FINAL
Preliminary Assessment Report
Weide Army Aviation Support Facility
Aberdeen Proving Ground, Maryland

Perfluorooctanesulfonic Acid (PFOS) and
Perfluorooctanoic Acid (PFOA) Impacted Sites
ARNG Installations, Nationwide

September 2020

Prepared for:

Army National Guard Headquarter
111 S. George Mason Drive
Arlington, VA 22204

UNCLASSIFIED

Table of Contents

Figures

Tables

Appendices

Acronyms and Abbreviations

°F	degrees Fahrenheit
AASF	Army Aviation Support Facility
AECOM	AECOM Technical Services, Inc.
AFFF	aqueous film forming foam
AOI	area of interest
APG	Aberdeen Proving Ground
ARNG	Army National Guard
bgs	below ground surface
CASY	Chemical Agent Storage Yard
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFMO	Construction and Facilities Management Officer
CSM	conceptual site model
EDR™	Environmental Data Resources, Inc.™
FTA	fire training area
FFA	Federal Facilities Agreement
MDARNG	Maryland Army National Guard
MGS	Maryland Geological Survey
MIP	Membrane Interface Probe
NPL	National Priorities List
PA	Preliminary Assessment
PFAS	per- and poly-fluoroalkyl substances
PFOA	perfluorooctanoic acid
PFOS	perfluorooctanesulfonic acid
ppt	parts per trillion
SI	Site inspection
US	United States
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
WTP	water treatment plant
WWTP	waste water treatment plant

Executive Summary

The United States (US) Army Corps of Engineers (USACE) Baltimore District on behalf of the Army National Guard (ARNG) G9 contracted AECOM Technical Services, Inc. (AECOM) to perform *Preliminary Assessments (PAs) and Site Inspections (SIs) for Perfluorooctanesulfonic acid (PFOS) and Perfluorooctanoic acid (PFOA) Impacted Sites at ARNG Facilities Nationwide.* The ARNG is assessing potential effects on human health related to processes at facilities that used per- and poly-fluoroalkyl substances (PFAS) (a suite of related chemicals), primarily in the form of aqueous film forming foam (AFFF) released during firefighting activities or training, although other PFAS sources are possible. In addition, the ARNG is assessing businesses or operations adjacent to the ARNG facility (not under the control of ARNG) that could potentially be responsible for a PFAS release.

AECOM completed a PA for PFAS at Weide Army Aviation Support Facility (AASF) in Aberdeen Proving Ground (APG), Maryland to assess potential PFAS release areas and exposure pathways to receptors. Weide AASF (also referred to as the "facility") is part of the Edgewood Area of APG and is currently leased to the Maryland ARNG (MDARNG). In total, APG covers over 72,500 acres of land and 44,000 acres of water; Weide AASF is 117 acres. The earliest airfield established on what is now Weide AASF was a grass field used in the 1920s, with the first hangar built in the 1930s. Weide AASF has been leased to the ARNG from the Army since 20 January1977. In the 1980s, Weide AASF, formerly Weide Army Airfield, was closed to fix-winged aircraft and converted to a heliport. The Weide AASF currently consists of a 1,600-foot runway for rotary-wing helicopters. Adjacent air operations buildings include a support facility with one flight operations building, one raid building used for the counterdrug observation mission, two main hangars, and one warehouse (PARS Environmental, 2013).

The performance of this PA included the following tasks:

- Reviewed data resources to obtain information relevant to suspected PFAS releases
- Conducted a 1-day site visit on 22 May 2018 (A pre-visit meeting occurred on 21 May 2018 in conjunction with the Army APG installation-wide PFAS investigation)
- Interviewed current and former Camp Weide personnel
- Completed visual site inspections at known or suspected PFAS release locations and document with photographs
- Developed a preliminary conceptual site model (CSM) to outline the potential release, pathway, and receptors of PFAS for Weide AASF.

Two areas of interest (AOIs) related to PFAS release were identified at Weide AASF during the PA. The dates of releases for the AOIs are estimated to be between the 1970s and early 2000s, with potential release dates reported in 1998 and 2015; however, exact dates are unknown. The AOIs are shown on **Figures ES-1** and described in **Table ES-1** below.

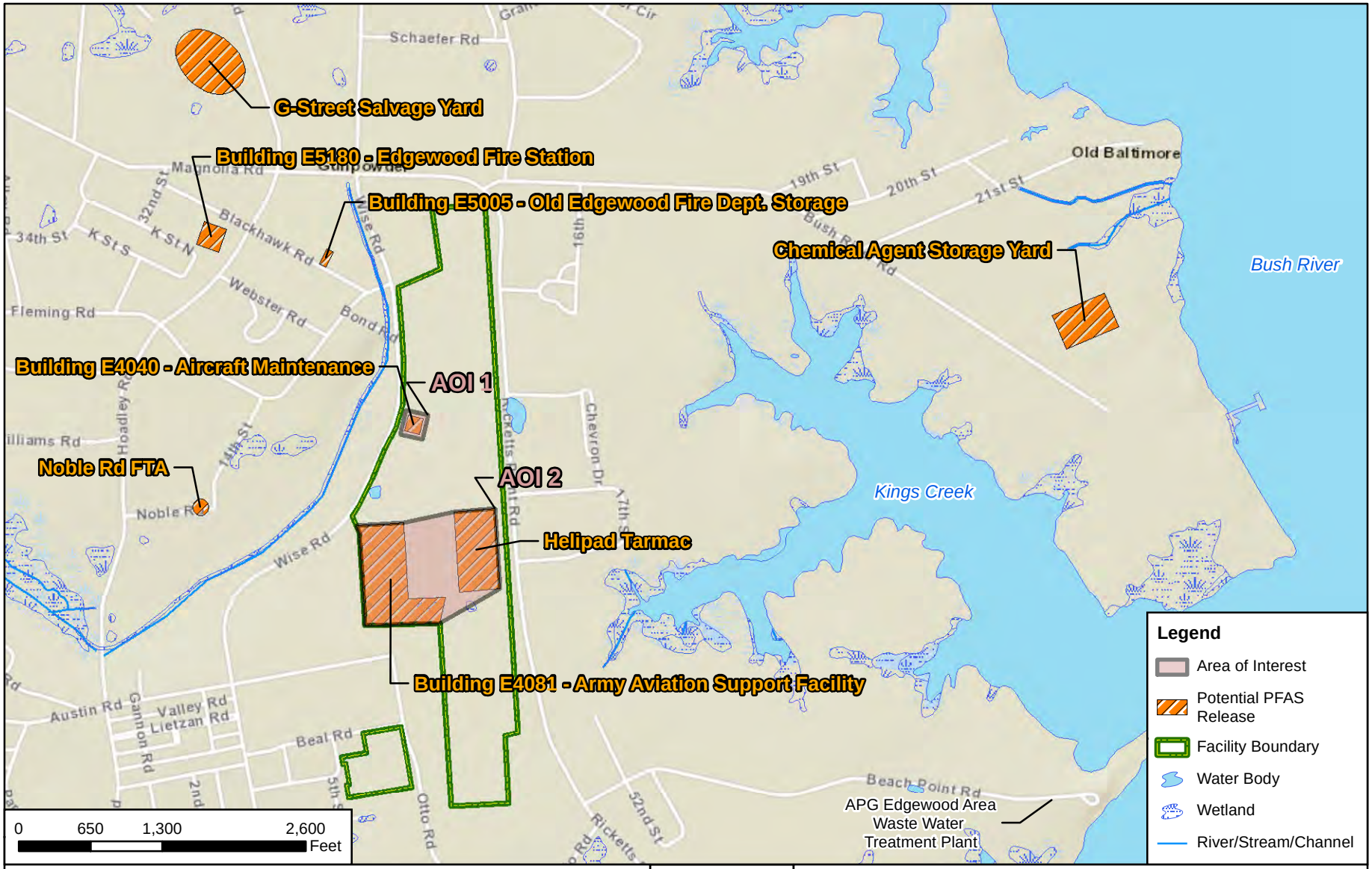
Table ES-1 AOIs at Weide AASF

Area of Interest	Name	Used by	Potential Release Dates
AOI 1	Aircraft Maintenance (E4040)	MDARNG	1998 and 2015
AOI 2	AASF (E4081) and Tarmac	MDARNG	1970s to Unknown

Based on documented potential AFFF releases at these AOIs, there is potential for exposure to PFAS contamination in surface soil to site workers, construction workers, and trespassers via ingestion and inhalation of dust; subsurface soil to construction workers; and surface water and sediment via ingestion to site workers, construction workers, trespassers, nearby residents, and recreational users. Due to groundwater flow patterns and lack of private or residential drinking water wells down-gradient of the facility, the potential for exposure to PFAS contamination in groundwater is incomplete for all receptors.

Based on the USEPA Unregulated Contaminant Monitoring Rule 3 data, it was indicated that no PFAS were detected in a public water system above the USEPA Health Advisory level within 20 miles of the facility.

The preliminary CSM for Weide AASF is shown on **Figure ES-2.**



CLIENT	ARNG			
PROJECT	Preliminary Assessment for PFAS at Weide AASF, MD			
REVISED	8/26/2019	GIS BY	MS	8/26/2019
SCALE	1:15,600	CHK BY	TK	8/26/2019
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap		PM	RG	8/26/2019

