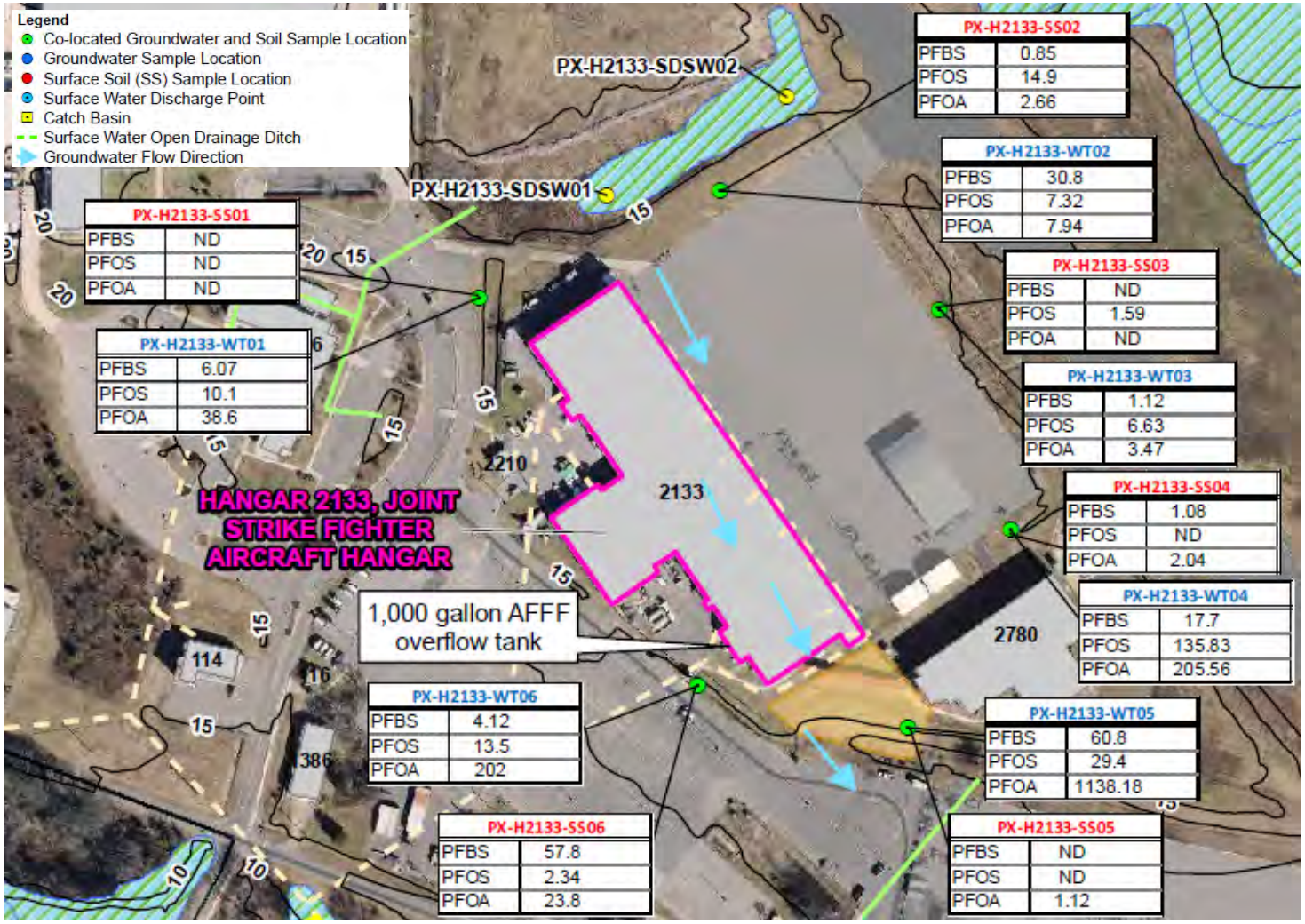
Site 14-Old Fire Fighting Burn Pad



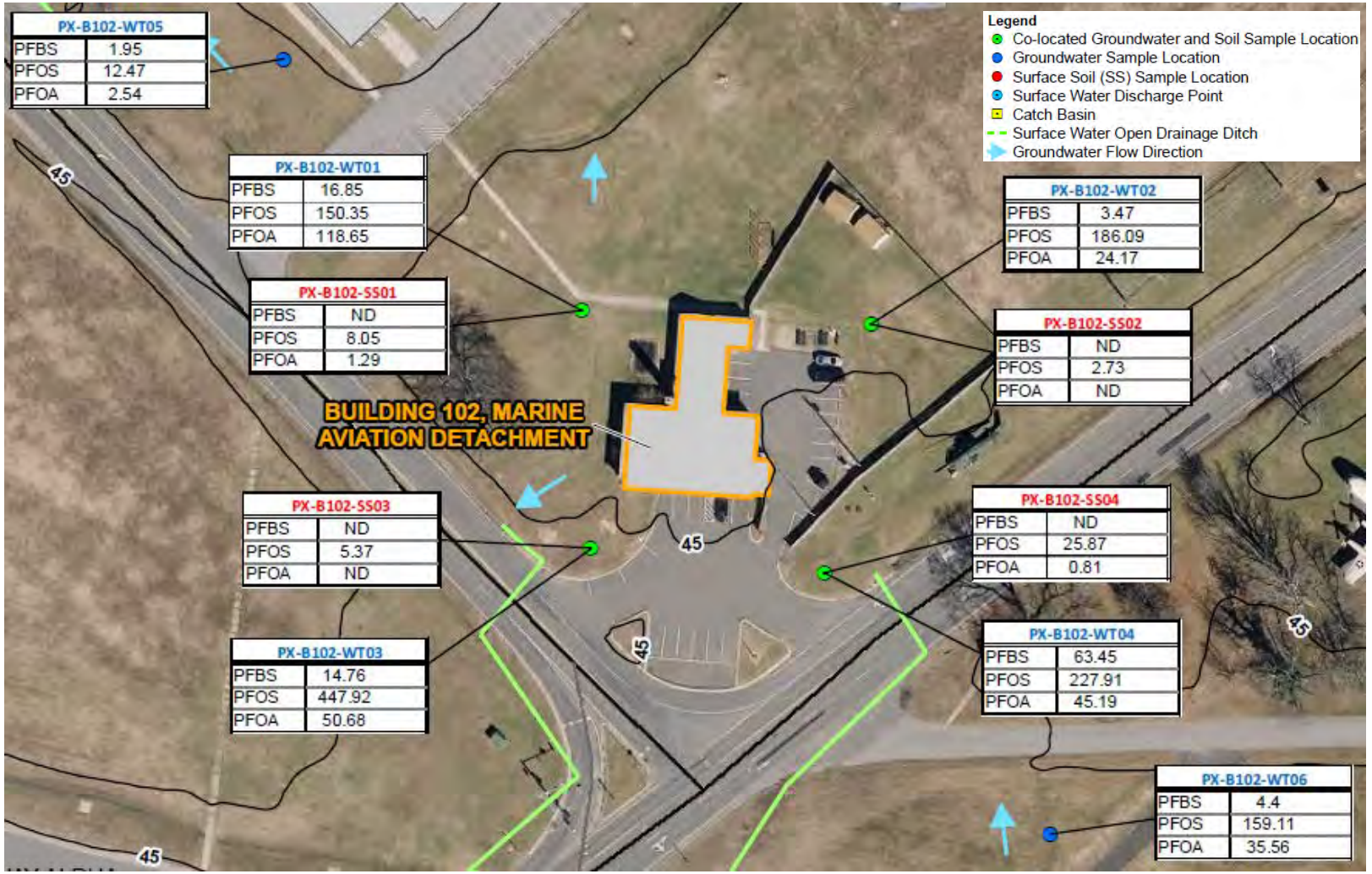
Bronson Road Aircraft Crash Site



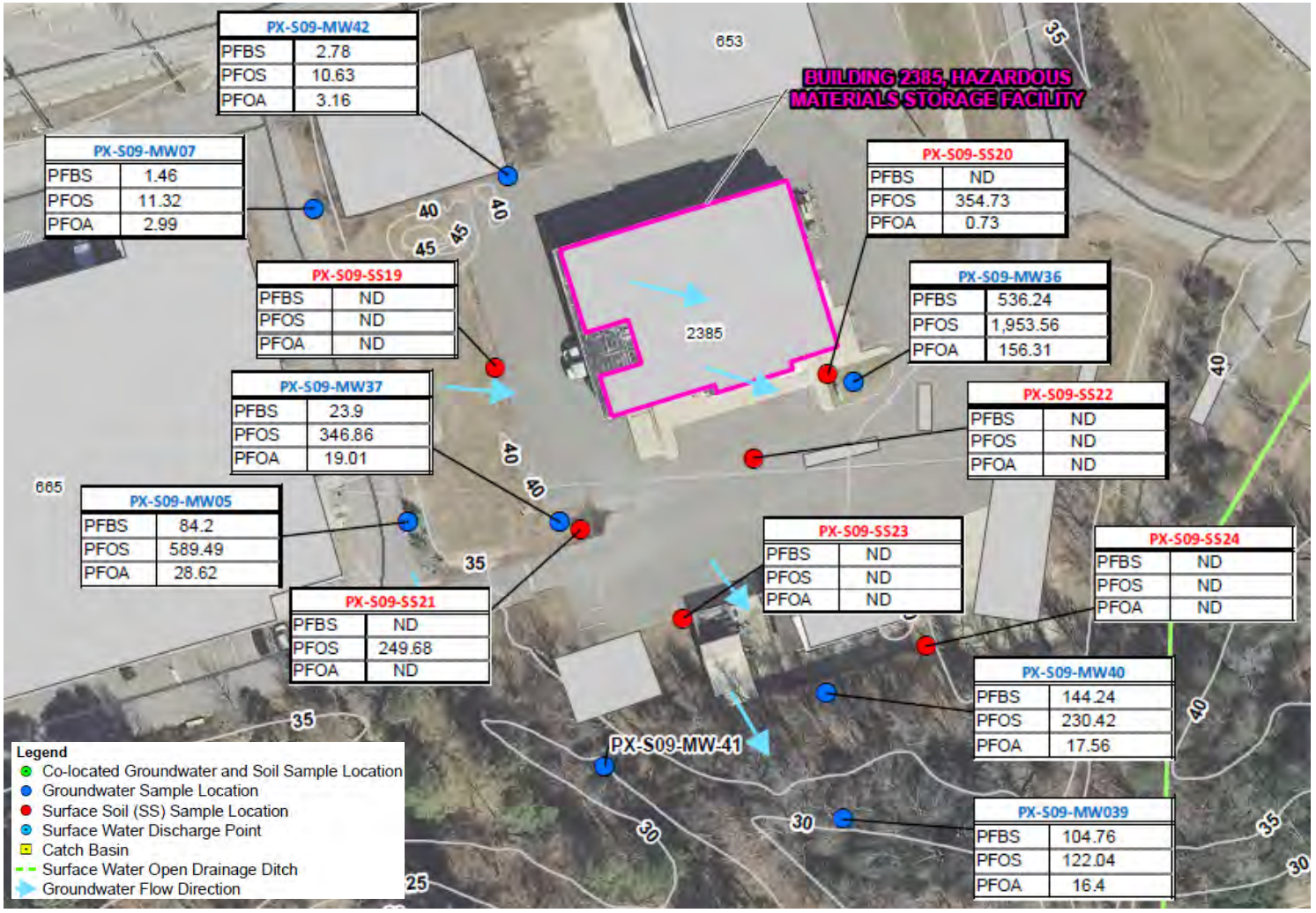
Hangar 2133


Legend
Co-located Groundwater and Soil Sample Location
Groundwater Sample Location
Surface Soil (SS) Sample Location
Surface Water Discharge Point
Catch Basin
Surface Water Open Drainage Ditch
Groundwater Flow Direction
PX-H2133-SDSW02
PX-H2133-SDSW01
PX-H2133-SS02
PFBS 0.85
PFOS 14.9
PFOA 2.66
PX-H2133-WT02
PFBS 30.8
PFOS 7.32
PFOA 7.94
PX-H2133-SS01
PFBS ND
PFOS ND
PFOA ND
PX-H2133-SS03
PFBS ND
PFOS 1.59
PFOA ND
PX-H2133-WT01
PFBS 6.07
PFOS 10.1
PFOA 38.6
PX-H2133-WT03
PFBS 1.12
PFOS 6.63
PFOA 3.47
2210
2133
HANGAR 2133, JOINT STRIKE FIGHTER AIRCRAFT HANGAR
PX-H2133-SS04
PFBS 1.08
PFOS ND
PFOA 2.04
1,000 gallon AFFF overflow tank
PX-H2133-WT04
PFBS 17.7
PFOS 135.83
PFOA 205.56
2780
114
386
PX-H2133-WT06
PFBS 4.12
PFOS 13.5
PFOA 202
PX-H2133-WT05
PFBS 60.8
PFOS 29.4
PFOA 1138.18
PX-H2133-SS06
PFBS 57.8
PFOS 2.34
PFOA 23.8
PX-H2133-SS05
PFBS ND
PFOS ND
PFOA 1.12

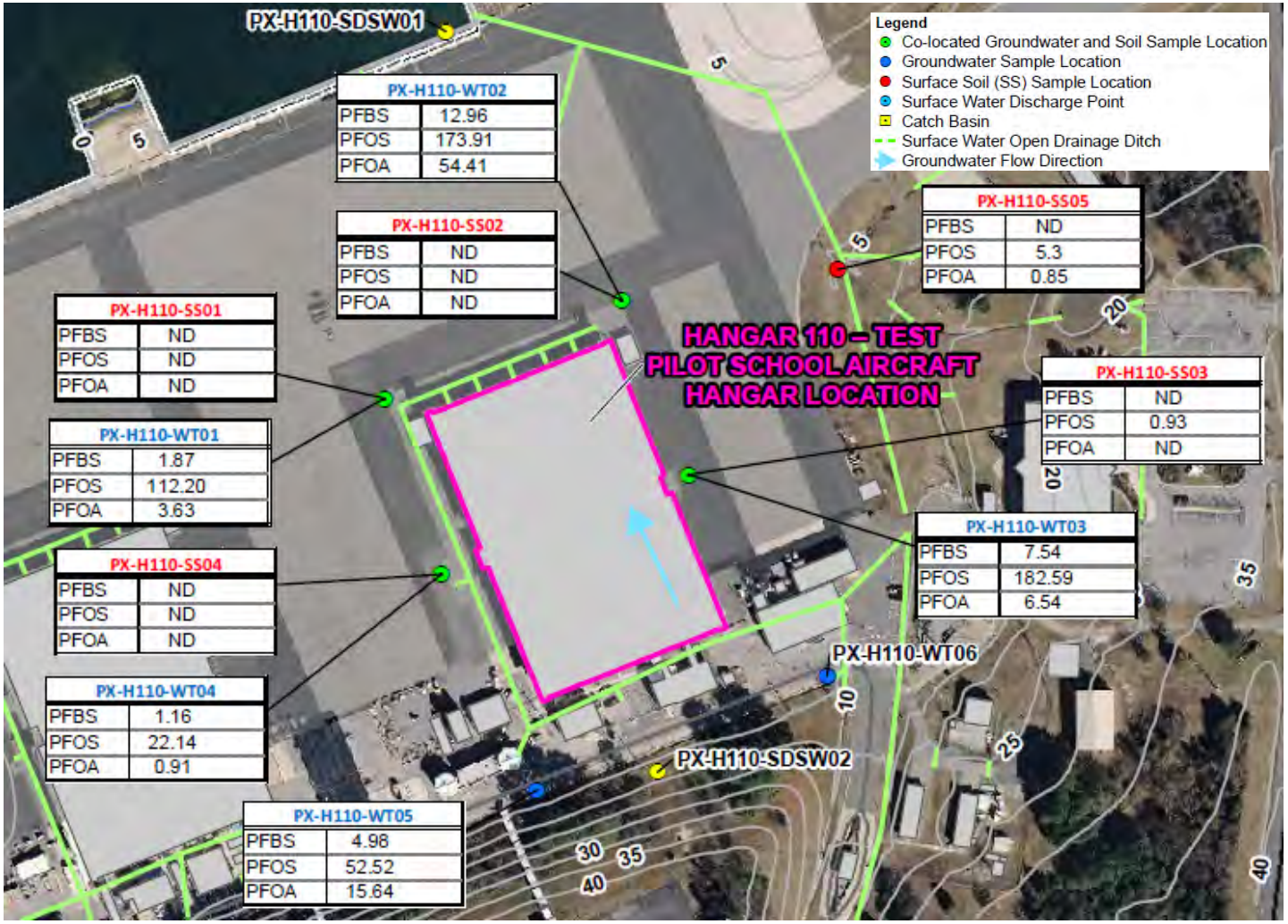
Former Fire Station 2



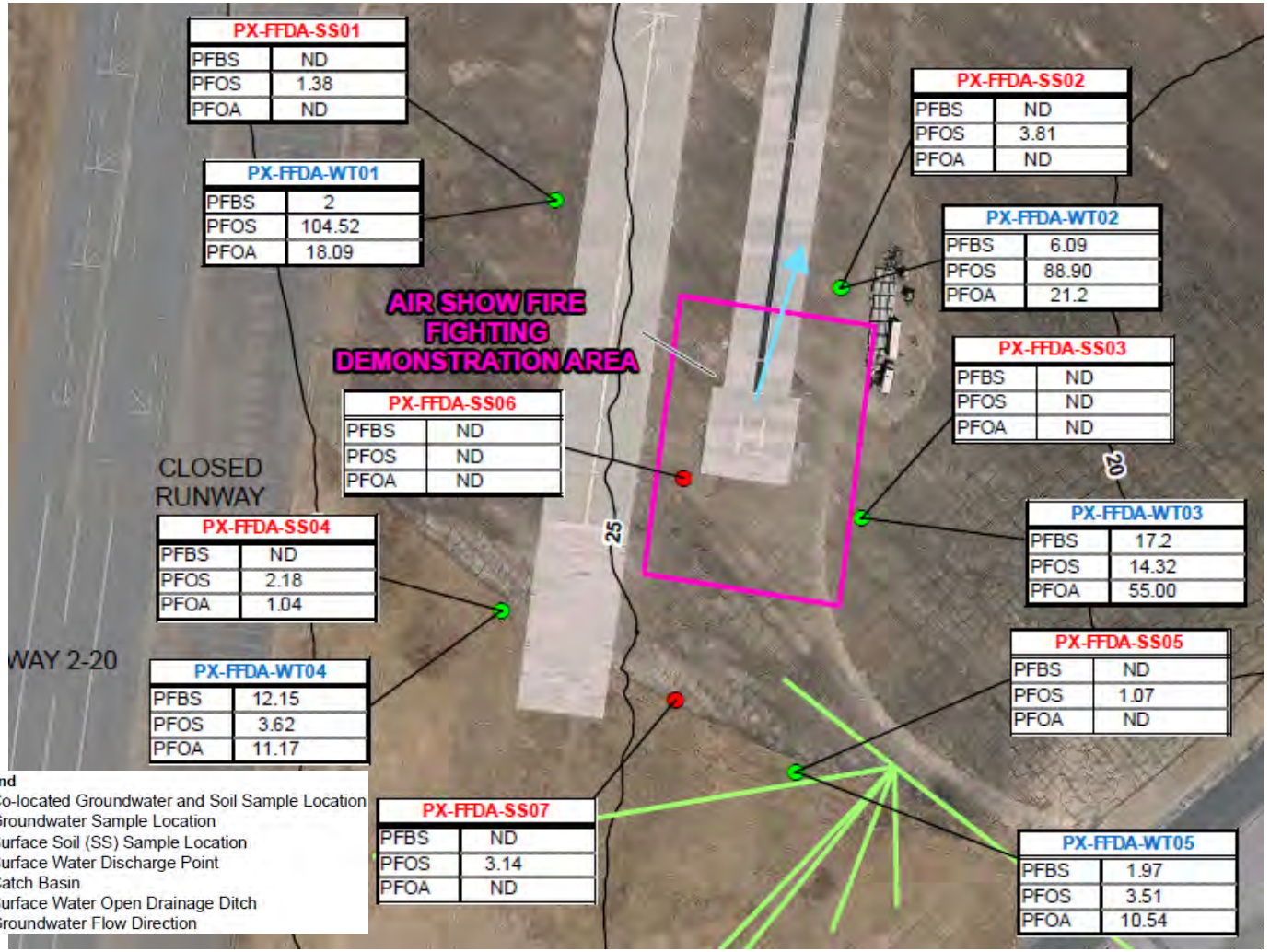
Site 9 (B2385-HAZMAT)