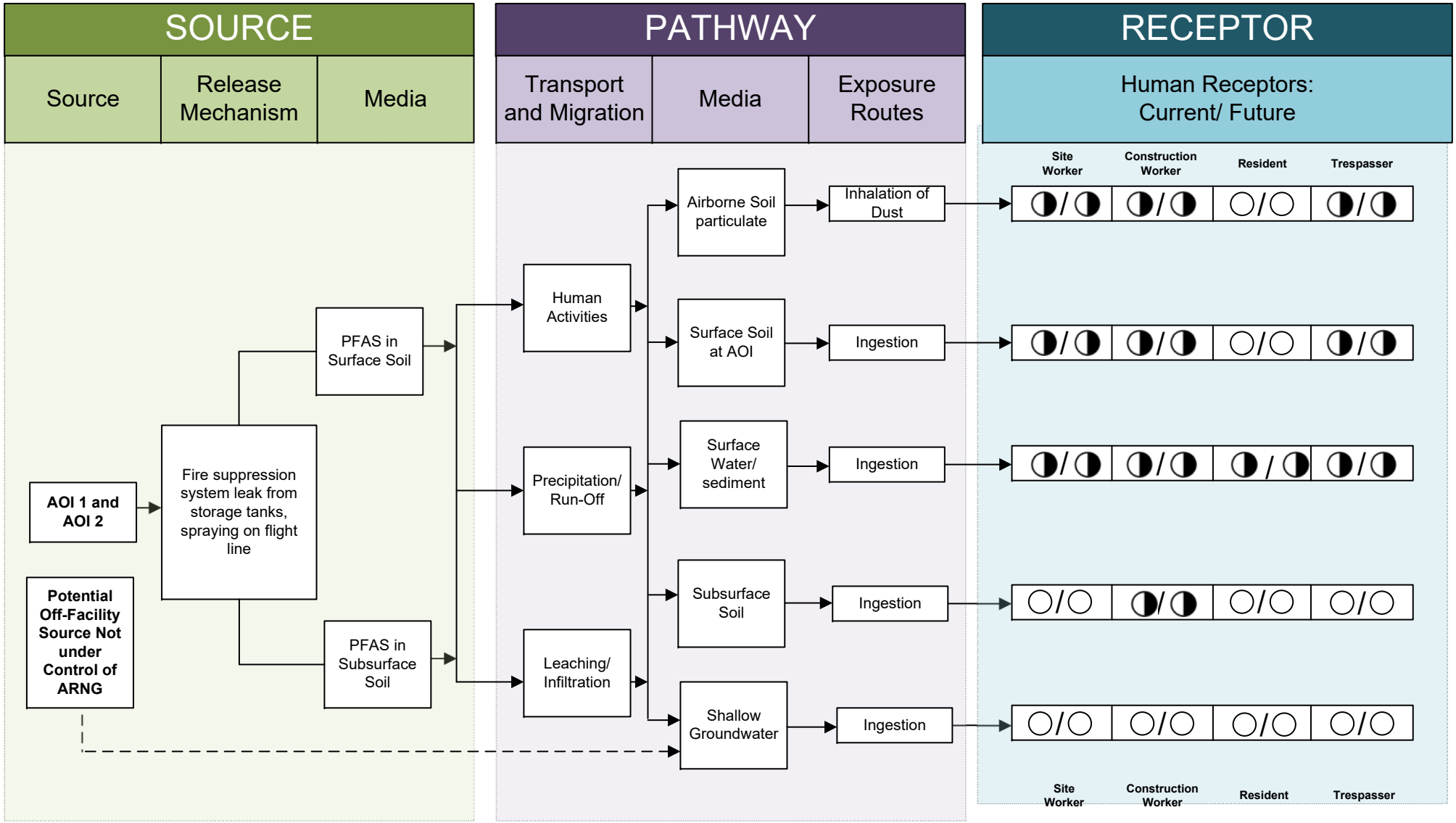
TITLE

Summary of Findings

AECOM
12420 Milestone Center Drive
Germantown, MD 20876

Figure ES-1

Q:\Projects\ENV\GEARS\GEO\MAES 2012 Unrestricted\Fort Meade\E. Data Management\GIS\MXDs\Chisholm_6th\March2017\ Fig_ES-1_Weide_AASF_Summary.mxd



LEGEND

- Flow-Chart Stops
- Flow-Chart Continues
- Partial / Possible Flow
- Incomplete Pathway
- Potentially Complete Pathway
- Complete Pathway

Notes:

1. The resident refers to an off-site resident or recreational user.
2. Dermal contact exposure pathway incomplete for PFAS.

Figure ES-2
Conceptual Site Model
Weide AASF, MD

1. Introduction

1.1 Authority and Purpose

The United States (US) Army Corps of Engineers (USACE) Baltimore District on behalf of the Army National Guard (ARNG) G9 contracted AECOM Technical Services, Inc. (AECOM) to perform *Preliminary Assessments (PAs) and Site Inspections for Perfluorooctanesulfonic acid (PFOS) and Perfluorooctanoic acid (PFOA) Impacted Sites at ARNG Facilities Nationwide* under Contract Number W912DR-12-D-0014, Task Order W912DR17F0192, issued 11 August 2017. The ARNG is assessing potential effects on human health related to processes at their facilities that used per- and poly-fluoroalkyl substances (PFAS) (a suite of related chemicals), primarily releases of aqueous film forming foam (AFFF) although other sources of PFAS are possible. In addition, the ARNG is assessing businesses or operations adjacent to the ARNG facility (not under the control of ARNG) that could potentially be responsible for a PFAS release.

PFAS are classified as emerging environmental contaminants that are garnering increasing regulatory interest due to their potential risks to human health and the environment. PFAS formulations contain highly diverse mixtures of compounds. Thus, the fate of these PFAS compounds in the environment varies. The regulatory framework at both federal and state levels continues to evolve. The US Environmental Protection Agency (USEPA) issued Drinking Water Health Advisories for PFOA and PFOS in May 2016, but there are currently no promulgated national standards regulating PFAS in drinking water.

This report presents findings of a PA for PFAS at Weide Army Aviation Support Facility (AASF) in Aberdeen Proving Ground (APG), Maryland in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, the National Oil and Hazardous Substances Pollution Contingency Plan (40 Code of Federal Regulations Part 300), and USACE requirements and guidance.

This PA Report documents the locations where PFAS may have been released into the environment at Weide AASF (also referred to as the “facility”). The term PFAS will be used throughout this report to encompass all PFAS chemicals being evaluated, including PFOS and PFOA, which are key components of AFFF.

1.2 Preliminary Assessment Methods

The performance of this PA included the following tasks:

- Reviewed data resources to obtain information relevant to suspected PFAS releases
- Conducted a 1-day site visit on 22 May 2018 (A pre-visit meeting occurred on 21 May 2018 in conjunction with the Army APG installation-wide PFAS investigation)
- Interviewed current and former Camp Weide personnel, including:
  - Deputy Construction and Facilities Management Officer (CFMO) Plans and Program Branch Chief
  - Executive Officer for the 231st Chemical Company
  - Deputy Chief of Staff for Aviation for the Maryland ARNG (MDARNG)
  - Current US Army Garrison APG Fire Department Chief and Assistant Fire Department Chief
  - Northeast Regional Training Center Coordinator

- Completed visual site inspections at known or suspected PFAS release locations and document with photographs
- Developed a preliminary conceptual site model (CSM) to outline the potential release, pathway, and receptors of PFAS for Weide AASF

1.3 Report Organization

This report has been prepared in accordance with the USEPA *Guidance for Performing Preliminary Assessments under CERCLA* (USEPA, 1991). The report sections and descriptions of each are:

- **Section 1** – **Introduction:** identifies the project purpose and authority and describes the facility location, environmental setting, and methods used to complete the PA
- **Section 2** – **Fire Training Areas:** describes the fire training areas (FTAs) at the facility identified during the site visit
- **Section 3** – **Non-Fire Training Areas:** describes other locations of PFAS releases at the facility identified during the site visit
- **Section 4** – **Emergency Response Areas:** describes areas of AFFF release at the facility, specifically in response to emergency situations
- **Section 5** – **Adjacent Sources:** describes sources of PFAS release adjacent to the facility that are not under the control of ARNG
- **Section 6** – **Preliminary Conceptual Site Model:** describes the pathways of PFAS transport and receptors at the facility
- **Section 7** – **Conclusions:** summarizes the data findings and presents the conclusions of the PA
- **Section 8** – **References:** provides the references used to develop this document
- **Appendix A** – Data Resources
- **Appendix B** – Preliminary Assessment Documentation
- **Appendix C** – Photographic Log

1.4 Facility Location and Description

Weide AASF, formerly Weide Army Airfield, is an entity of APG located in APG, Maryland, within Harford County (**Figure 1-1**). APG lies on two peninsulas on either side of the Bush River. Weide AASF is situated on the “Edgewood Area” peninsula. The Edgewood Area of APG is a National Priority List (NPL) Site under a Federal Facilities Agreement (FFA). Weide AASF is located on a peninsula in the Chesapeake Bay flanked by Bush River and Gunpowder River, approximately 25 miles northeast of Baltimore City. In 1976, a 40,000 square foot building was dedicated to the airfield for helicopters responsible for responding to natural disasters. Weide AASF is home to the 1100th Theater Aviation Sustainment Maintenance Group.

1.5 Facility Environmental Setting

Harford County is a rural and suburban area between the Piedmont Plateau and the Atlantic Coastal Plain, along the Chesapeake Bay, and it has a total area of 527 square miles, 17% of which is water (US Census, 2010). Weide is located on a peninsula in the Chesapeake Bay flanked by Bush River and Gunpowder River. Elevations around Weide AASF hover around sea

level, with much of the surrounding land consisting of marsh and forested areas. The Edgewood Area of APG is primarily covered by wetlands and forests, with forests dense in medium to large oak, sweetgum, maple, cherry, and loblolly pine. APG has an ideal environmental setting for bald eagle populations, supporting the largest concentration of bald eagles in the northern Chesapeake Bay area.

1.5.1 Geology

The Weide AASF is located just south of the Fall Line divide in the Atlantic Coastal Plain Province of Maryland. An irregular line of contact known as the “Fall Zone” exists where the sediments of the Atlantic Coastal Plain Province overlap rocks from the eastern Piedmont Provence (MGS, 2018). Eastward of the Fall Zone, wedges of sediments reach thicknesses greater than 8,000 feet at the Atlantic coast line. The continuation of the submerged Coastal Plain is known as the Atlantic Continental Shelf Province, extending eastward 75 miles and reaching sediment thickness of approximately 40,000 feet (MGS, 2018). Sediments within the Coastal Plain range in age from Triassic to Quaternary.

This Coastal Region is underlain by a wedge of unconsolidated sediments including clay, silt, sand, and gravel, helping to form productive aquifers. Beneath the Coastal Plain sediments are consolidated crystalline bedrocks comprising various formations from the Paleozoic and Precambrian age (Drummond and Blomquist, 1993). The lithology of the underlain bedrock within the Coastal Plain is poorly documented, but generally consists of Piedmont schistose, gneissic, gabbroid, and amphibolite rocks.

Three separate lithostratigraphic units are present within these sediments: the Talbot Formation of Pleistocene age, upland gravels of Late Tertiary age, and the Potomac Group of the Early Cretaceous age. Shallow, silty clay facies mixed with deeper gravel-sand facies and dark clay layers are characteristic of the Talbot Formation. The upland gravels of the Late Tertiary age “form isolated patches of intercalated sand and gravel and thin lenses of silty clay” (Drummond and Blomquist, 1993). Sand and gravel intercalated with multicolored clay lenses are consistent with the Potomac Group.

1.5.2 Hydrogeology

Weide AASF is located within the Coastal Plain aquifer system of Harford County, Maryland. There are plentiful supplies of groundwater from the vast number of productive aquifers throughout the Atlantic Coastal Plain Province (MGS, 2018). The Coastal Plain aquifer system “comprises a wedge-shaped body of sediments which dips and thickens to the southeast and is underlain by hard crystalline bedrock.” (Drummond and Blomquist, 1993). Four aquifers and three intervening confining units make up the Coastal Plain sequence; however, division of the aquifer is somewhat arbitrary and poorly defined.

Most of the aquifers within the Coastal Plain Province are overlain by layers of clay with low permeability, forming confined aquifers and preventing surface contaminants from reaching the aquifers.

Almost all regional groundwater recharge comes from precipitation. Weide AASF is located to the east of a major groundwater divide, which occurs at the intersection of Hoadley and Magnolia Roads and follows a north-south trend between Hoadley and Wise Roads (ECC, 2018). Groundwater on the east side of the divide generally flows southeast to Bush River, and groundwater on the west of the divide generally flows southwest to Gunpowder River (**Figure 1-2**). An abundance of monitoring wells is located within and directly surrounding Weide AASF. According to the US Geological Survey, depth to groundwater in the surrounding Edgewood Area of APG generally ranges from 10 to 20 feet below ground surface (bgs) (MGS, 2019)

Surface water flow follows the same pattern as groundwater, with surface water east of the facility draining to Bush River, and surface waters of the west of the facility draining to Gunpowder River. Several tributaries immediately surrounding Weide make for seasonally inconsistent groundwater and surface water flow; however, groundwater and surface waters will inevitably flow south to Gunpowder River or Bush River, both draining into the Chesapeake Bay.