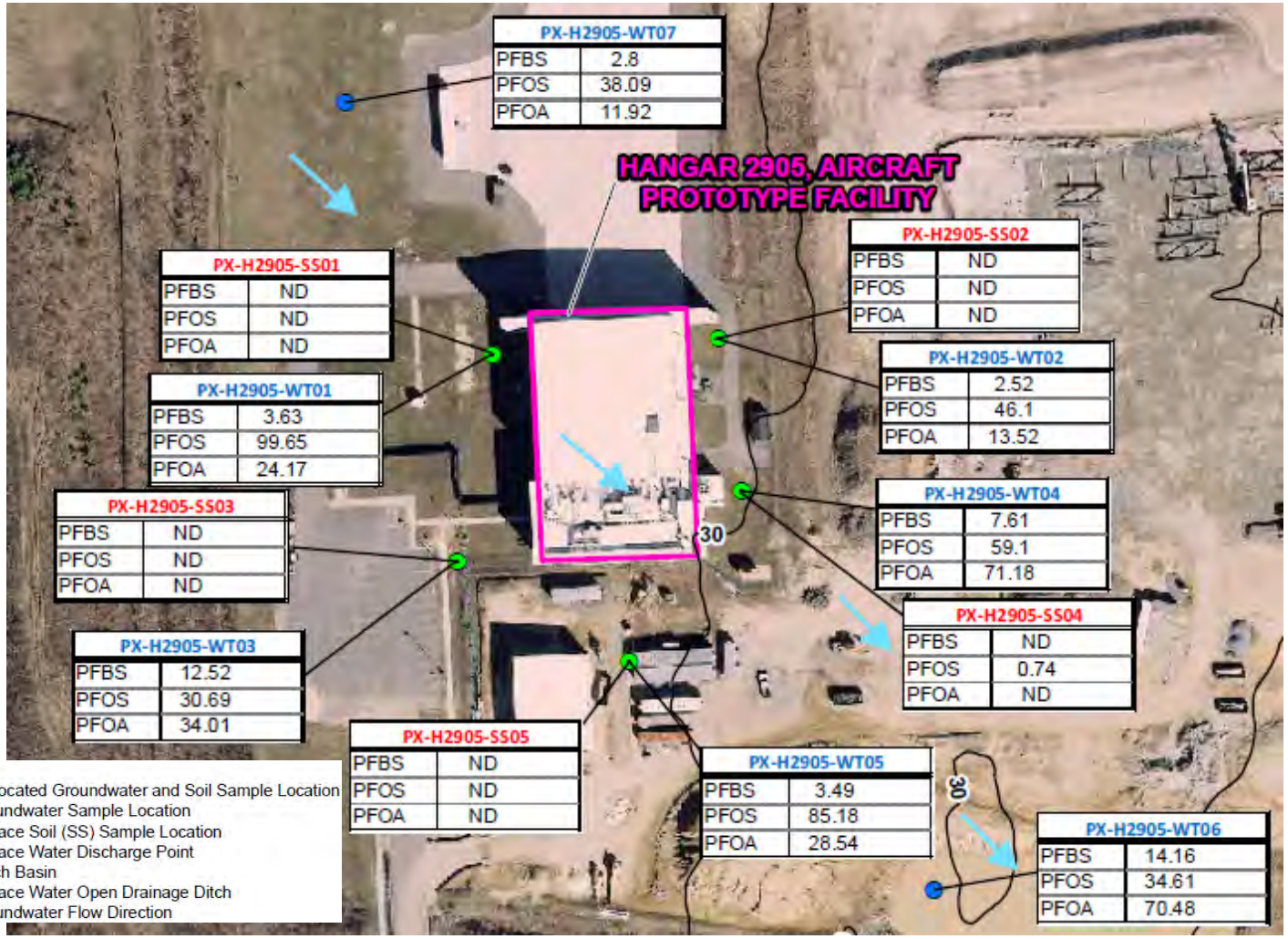
Test Pilot School (Hangar 110)



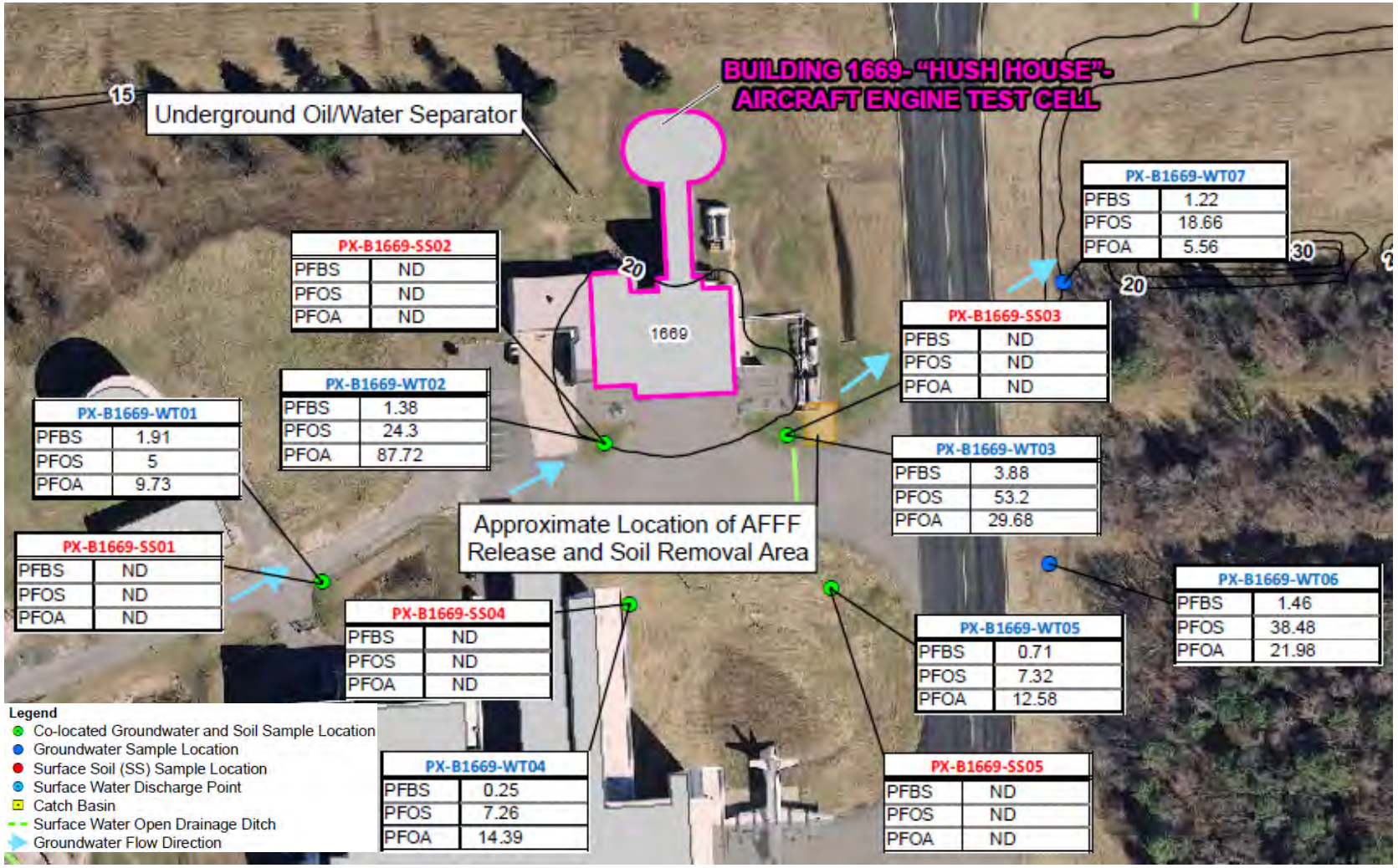
Air Show Fire Fighting Demonstration Area