The Maryland Geological Survey (MGS) does not provide information on private drinking water wells; however, drinking water within Weide AASF comes from the Van Bibber Water Treatment Plant (WTP), with supplies coming from Winters Run. The Van Bibber intake at Winters Run is approximately 6 miles north of Weide AASF, immediately before the junction of Winters Run with Bush River. Water is pumped from a surface water intake at Winter Run, treated at the Van Bibber WTP, and delivered to the facility. When low-flow occurs at Winters Run, the Edgewood Area of APG has the ability to obtain water directly from Harford County via Loch Raven Reservoir and the Susquehanna River. This water filtration plant is owned and operated by the Department of the Army and serves approximately 5,000 people within the Edgewood Area of APG (MDE, 2005). The Van Bibber WTP has been withdrawing water from Winters Run since 1942 and processes about four million gallons of water per day (MDE, 2005). The source water protection area for this WTP intake comprises approximately 55 square miles of mixed use land. Based on the USEPA Unregulated Contaminant Monitoring Rule 3 data, it was indicated that no PFAS were detected in a public water system above the USEPA Health Advisory level within 20 miles of the facility.

All wastewater within the Edgewood Area is sent to the APG Edgewood Area Waste Water Treatment Plant (WWTP), which is owned and operated by APG. The WWTP services approximately 6,000 people, with an average daily flow of 900,000 gallons per day (PARS Environmental, 2013).

Any stormwater within the perimeters of the Weide AASF is captured in stormwater management ponds located on both the north and southeastern end the hangar (Building E4081). Floor drains within Weide AASF are part of closed system; however, interviewees could not confirm the final destination of wastewater collected within the floor drains of the hangars.

1.5.3 Hydrology

Weide AASF is situated within the 64,000 square mile Chesapeake Bay watershed. The Chesapeake Bay watershed has a land-to-water ratio of 14:1, making it the largest of any coastal water body in the world (CBP, 2018). The Susquehanna, Potomac, Rappahannock, York, and James rivers make up the five largest rivers within the watershed, with more than 100,000 tributaries threaded throughout the watershed. Much of Weide AASF is located within marshy land tucked between Gunpowder River and Bush River, with several tributaries surrounding the facility. Major surface water features are located on **Figure 1-3.**

The Chesapeake Bay watershed consists of three distinct geological regions: the Atlantic Coastal Plain, the Piedmont Plateau, and the Appalachian Province. Weide AASF is located entirely within the Atlantic Coastal Plain. Groundwater within the Coastal Plain is generally characterized as mildly acidic, with low concentrations of total dissolved solids. The groundwater to surface water discharge rate was measured along seven streams within the Coastal Plain sequence, with rates of discharge ranging from 0 to 79.4 cubic feet per second. Recharge water then flows through the aquifer system at directions and rates dictated by aquifer-specific properties.

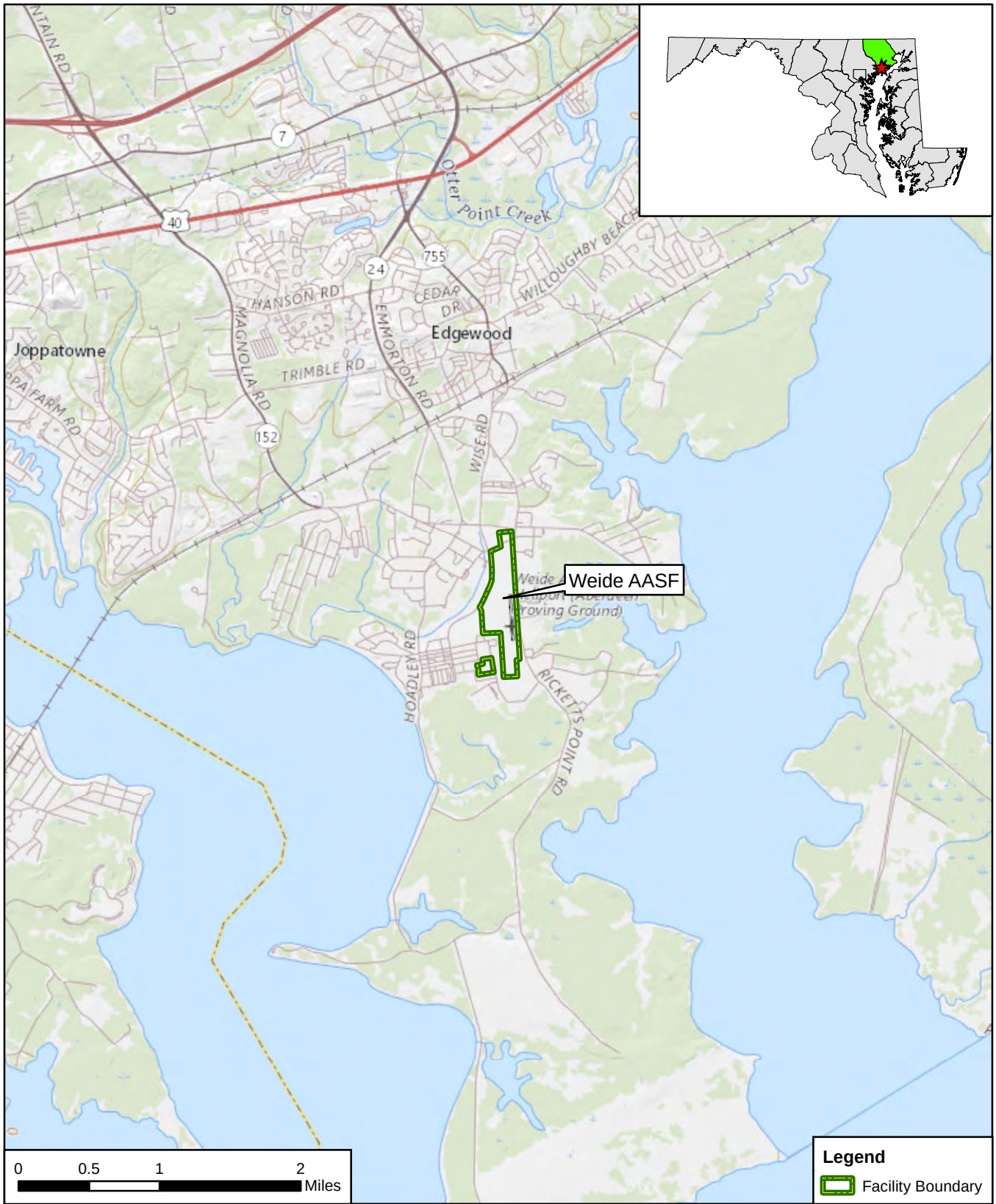
1.5.4 Climate

Harford County has an average annual temperature of 53.5 degrees Fahrenheit (°F) (NOAA, 2018). APG as a whole is characteristically warm, temperate, and rainy, with no dry season. Average yearly precipitation is approximately 49.7 inches, with an average yearly snowfall of 17.4

inches (Harford County, n.d.). Prevailing winds are generally from the west to northwest, except in the summer, when winds are more southerly and average around 10 miles per hour.

1.5.5 Current and Future Land Use

Weide AASF is an active heliport used by the MDARNG, with a current lease in effect until 2027. Only rotary-winged aircraft are permitted to use the landing strip at Weide AASF; no fixed-winged aircrafts are allowed. The facility is currently only used as a helicopter landing strip and helicopter parking pad, with administrative support in surrounding buildings. Individual and joint task force trainings occasionally occur at Weide AASF, with nearby Maryland National Guard soldiers teaming up with airmen from the 175th Wing at Weide to complete tactical helicopter training exercises.



CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Weide AASF, MD			
REVISED	8/23/2019	GIS BY	MS	8/23/2019
SCALE	1:63,360	CHK BY	TK	8/23/2019
Base Map: USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program,		PM	RG	8/23/2019

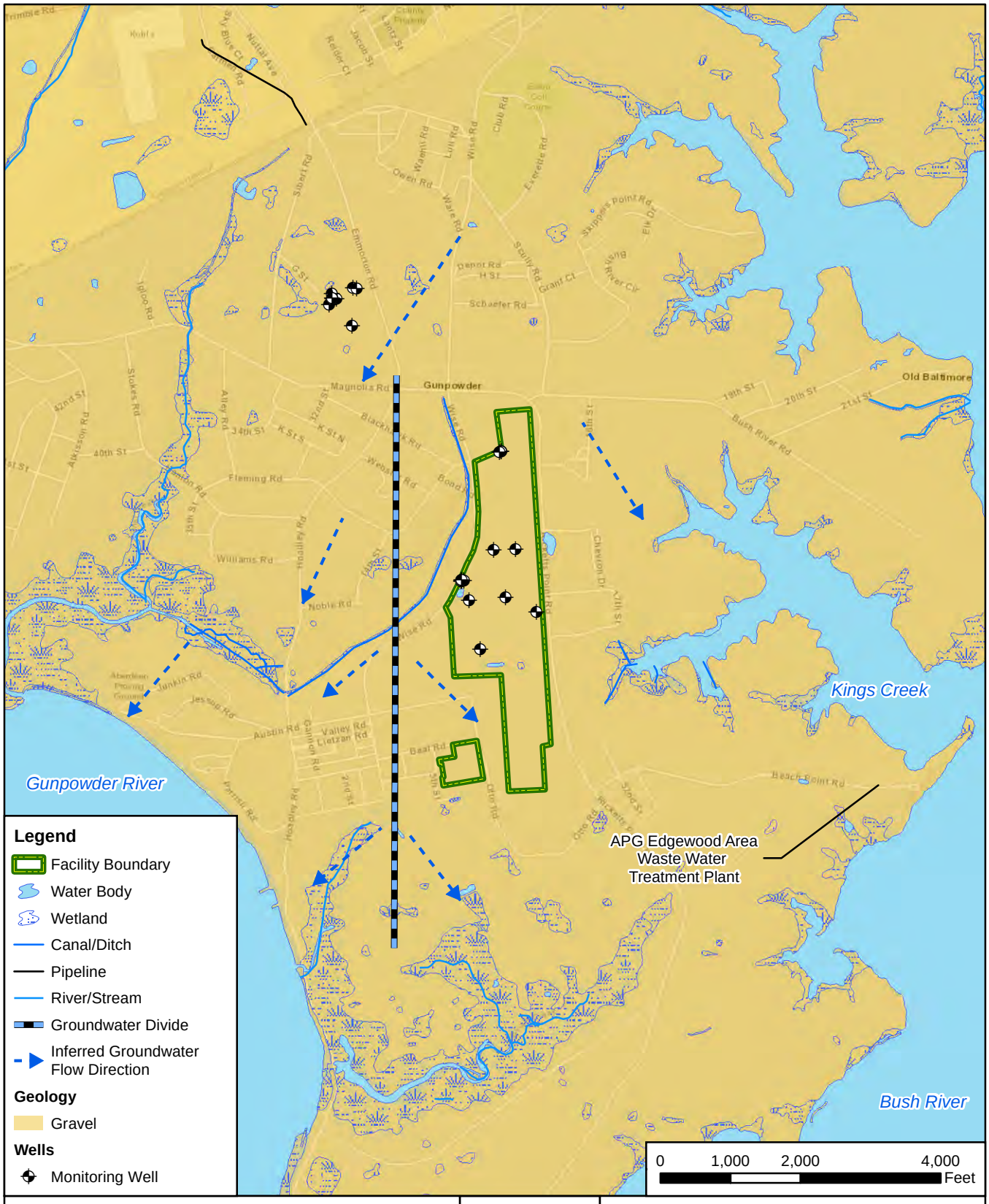
N

Facility Location

AECOM
12420 Milestone Center Drive
Germantown, MD 20876

Figure 1-1

Q:\Projects\ENV\GEARS\GEO\ARNG PFAS\900-CAD-GIS\920-GIS or Graphics\MXD\MD\APG_Weide_PA_Figures\Fig_1-1_Weide_AASF_Facility_Location.mxd



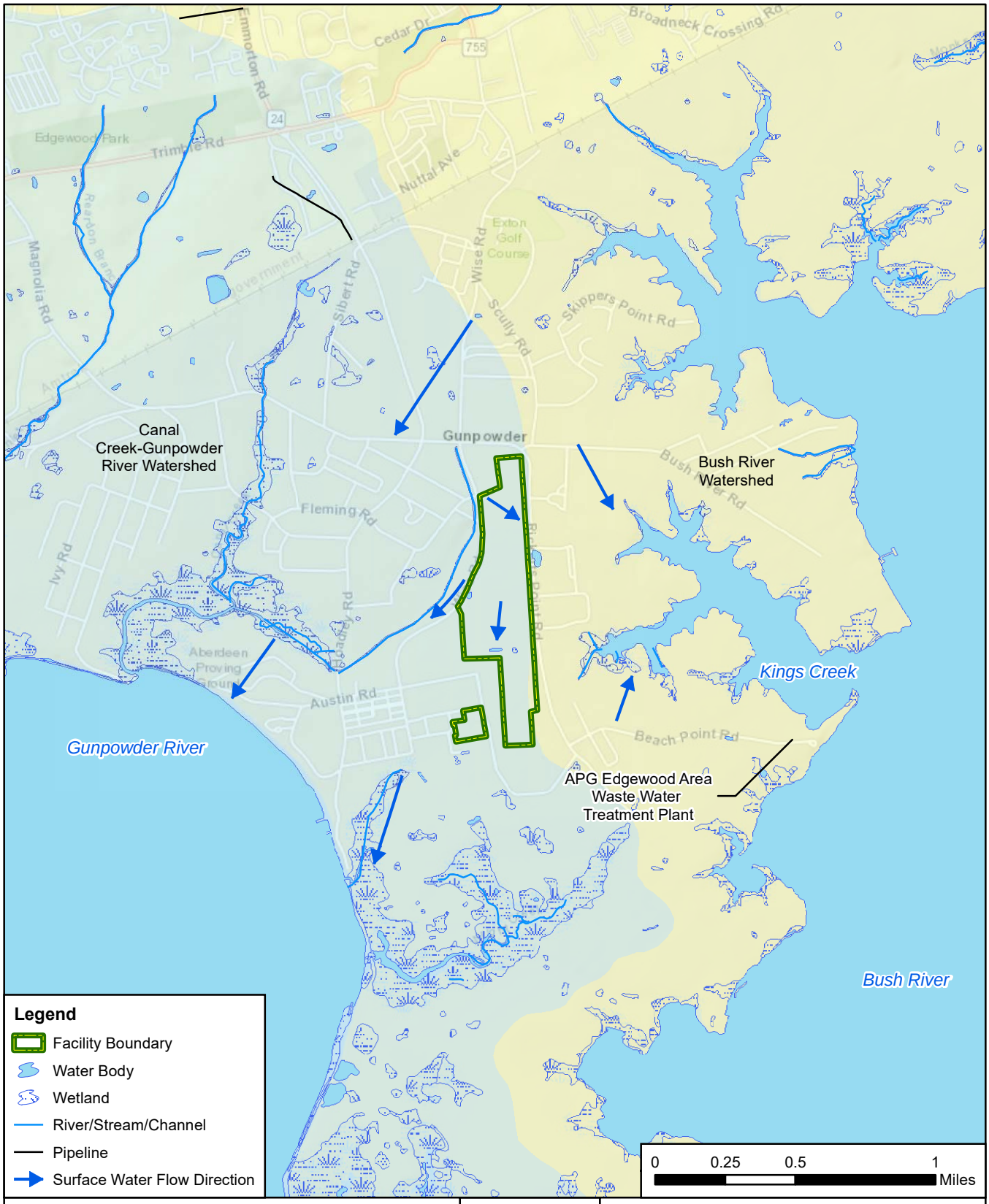
CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Weide AASF, MD			
REVISED	8/23/2019	GIS BY	MS	8/23/2019
SCALE	1:24,000	CHK BY	TK	8/23/2019
Base Map: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI,		PM	RG	8/23/2019

Groundwater Features

AECOM
12420 Milestone Center Drive
Germantown, MD 20876

Figure 1-2

Q:\Projects\ENV\GEARS\GEO\ARNG PFAS\900-CAD-GIS\920-GIS or Graphics\MXD\MD\APG_Weide_PA_Figures\Fig_1-2_Weide_AASF_Groundwater_Features.mxd



CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Weide AASF, MD			
REVISED	9/19/2019	GIS BY	MS	9/19/2019
SCALE	1:31,680	CHK BY	TK	9/19/2019
Base Map: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI,		PM	RG	9/19/2019

Surface Water Features

AECOM
12420 Milestone Center Drive
Germantown, MD 20876

Figure 1-3

Q:\Projects\ENV\GEARS\GEO\ARNG PFAS\900-CAD-GIS\920-GIS or Graphics\MXD\MD\APG_Weide_PA_Figures\Fig_1-3_Weide_AASF_Surface_Water_Features.mxd

2. Fire Training Areas

No FTAs were identified at Weide AASF during this PA. FTAs are not present at the airfield for safety reasons given the history of chemical/biological warfare materials research in the surrounding areas.

3. Non-Fire Training Areas

Three non-FTAs where AFFF may have been released were identified during this PA. A description of each non-FTA is presented below, and the non-FTAs are shown on **Figure 3-1**. Photographs of the non-FTAs appear in **Appendix C**.

3.1 Building E4040 - Aircraft Maintenance

Building E4040 is a hangar leased in 1976 to the MDARNG from the Army. While the exact date of construction is unknown, Building E4040 can be seen by aerial photography from Environmental Data Resources, Inc.™ (EDR™) reports dating back to 1959; however, it is unknown what year this building came under ownership to the Army. Based on this aerial photography, the building layout and size have not changed since construction, and while the building was renovated in the late 1990s, no additions or major alterations to the building have occurred since construction. Building E4040 was constructed without a fire suppression system. Several AFFF releases were reported at Building E4040, previously known as the "Old Flying Club," located within Weide AASF boundaries. These releases are identified below.

In 1998 or 1999, the hangar was renovated with a fire suppression system that included the installation of a 400-gallon tank containing concentrated AFFF. The tank contained concentrated 3% AFFF and experienced a leak over a weekend that resulted in a full release of the contents. The tank was located in a non-climate-controlled room just outside of the maintenance building. While the exact quantity of AFFF in the tank when the release occurred is unknown, given the leak happened the same year the tank was installed, it is likely the majority of the tank capacity was released during this leak.

During interviews, the ARNG fire chief noted that a pipe leak occurred the same year of installation (1998/1999) and released an unknown quantity of concentrated AFFF.

Additionally, it was noted during interviews that in 2015, a pipe leak occurred at Building E4040. One interviewee thought the pipe leak was AFFF, while other interviewees were unsure of the contents. Exact quantities of material released during this leak are unknown, but it was thought to have happened prior to the building being heated.

Floor drains are located throughout the inside of the hangar as well as outside the bay doors. Floor drains within Weide AASF are part of closed system; however, interviewees could not confirm the final destination of wastewater collected within the floor drains of the hangar.

3.2 Building E4081 - Army Aviation Support Facility

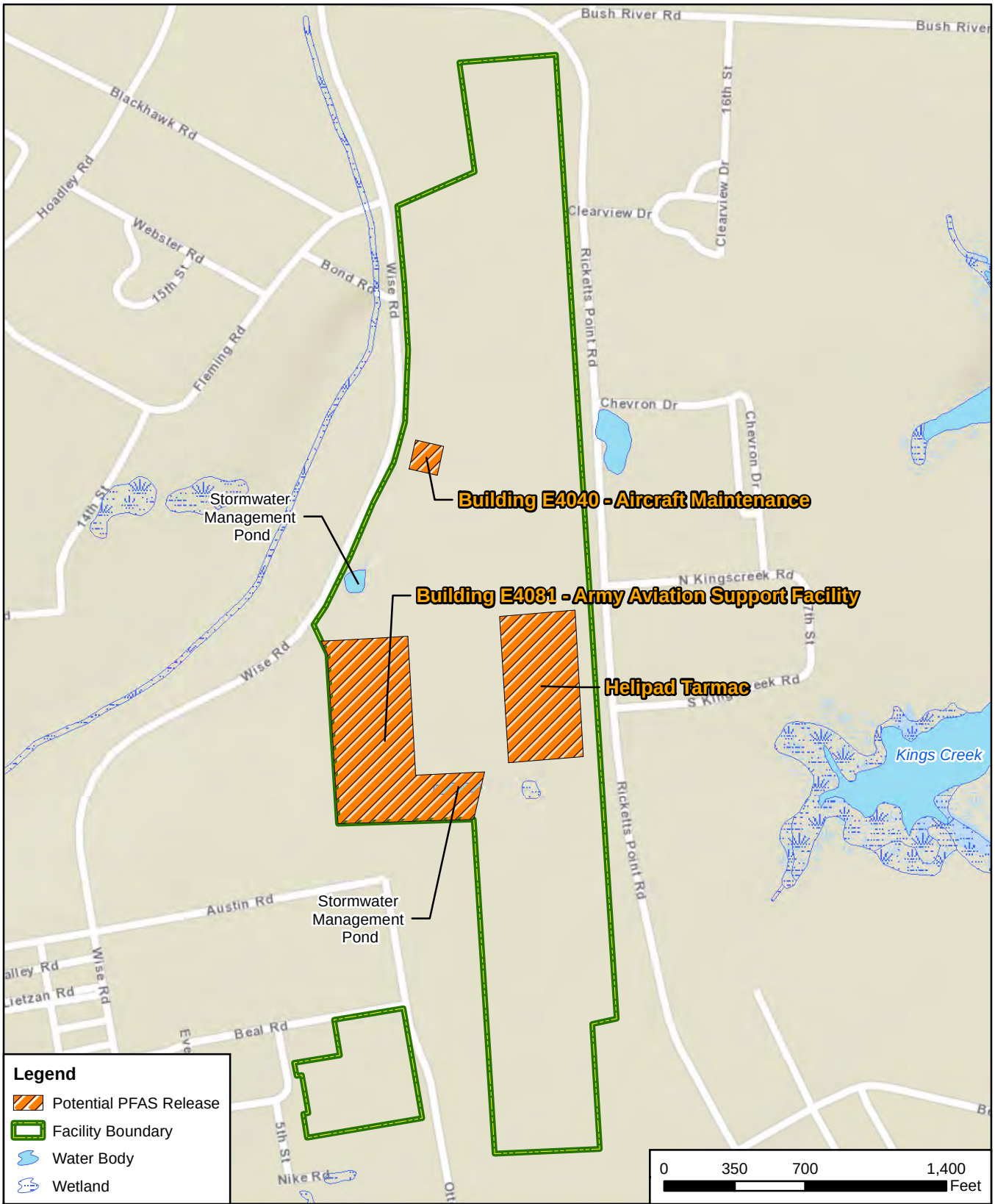
Construction of Building E4081 occurred in 1977. A fire suppression system containing AFFF was installed at this hangar during original construction, with testing of the system occurring annually. During annual testing, full releases of the system occurred, with AFFF expanding to heights around 12 feet within the hangar.