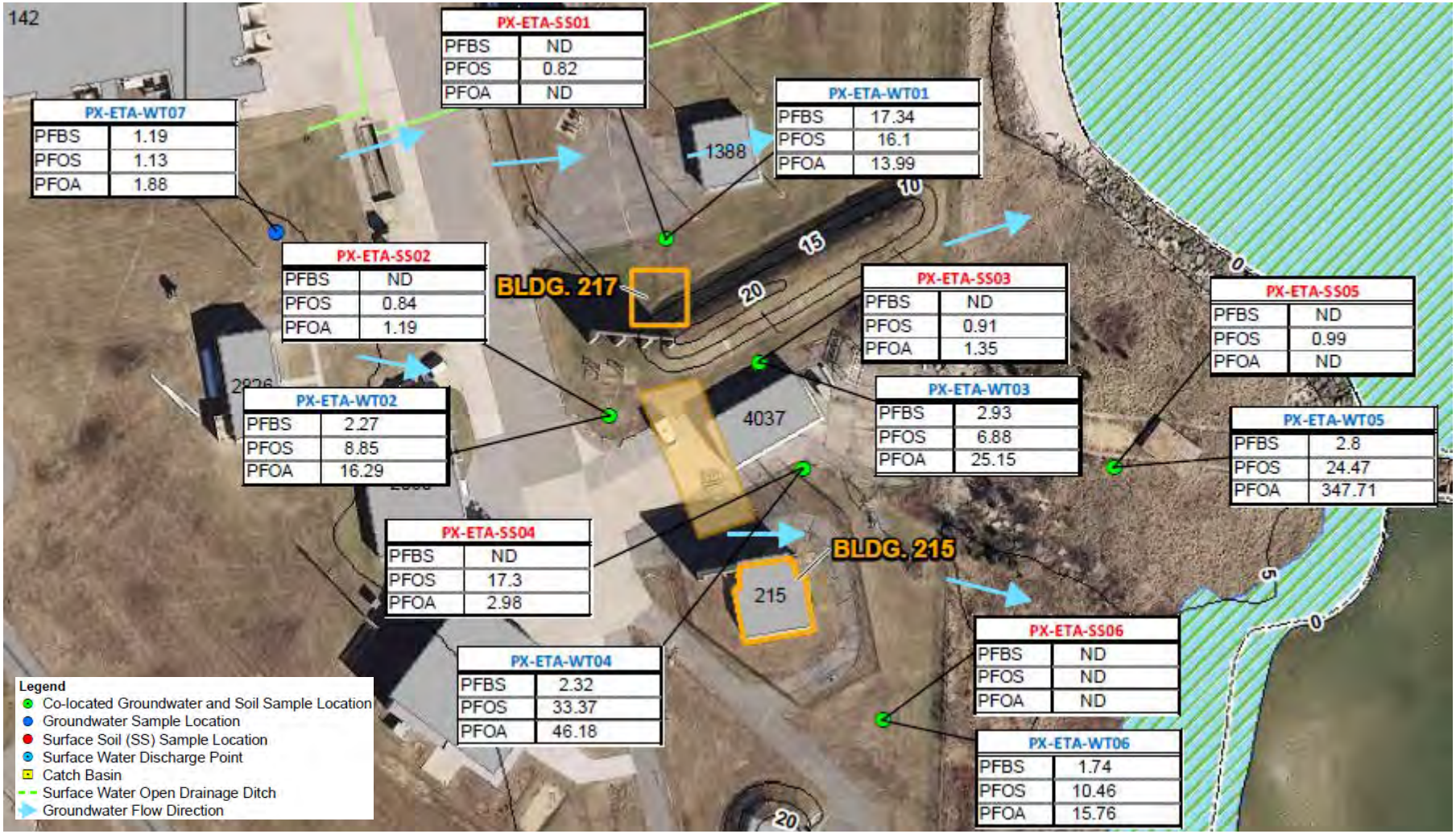
Hangar 2905


PX-H2905-WT07
PFBS 2.8
PFOS 38.09
PFOA 11.92
HANGAR 2905, AIRCRAFT PROTOTYPE FACILITY
PX-H2905-SS01
PFBS ND
PFOS ND
PFOA ND
PX-H2905-SS02
PFBS ND
PFOS ND
PFOA ND
PX-H2905-WT01
PFBS 3.63
PFOS 99.65
PFOA 24.17
PX-H2905-WT02
PFBS 2.52
PFOS 46.1
PFOA 13.52
PX-H2905-SS03
PFBS ND
PFOS ND
PFOA ND
PX-H2905-WT04
PFBS 7.61
PFOS 59.1
PFOA 71.18
30
PX-H2905-SS04
PFBS ND
PFOS 0.74
PFOA ND
PX-H2905-WT03
PFBS 12.52
PFOS 30.69
PFOA 34.01
PX-H2905-SS05
PFBS ND
PFOS ND
PFOA ND
PX-H2905-WT05
PFBS 3.49
PFOS 85.18
PFOA 28.54
30
PX-H2905-WT06
PFBS 14.16
PFOS 34.61
PFOA 70.48
Legend
Co-located Groundwater and Soil Sample Location
Groundwater Sample Location
Surface Soil (SS) Sample Location
Surface Water Discharge Point
Catch Basin
Surface Water Open Drainage Ditch
Groundwater Flow Direction

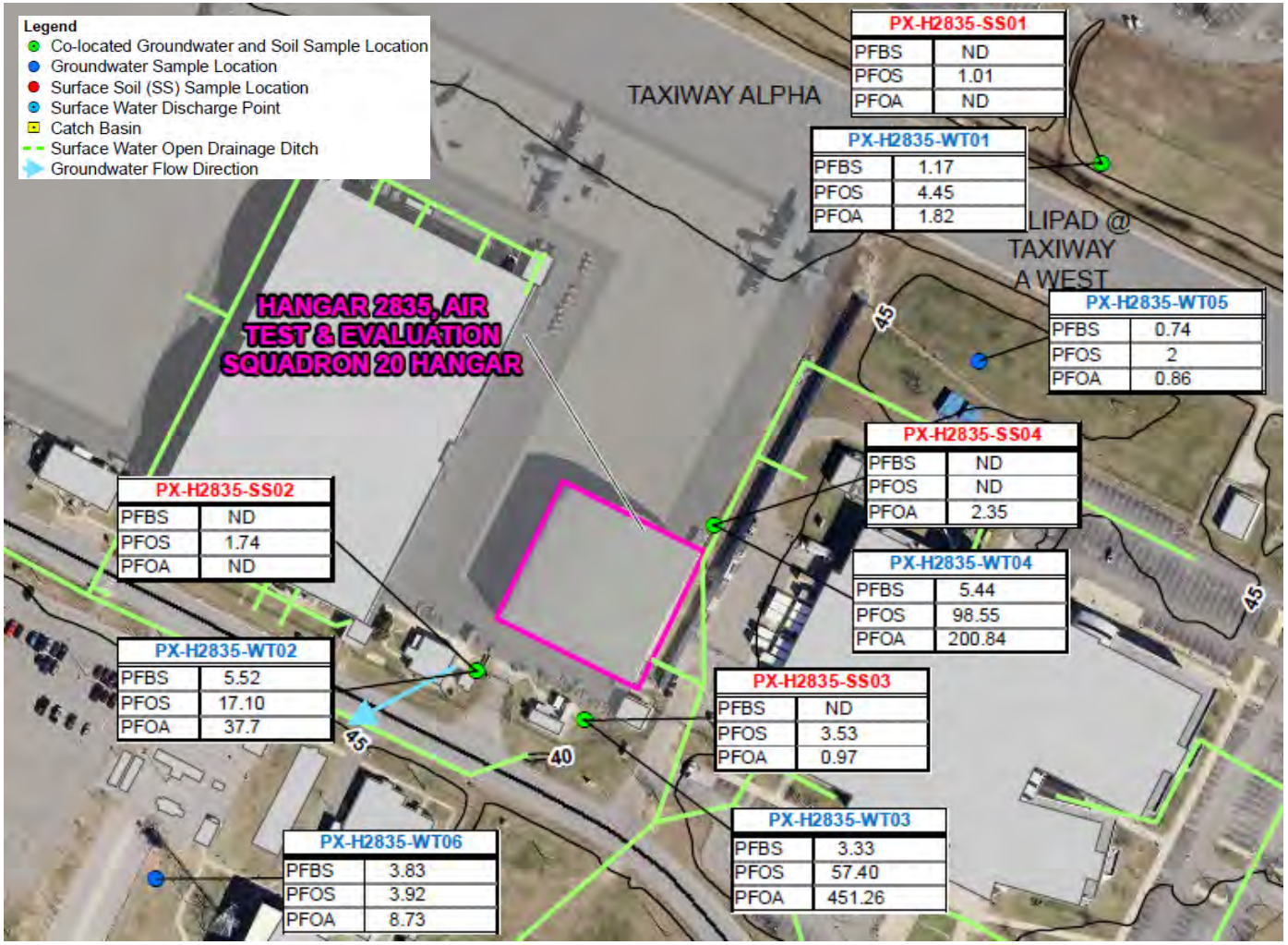
Building 1669



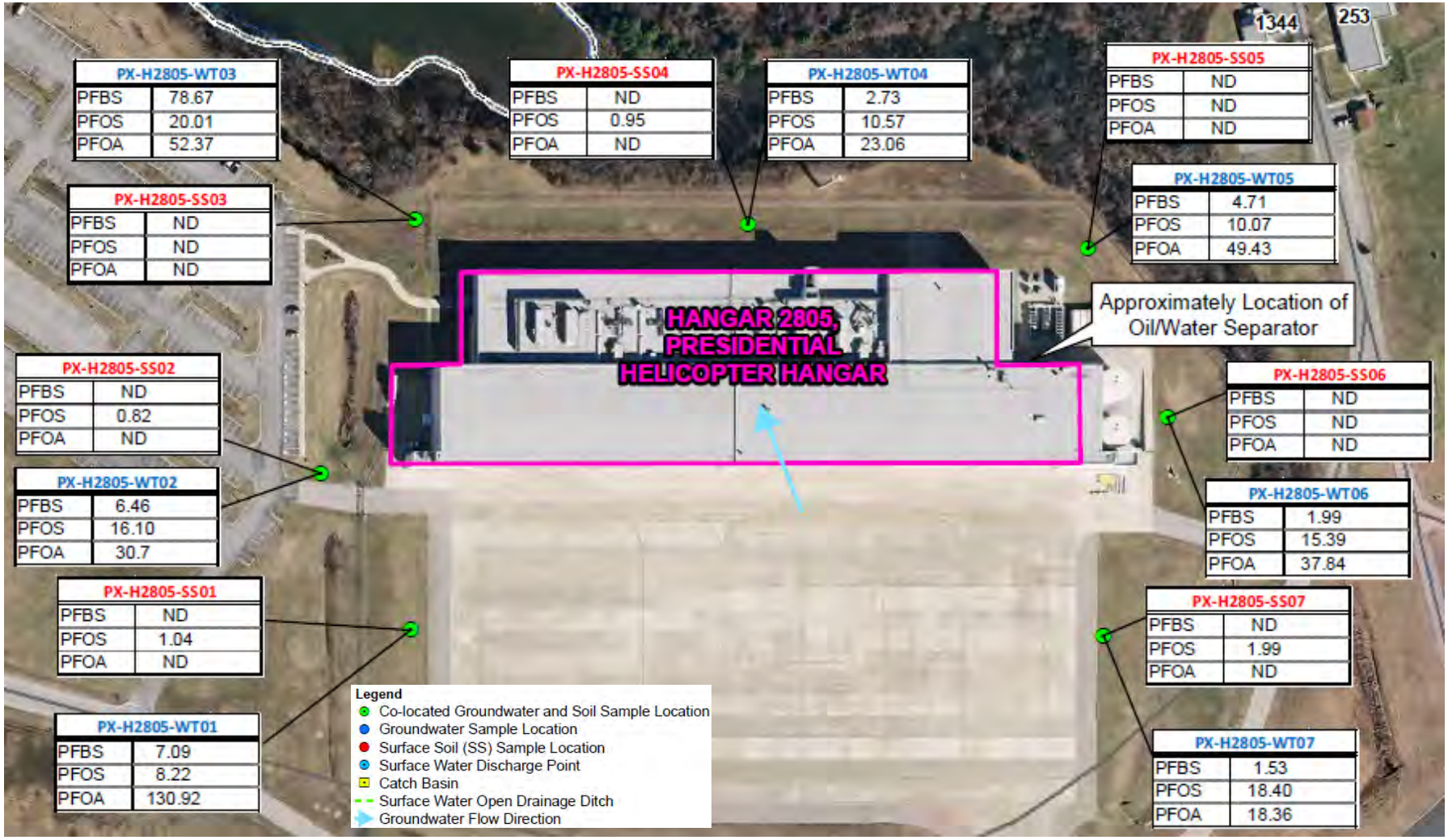
Engine Test Area



Hangar 2835


Legend
Co-located Groundwater and Soil Sample Location
Groundwater Sample Location
Surface Soil (SS) Sample Location
Surface Water Discharge Point
Catch Basin
Surface Water Open Drainage Ditch
Groundwater Flow Direction
TAXIWAY ALPHA
HELIPAD @ TAXIWAY A WEST
HANGAR 2835, AIR TEST & EVALUATION SQUADRON 20 HANGAR
PX-H2835-SS01
PFBS ND
PFOS 1.01
PFOA ND
PX-H2835-WT01
PFBS 1.17
PFOS 4.45
PFOA 1.82
PX-H2835-WT05
PFBS 0.74
PFOS 2
PFOA 0.86
PX-H2835-SS04
PFBS ND
PFOS ND
PFOA 2.35
PX-H2835-WT04
PFBS 5.44
PFOS 98.55
PFOA 200.84
PX-H2835-SS02
PFBS ND
PFOS 1.74
PFOA ND
PX-H2835-WT02
PFBS 5.52
PFOS 17.10
PFOA 37.7
PX-H2835-SS03
PFBS ND
PFOS 3.53
PFOA 0.97
PX-H2835-WT03
PFBS 3.33
PFOS 57.40
PFOA 451.26
PX-H2835-WT06
PFBS 3.83
PFOS 3.92
PFOA 8.73
45
40

Hangar 2805


1344
253