The AFFF released within the hangar was allowed to dissipate through the floor drains and surrounding drains outside the bay doors. Stormwater within the perimeter of the Weide AASF is collected in stormwater management ponds located both north of and southeast of Building E4081. Floor drains are part of closed system; however, interviewees could not confirm the final destination of wastewater collected within the floor drains of the hangars. Annual testing of the AFFF fire suppression system no longer occurs; however, it is uncertain what year testing ceased. One interviewee thought testing ended around the time of hangar renovation (2012).

Building E4081 was renovated in 2012 to expand the aviation hangar space, construct a 96,000 square foot maintenance area, and replace the apron. The renovation included an updated AFFF fire suppression system, including a tank with a capacity of approximately 900 gallons that is stored in a climate controlled room (see photo log, **Appendix C**). Since installation, there have been no known spills or releases of AFFF from the fire suppression system.

3.3 Helipad Tarmac

During interviews, a civilian employed by the Army recalls the Edgewood Area Army Fire Department spraying a blanket of AFFF across the heliport tarmac at Weide AASF on several occasions in the 1970s. The purpose of spraying AFFF foam on the tarmac is uknown. While type, quantity, concentration, and frequency of AFFF used at this location cannot be confirmed, the timeframe of usage indicates it was likely PFAS-containing foam.



CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Weide AASF, MD			
REVISED	8/23/2019	GIS BY	MS	8/23/2019
SCALE	1:8,400	CHK BY	TK	8/23/2019
Base Map: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI,		PM	RG	8/23/2019

N

Non-Fire Training Areas

AECOM
12420 Milestone Center Drive
Germantown, MD 20876

Figure 3-1

Q:\Projects\ENV\GEARS\GEO\ARNG PFAS\900-CAD-GIS\920-GIS or Graphics\MXD\MD\APG_Weide_PA_Figures\Fig_3-1_Weide_AASF_Non-Fire_Training_Areas.mxd

4. Emergency Response Areas

Based on EDR™ reports and confirmation by interviewees' knowledge of the facility history since 1970, no emergency response action using AFFF has occurred.

5. Adjacent Sources

The following potential non-MDARNG PFAS sources were identified adjacent to portions of Weide AASF during the PA. The locations of potential off-facility source areas are shown on **Figure 5-1**.

5.1 Noble Road FTA

Interviews confirmed the location of one FTA located off-facility on Noble Road, near the horse stables adjacent to Building E5286. The former FTA consisted of two former Noble Road incinerator buildings, E5292 and E5294, where fire training activities occurred. According to information gathered during interviews, various types of fuel sources were used for these fire training activities, as this was the only FTA within the Edgewood peninsula. This FTA is located several hundred yards west of ARNG hangars at E4040 and E4081. This land is owned by the Army and is currently inactive, last being used by ARNG in the mid-2000s.

The ARNG fire chief confirmed during interviews that the FTA was used by ARNG personnel prior to his employment in 1990; however, exact dates of fire training activities at this FTA are unknown. Prior to 2005, AFFF was used for fire training activities at least two times a month, with most training activities occurring once weekly. Personnel from the ARNG would transfer firetrucks with AFFF to the Noble Road FTA location to conduct training activities. The duration of each of these training events is unknown.

The AFFF was allowed to dissipate directly into the surrounding soil during these activities. APG personnel stated that the two former incinerator buildings were demolished in 2010.

The Noble Road FTA is west of the groundwater divide; therefore, any potential PFAS contamination in groundwater and surface water at this location should not impact the Weide AASF.

5.2 Building E5180 - Edgewood Fire Station

During interviews with the ARNG fire chief and fire chief assistant, it was confirmed that concentrated AFFF was stored in 5-gallon buckets within the current fire station (Building E5180) outside of Weide AASF, but within APG. The 5-gallon buckets contained concentrated AFFF in 3% and 6% solutions. Sometime between 2005 and 2009, all AFFF storage from Building E5180 was re-located to Building 2308 within the Aberdeen Area of APG.

All firetrucks within the fire station are equipped with AFFF systems, each containing a 30-gallon tank with concentrated AFFF. According to interviews, since the relocation of the 5-gallon buckets, any refilling of tanks or transfer of AFFF occurs at Building 2308. There is currently no AFFF stored within Building E5180, except for the AFFF stored within the firetrucks.

Additionally, during interviews with the ARNG fire chief and fire chief assistant, it was confirmed that AFFF was used one time to test dispensers on cedar trees near building E5180. While exact quantities and concentrations of AFFF used on the trees and timeframe of usage are unknown, several interviewees confirmed AFFF usage at this location.

Previous storage of buckets was undocumented; therefore, exact location of storage within the fire station and timeframe of storage are unknown. Firetrucks at the fire station contain 30-gallon tanks of AFFF; however, whether spills or unintended releases have occurred is unknown. Additionally, interviewees could not confirm whether manual transfer of AFFF from buckets to firetrucks occurred at this building prior to the relocation of all AFFF to Building 2308. Given that the location of all AFFF on the facility was historically located in this building, transfers of AFFF

from buckets to firetrucks likely occurred at this location. Whether spills or unintended releases occurred during these potential transfers is also unknown.

5.3 Building E5005 - Old Edgewood FD Storage Building

Building E5005 was formally used for storage by the Edgewood fire department from the 1970s to the 1990s, although this timeframe is estimated. During this time, the area surrounding the former fire department storage building was regularly used for fire training activities. Interviewees estimated that hundreds to thousands of gallons of concentrated AFFF were released between the 1970s and 1990s. A stormwater system inlet is located approximately 20 feet south by southwest of Building E5005, east of the groundwater divide. While the building no longer exists, known groundwater flow patterns leave the potential for historic AFFF releases to impact soil and groundwater in this area.

5.4 Building E2340 - Chemical Agent Storage Yard (CASY)

The Chemical Agent Storage Yard (CASY) is located within the Bush River Area of APG, several hundred yards east of Weide. Training exercises occurred at the CASY during the 1990s for approximately three to five years. The exercises assumed 10 to 12 victims and would allow for personnel to practice spraying the foam in order to suppress the chemical agent vapors. It was estimated that this type of training occurred annually in the early 1990s, with each event involving the continuous application of AFFF for two to three hours. No AFFF was contained during these events, and the AFFF used was allowed to dissipate onto the surrounding permeable soil. It is unknown which entities participated in trainings at CASY. However, the CASY is east of Weide; therefore, any possible groundwater contamination at this location should not impact Weide AASF.

5.5 G-Street Salvage Yard

G-Street Salvage Yard, a triangle-shaped area of about 15 acres, is located directly across the street from Building E1890, adjacent to the Route 24 main gate, and several hundred yards northwest of Weide AASF (Weston Solutions, 2007). The G-Street Salvage Yard is a previously occupied salvage yard and dump area that contains various wastes, unexploded ordnance, and excavation materials. This site includes Building E5068, a concrete loading dock, a former FTA, and a salvage yard. Salvage yard operations occurred at this site from approximately 1930s through the mid-1960s. Operations were primarily scrap wood and metal recycling, including a smelting operation for lead reclamation. According to Army documents, a fire-training pit was located at the southeast corner of the salvage yard from 1972 until 1978 (USAEC, 2017). A temporary soil cover was placed over a portion of the salvage yard in 1996. Excavation of the site was completed in the spring of 2009. The Remedial Action Completion Report was finalized in July 2009.

A 2017 groundwater sampling event performed for the West Canal Creek RI showed elevated levels of PFOS and PFOA in monitoring wells directly surrounding the G-Street Salvage Yard area. Several monitoring wells, including CC-039A, CCMW46-5, CCMW46-6, CCMW46-8A, and MIP-01 (membrane interface probe), displayed concentrations well above the Environmental Protection Agency established Drinking Water Health Advisories for PFOA and PFOS of 70 parts per trillion (ppt), with MIP-01 displaying a detection for PFOA at 45,300 ppt. However, the G-Street Salvage Yard is west of the groundwater divide, therefore, the contamination in groundwater and surface water at this location should not impact the Weide AASF.

5.6 Landfills

There are six landfills, dumps, and disposal sites in the vicinity of Weide AASF.

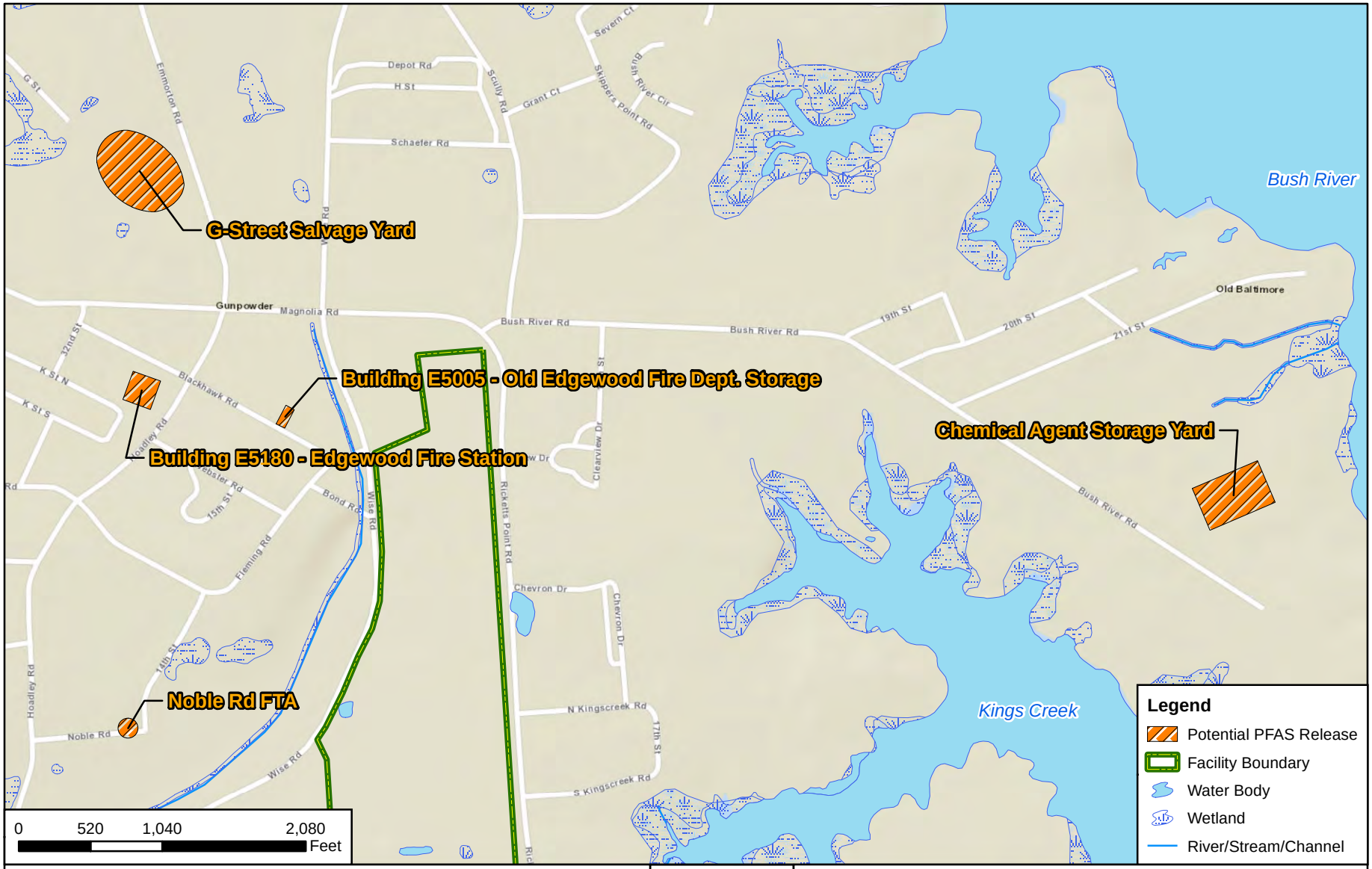
Westwood Rubble Landfill is located off Piney Point Road, approximately 3 miles west of Weide AASF. This landfill was approved for closure in 2007 and has since been capped.

The Building E5103 dump is directly west of the heliport at Weide, near the FTA off Noble Road. This landfill was approved for closure in 1995 and has since been capped.

Old Bush River Road Dump is located northeast of Weide, near Building E1375, approximately 300 feet from the surface waters of Bush River. This dump was approved for closure in 1999 and has since been capped.

The 22nd Road Landfill, the 26th Road disposal site, and the 30th Road Landfill are all located in the immediate vicinity of the CASY. The 22nd Road Landfill is located approximately 500 feet north of the CASY, directly adjacent to Bush River, and is capped. The 26th Street disposal site is located directly south of where fire training activities occurred at the CASY, on the edge of Bush River. The 30th Street Landfill is located approximately 1,000 feet southeast of the CASY, on the edge of Kings Creek.

Landfills are not usually a primary potential release area of PFAS, but materials disposed of in landfills may create a secondary source of contamination. Such materials, to name a few, may include sludge from a WWTP that processes PFAS-laden water, used AFFF storage containers, or products associated with waterproofing uniforms or boots. No information obtained during the PA at Weide indicates PFAS-related materials were disposed of in any nearby landfills.



CLIENT	ARNG			
PROJECT	Preliminary Assessment for PFAS at Weide AASF, MD			
REVISED	8/26/2019	GIS BY	MS	8/26/2019
SCALE	1:12,480	CHK BY	TK	8/26/2019
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap		PM	RG	8/26/2019

N

TITLE

Adjacent Sources

AECOM 12420 Milestone Center Drive Germantown, MD 20876

Figure 5-1

Q:\Projects\ENV\GEARS\GEO\MAES 2012 Unrestricted\Fort Meade\E. Data Management\GIS\MXDs\Chisholm_6th\March2017\ Fig_5-1_Weide_AASF_Adjacent_Sources.mxd

6. Preliminary Conceptual Site Model

Based on the PA findings, the release areas were grouped into two areas of interest (AOIs). AOI 1 and AOI 2 are shown on **Figure 6-1**. The following sections describe the CSM components and the specific preliminary CSM developed for the AOIs. The CSM identifies the three components necessary for a potentially complete exposure pathway: (1) source, (2) pathway, and (3) receptor. If any of these elements are missing, the pathway is considered incomplete.

In general, the potential PFAS exposure pathways are ingestion and inhalation. Human exposure via the dermal contact pathway may occur, and current risk practice suggests it is an insignificant pathway compared to ingestion; however, exposure data for dermal pathways are sparse and continue to be the subject of PFAS toxicological study. Receptors at Weide AASF include site workers, construction workers, residents outside the facility boundary, recreational users, and trespassers. The CSM for the AOIs indicate which specific receptors could potentially be exposed to PFAS. The preliminary CSM for Weide AASF is shown on **Figure 6-2.**

6.1 AOI 1 (Aircraft Maintenance, E4040)

AOI 1 includes the aircraft maintenance building (hangar), which is located at Building E4040. During interviews, several AFFF releases were reported as this AOI, including a full tank release in 1998, and two pipe leaks in approximately 1998 and 2015. In addition, fire training activities that occurred between the 1970s and 1990s at Building E5005, north of AOI 1, resulted in the release of hundreds to thousands of gallons of AFFF. This off-site source is up-gradient of AOI 1 and may contribute to potential PFAS contamination within this AOI.

PFAS are water soluble and can migrate readily from soil to groundwater or surface water via leaching and run-off. Rainfall infiltration recharging groundwater likely follows a shallow flow system that discharges to one of the many surrounding tributaries, supporting water levels. Given the length of time since the AFFF releases, the high average precipitation at the facility and degree of soil permeability, potential PFAS at both AOI 1 and AOI 2 may have migrated from the soil to groundwater and nearby surface water bodies and sediment via infiltration. The close proximity of the facility to water bodies, such as the Gunpowder River, Bush River, and other smaller surrounding tributaries, as well as the shallow depths to groundwater, make this area susceptible to migration of contaminants. Therefore, the ingestion exposure pathways for surface water/sediment is potentially complete for site worker, construction worker, trespassers, and recreational users of the nearby Gunpowder River, Bush River, and its surrounding tributaries.

Precipitation infiltrating AOI 1 and the potential up-gradient source area may cause the migration of PFAS from surface and subsurface soil to groundwater, which is estimated to be 10 to 20 feet bgs (MGS, 2019). All drinking water within Weide AASF is supplied by the Van Bibber WTP, approximately 6 miles north of the facility. While the MGS does not provide data on private drinking water wells, clusters of residential areas are located less than 2 miles north of Weide AASF. However, groundwater flow at Weide AASF is predominately to the southeast, where no private residents or wells are located. Therefore, the potential exposure pathway for groundwater to off-facility residents through domestic drinking water ingestion is incomplete.

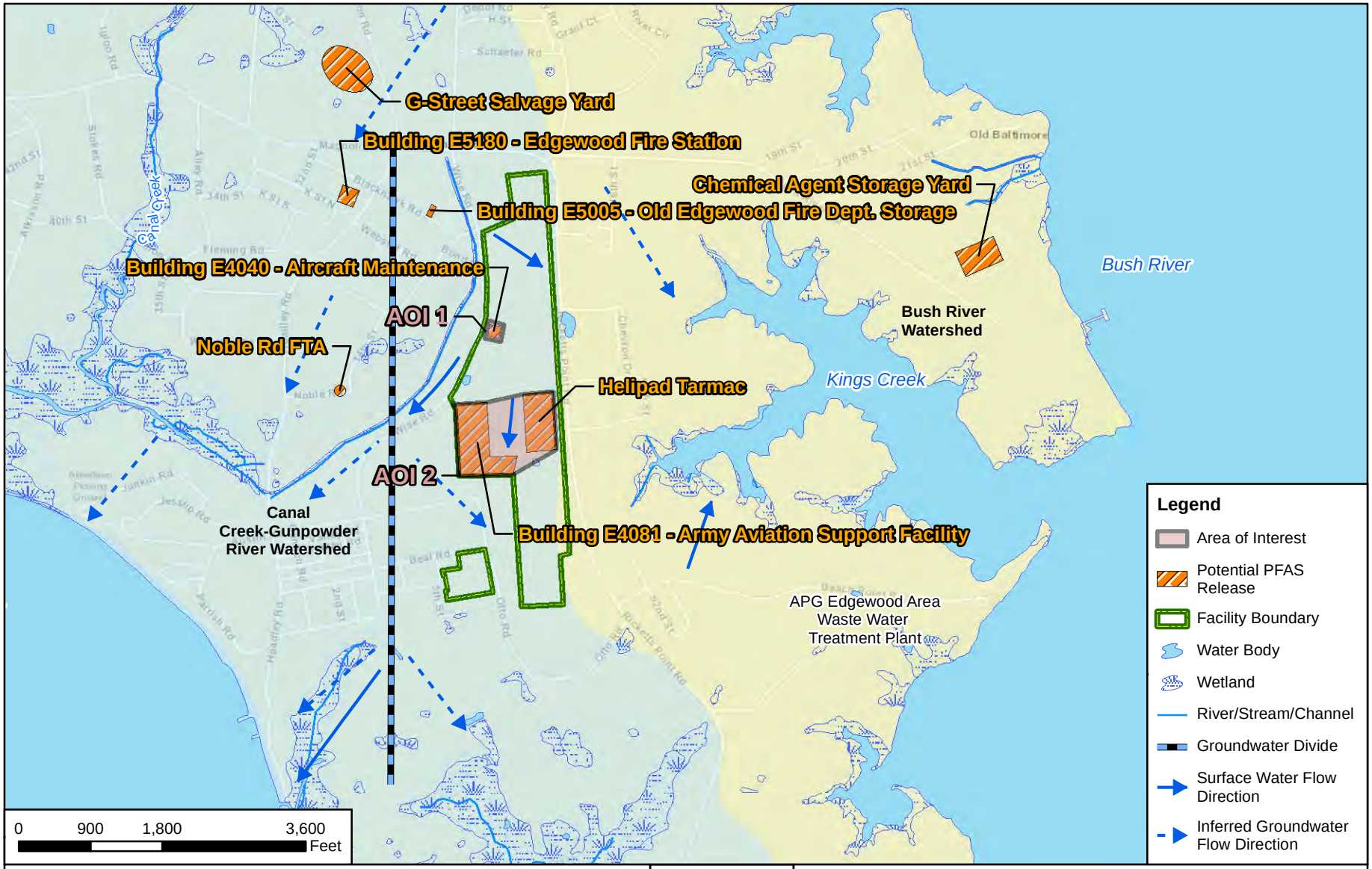
While the groundwater ingestion pathway for Weide AASF is incomplete for off-facility residents, there is a potential for PFAS contamination in soil and subsurface soil to migrate to surface water systems. The full releases and uncontained nature of AFFF releases at this AOI leaves the potential for PFAS to be present in soil surrounding the area. Ground-disturbing activities at this AOI would likely result in site worker, construction worker, and trespasser exposure to potential PFAS contamination via inhalation of dust or ingestion of surface soil. Ground-disturbing activities to subsurface soil would likely result in construction worker exposure. Therefore, the exposure

pathway for inhalation of soil particles and ingestion of soil is potentially complete for these receptors.

6.2 AOI 2 (AASF [E4081] and Tarmac)

During a period from the 1970s until approximately 2012, AFFF was released in several locations surrounding the Weide AASF, including confirmed yearly releases at Building E4081, as well as multiple releases at the heliport tarmac. Based on preliminary data and assumed groundwater and surface water flow directions, these two locations were grouped into one AOI. Thus, AOI 2 comprises both buildings and the space between them.

The full releases and uncontained nature of AFFF releases at these AOIs leaves the potential for PFAS to be present in soil surrounding the area. Ground-disturbing activities at these AOIs would likely result in site worker, construction worker, and trespasser exposure to potential PFAS contamination via inhalation of dust or ingestion of surface soil. Ground-disturbing activities to subsurface soil would likely result in construction worker exposure. Therefore, the exposure pathway for inhalation of soil particles and ingestion of soil is potentially complete for these receptors. Known and potential historic releases and storage of AFFF at this AOI are similar to those found at AOI 1; therefore, the exposure pathways and receptors for these two AOIs are identical.