PX-H2805-WT03
PFBS 78.67
PFOS 20.01
PFOA 52.37
PX-H2805-SS04
PFBS ND
PFOS 0.95
PFOA ND
PX-H2805-WT04
PFBS 2.73
PFOS 10.57
PFOA 23.06
PX-H2805-SS05
PFBS ND
PFOS ND
PFOA ND
PX-H2805-WT05
PFBS 4.71
PFOS 10.07
PFOA 49.43
PX-H2805-SS03
PFBS ND
PFOS ND
PFOA ND
HANGAR 2805, PRESIDENTIAL HELICOPTER HANGAR
Approximately Location of Oil/Water Separator
PX-H2805-SS02
PFBS ND
PFOS 0.82
PFOA ND
PX-H2805-SS06
PFBS ND
PFOS ND
PFOA ND
PX-H2805-WT02
PFBS 6.46
PFOS 16.10
PFOA 30.7
PX-H2805-WT06
PFBS 1.99
PFOS 15.39
PFOA 37.84
PX-H2805-SS01
PFBS ND
PFOS 1.04
PFOA ND
PX-H2805-SS07
PFBS ND
PFOS 1.99
PFOA ND
PX-H2805-WT01
PFBS 7.09
PFOS 8.22
PFOA 130.92
PX-H2805-WT07
PFBS 1.53
PFOS 18.40
PFOA 18.36
Legend
Co-located Groundwater and Soil Sample Location
Groundwater Sample Location
Surface Soil (SS) Sample Location
Surface Water Discharge Point
Catch Basin
Surface Water Open Drainage Ditch
Groundwater Flow Direction