CLIENT	ARNG			
PROJECT	Preliminary Assessment for PFAS at Weide AASF, MD			
REVISED	8/26/2019	GIS BY	MS	8/26/2019
SCALE	1:21,600	CHK BY	TK	8/26/2019
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap		PM	RG	8/26/2019

N

TITLE

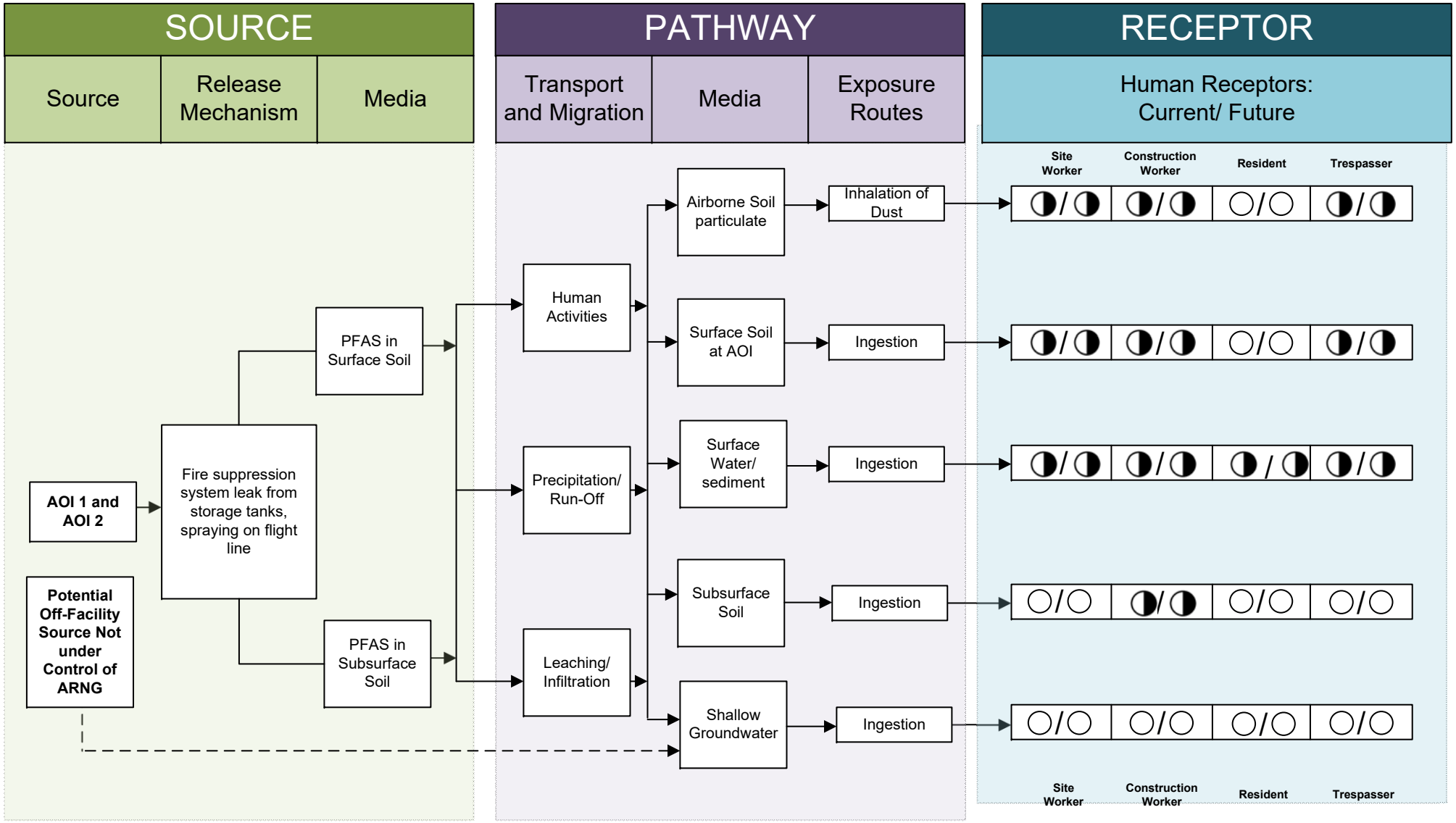
Areas of Interest

AECOM

12420 Milestone Center Drive
Germantown, MD 20876

Figure 6-1

Q:\Projects\ENV\GEARS\GEO\MAES 2012 Unrestricted\Fort Meade\E. Data Management\GIS\MXDs\Chisholm_6th\March2017\ Fig_6-1_Weide_AASF_Area_of_Interests.mxd



LEGEND

- Flow-Chart Stops
- Flow-Chart Continues
- Partial / Possible Flow
- Incomplete Pathway
- Potentially Complete Pathway
- Complete Pathway

Notes:

1. The resident refers to an off-site resident or recreational user.
2. Dermal contact exposure pathway incomplete for PFAS.

Figure 6-2
Conceptual Site Model
Weide AASF, MD

7. Conclusions

This report presents a summary of available information gathered during the PA on the use and storage of AFFF and other PFAS-related activities at Weide AASF. The PA findings are based on the information presented in **Appendix A** and **Appendix B**.

7.1 Findings

Two AOIs related to PFAS releases were identified at Weide AASF based on PA data. **Figure 7-1** presents a summary of PA findings, which are described in **Table 7-1** below.

Table 7-1 AOIs at Weide AASF

Area of Interest	Name	Used by	Potential Release Dates
AOI 1	Aircraft Maintenance (E4040)	MDARNG	1998 and 2015
AOI 2	AASF (E4081) and Tarmac	MDARNG	1970s to Unknown

Based on documented potential AFFF releases at these AOIs, there is potential for exposure to PFAS contamination in surface soil to site workers, construction workers, and trespassers via ingestion and inhalation of dust; subsurface soil to construction workers; and surface water and sediment via ingestion to site workers, construction workers, trespassers, nearby residents, and recreational users. Due to groundwater flow patterns and lack of private or residential drinking water wells down-gradient of the facility, the potential for exposure to PFAS contamination in groundwater is incomplete for all receptors.

7.2 Uncertainties

A number of information sources were investigated during this PA to determine the potential for PFAS-containing materials to have been present, used, or released at the facility. Historically, documentation of PFAS use was not required, as this class of chemicals are considered emerging contaminants. Therefore, records were not typically kept by the facility or available during the PA on the use of PFAS in training, firefighting, or other non-traditional activities, or on its disposition.

The conclusions of this PA are predominantly based on the information provided during interviews with personnel who had direct knowledge of PFAS use at the facility. Sometimes, the provided information was vague or conflicted with other sources. Gathered information has a degree of uncertainty due to the absence of written documentation, the limited number of personnel with direct knowledge due to staffing changes, the time passed since PFAS were first used (1969 to present), and a reliance on personal recollection. Inaccuracies may arise in potential PFAS release locations, dates of release, volume of releases, and the concentration of AFFF used. There is also a possibility the PA has missed a source of PFAS, as the science of how PFAS may enter the environment continually evolves.

In order to minimize the level of uncertainty, readily available data regarding the use and storage of PFAS were reviewed; retired and current personnel were interviewed, including multiple personnel for the same potential source area; and, potential source areas were visually inspected. **Table 7-2** summarizes the uncertainties associated with the PA:

Table 7-2 Uncertainties

Area of Interest	Source of Uncertainty
All AOIs	No or limited information was available on the type, amount, and concentration of AFFF used at the AOI. Interviewees and facility personnel could not confirm the final destination of water and wastewater collected within the floor drains of the hangars.
AOI 1 (Aircraft Maintenance, E4040)	Interviewees recalled a full tank release at AOI 1 in 1998. Additionally, some interviewees recalled a pipe leak the same year, while others recalled a pipe leak both in 1998 and in 2015. Based on the discrepancy, both pipe leaks are included to be conservative.
AOI 2 (Tarmac)	One interviewee recalled spraying of AFFF over helipad tarmac on multiple occasions in the 1970s; however, no other interviewees recalled these potential releases.
AOI 2 (AASF, E4081)	No information was available on when annual testing and full release of the AFFF fire suppression system ceased at the AASF. Interviewee's recall annual releases ceasing around the time of the hangar renovation in 2012; however, exact dates are unknown.

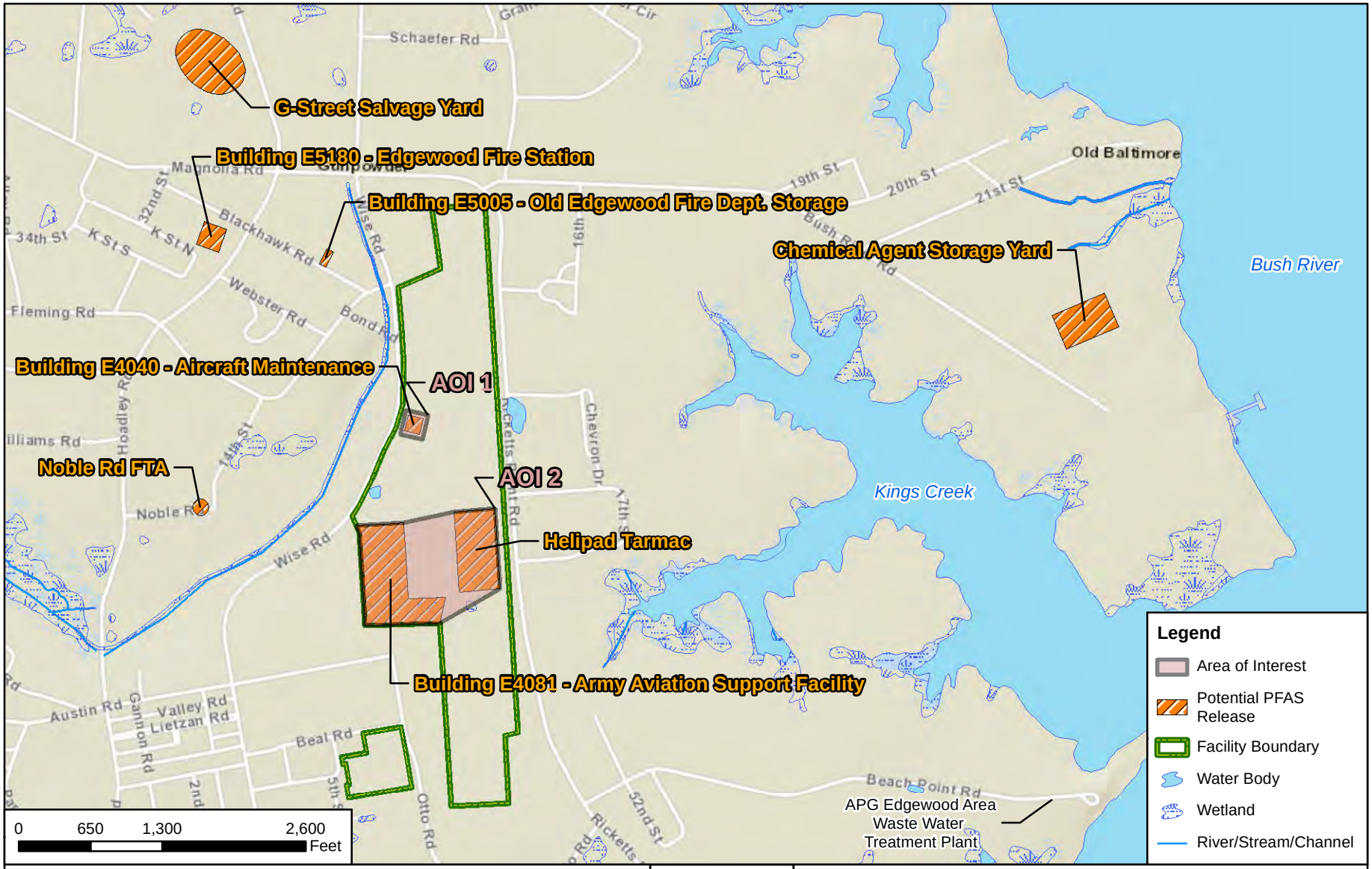
7.3 Potential Future Action

Interviews and records (covering 1970s to present) indicate that current or former ARNG activities may have resulted in potential PFAS releases at the two AOIs identified during the PA. Based on the preliminary CSMs developed for the AOIs, there is potential for receptors to be exposed to PFAS contamination in surface and subsurface soil, sediment, surface water, groundwater, and drinking water at these AOIs. The table below summarizes the rationale used to determine if the AOI should be considered for further investigation under the CERCLA process and undergo an SI.

ARNG will evaluate the need for an SI at Weide AASF based on the potential receptors, the potential migration of PFAS contamination off the facility, and the availability of resources. **Table 7-3** provides the rationale for determining potential future action at Weide AASF.

Table 7-3: Rationale for Potential Future Action

Area of Interest	AOI Location	Rationale	Potential Future Action
AOI 1 (Aircraft Maintenance, E4040)	39°23'42.50"N; 76°17'36.85"W	Known tank release and pipe leak	Proceed to SI, focus on soil, sediment, and surface water
AOI 2 (Tarmac)	39°23'32.19"N; 76°17'28.90"W (Middle of tarmac)	Historic releases of AFFF across tarmac	Proceed to SI, focus on soil, sediment, and surface water
AOI 2 (AASF, E4081)	39°23'28.69"N; 76°17'38.47"W (Middle of AASF)	Annual releases of AFFF fire suppression system	Proceed to SI, focus on soil, sediment, and surface water



CLIENT	ARNG			
PROJECT	Preliminary Assessment for PFAS at Weide AASF, MD			
REVISED	8/26/2019	GIS BY	MS	8/26/2019
SCALE	1:15,600	CHK BY	TK	8/26/2019
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap		PM	RG	8/26/2019

TITLE

Summary of Findings

AECOM
12420 Milestone Center Drive
Germantown, MD 20876

Figure 7-1

Q:\Projects\ENV\GEARS\GEO\MAES 2012 Unrestricted\Fort Meade\E. Data Management\GIS\MXDs\Chisholm_6th\March2017\ Fig_7-1_Weide_AASF_Summary.mxd

8. References

Chesapeake Bay Program (CBP). 2018. Watershed. https://www.chesapeakebay.net/discover/watershed. (Accessed July 2018).

Drummond, D.D. and J.D. Blomquist. 1993. Hydrogeology, Water-Supply Potential, and Water Quality of the Coastal Plain Aquifers of Harford County, Maryland. Report of Investigation, No. 58, Department of Natural Resources, Maryland Geological Survey, Baltimore, Maryland.

Environmental Chemical Corporation (ECC). 2018. Remedial Investigation Report West Canal Creek Study Area – Aberdeen Proving Ground, Maryland.

Maryland Department of Environment (MDE). 2005. Source Water Assessment for U.S. Army Garrison Aberdeen Providing Ground (Edgewood Area) Van Bibber Water Treatment Plant.

Maryland Geological Survey (MGS). 2018. Maryland Geology. http://www.mgs.md.gov/geology/index.html. (Accessed July 2018).

Maryland Geological Survey (MGS). 2019. *Interactive Water-Level Mapper Tool*. http://www.mgs.md.gov/groundwater/water_level_mapper.html. (Accessed August 2019).

National Oceanic and Atmospheric Administration (NOAA), 2018. Climate Data Online. https://www.ncdc.noaa.gov/cdo-web/. (Accessed July 2018).

PARS Environmental, Inc. 2013. Environmental Assessment: U.S. Army Reserve Proposed Military Construction Project Aberdeen Proving Ground Harford County, Maryland.

United States Army Environmental Command (USAEC). 2017. Aberdeen Proving Ground Army Defense Environmental Restoration Program Installation Action Plan.

USEPA, 1991. Guidance for Performing Preliminary Assessments under CERCLA. EPA/540/G-91/013. September 1991.

United States Census Bureau (U.S. Census). 2010. "2010 Census Gazetteer Files". https://www.census.gov/geo/maps-data/data/docs/gazetteer/counties_list_24.txt

Weston Solutions, Inc. 2007. *Canal Creek Study Area: Final Record of Decision for Remedial Action – G-Street Salvage Yard.* Environmental Conservation and Restoration Division, U.S. Army Garrison Aberdeen Proving Ground. September 2007.

Appendix A
Data Resources

Data Resources will be provided separately on CD. Data Resources for Weide AASF includes:

Weide AASF Leases, Licenses, and Permits

- 1977 Department of the Army License for National Guard Purposes. No. DACA-31-3-7T-42
- 2010 Department of the Army US Army Installation Management Command Memorandum for Permission to Relinquish Land from Lauderick Creek Training Area
- 2012 Supplemental Agreement No. 9 to Department of the Army License for National Guard Purposes No, DACA-31-3-7T-42

Weide AASF AFFF Release Documentation

- 2018 Aberdeen Proving Ground PFASs Preliminary Assessment Read-Ahead Package

Previous Investigations Completed at Weide AASF

- 1989 Hydrology of the Canal Creek Area Aberdeen Proving Ground, Maryland, Water-Resources Investigation report 89-4021
- 2005 Source Water Assessment for U.S. Army Garrison Aberdeen Proving Ground (Edgewood Area) Van Bibber Water Treatment Plant
- 2008 Edgewood Area- Aberdeen Proving Ground Five-Year Review
- FY2016 Aberdeen Proving Ground Army Defense Environmental Restoration Program Installation Action Plan
- 2016 Canal Creek Aquifer Analytical Data
- 2017 Integrated National Resources Management Plan U.S. Army Aberdeen Proving Ground

Weide AASF As-Builts, Drawings, and Plans

- 1989 Building 5014 As-Builts
- 2013 Building E4081 As-Builts

Weide AASF Installation Maps

- 1982-2011 Aerial Photos
- 2008 Canal Creek Aquifer Contaminant Maps
- 2012 Canal Creek Aquifer Groundwater Contour Map
- 2018 Arcadis USAEC PFAS Preliminary Assessments Buildings Map
- 2018 Weide Heliport Installation Map

Weide AASF EDR Report

- 2018 Weide AASF EDR Report

Appendix B
Preliminary Assessment Documentation

Appendix B.1
Interview Records

PA Interview Questionnaire - Environmental Manager

Facility: Weide Field, APG, MD
Interviewer: [redacted]
Date/Time: 0815 hrs

Interviewee: See #1 Below for list **Title:** **Phone Number:** **Email:**	Can your name/role be used in the PA Report? Y or N Can you recommend anyone we can interview? (Y) or N 2-3 maintenance personnel (retired)

1. Roles or activities with the Facility/years working at the Facility.
   1. MAJ [redacted] - Deputy CFMO Plans + Program Branch Chief [redacted]
   2. Lt. [redacted] - [redacted] (1 year)
   3. Chief [redacted] - [redacted] cell

2. Where can I find previous facility ownership information?
   pre 1960 small helicopter operations, before 1970 Army Chemical Center
   1947 Army Air Corps
   1960 Army National Gaurd
   AA has Phillips Airfield its a bigger airport

3. What can you tell us about the history of PFAS including aqueous film forming foam (AFFF) at the Facility? Was it used for any of the following activities, circle all that apply and indicate years of active use, if known? Identify these locations on a facility map.

   Maintenance
   (Fire Training Areas) not on airfield because of chemical sensitivity around this area
   Firefighting (Active Fire)
   Crash - no use of AFFF for incidents
   Fire Suppression Systems (Hangers/Dining Facilities)
   Fire Protection at Fueling Stations
   Non-Technical/Recreational/ Pest Management
   Metals Plating Facility
   Waterproofing Uniforms (Laundry Facilities)
   Other

   Gamson is sensitive to the surrounding communities and would have been discouraged from setting fires.

4. Fill out CSM Information worksheet with the Environmental Manager.

5. Are any current buildings constructed with AFFF dispensing systems or fire suppression systems? YES
   What are the AFFF/suppression system test requirements? What is the frequency of testing the AFFF/suppression system? Do you have "As Built" drawings for the buildings?

   - Testing in late 70s, 80s or 90s included completely discharging AFFF suppression system foam was 12' high in hangar captured in floor drains not sure where it goes. This occurred once a year, CFMO coordinated and funded

   MAJ [redacted] should have as builts of the facilities and will provide

PA Interview Questionnaire - Environmental Manager

Facility: Weide AASF
Interviewer: [redacted]
Date/Time: 5/22/18

6. Are fire suppression systems currently charged with AFFF or have they been retrofitted for use of high expansion foam? If retrofitted, when was that done?

Yes — Army National Guard moved to Weide Field in 1960
E4040 was the old hangar originally no AFFF
1977 construction of new hangar E4081 where AFFF installed
continual testing of AFFF (1x a year) full release/drain of AFFF
Bldg E4040 (OLD FLYING CLUB) was renovated in the late 1990s (1998) w/ 400 gallon AFFF tank
2012 renovation of E4081 expansion of aviation hanger space. 96,000 sqft maintenance area

also apron has replaced

7. How is AFFF procured? Do you have an inventory/procurement system that tracks use?

MAJ [redacted] / Lt. [redacted] will check if records exist

8. What type of AFFF has been/is being used (3%, 6%, Mil Spec Mil-F-24385, High Expansion)? Manufacturer (3M, Dupont, Ansul, National Foam, Angus, Chemguard, Buckeye, Fire Service Plus)?

All types of foam have been used, [redacted] remembers varying sizes of fire extinguishers. Halons, skinny cylindrical containers

9. Where is the AFFF stored? How is it stored (tanks, 55-gallon drums, 5-gallon buckets)? What size are the storage tanks? Is the AFFF stored as a mixed solution (3% or 6%) or concentrated material?

In tanks at hangar at (E4040 400 gal) and (E4081 900 gal)

Climate controlled rooms

10. How many FTAs are/were on this facility and where are they? Locate on a map. How many FTAs are active and inactive? For inactive FTAs, when was the last time that fire training using AFFF was conducted at them?

One Fire Training Area located on Noble Road (inactive)

Last used early 2000s

PA Interview Questionnaire - Environmental Manager

Facility: Weide AASF
Interviewer: [redacted]
Date/Time: 5/22/18

11. When a release of AFFF occurs during a fire training exercise, now and in the past, how is the AFFF cleaned and disposed of? Were retention ponds built to store discharged AFFF? Was the AFFF trickled to the sanitary sewer or left in the pond to infiltrate?

12. Can you recall specific times when city, county, and/or state personnel came on-post for training? If so, please state which state/county agency or military entity? Do you have any records, including photographs to share with us?

13. Did military routinely or occasionally fire train off-post? List the units that you can recall used/trained at various areas.

not that they are aware of

14. Did individual units come with their own safety personnel, did they also bring their own AFFF? Was training with AFFF part of these exercises? How were emergencies handled under these circumstances?

15. Are there specific emergency response incident reports (i.e., aircraft or vehicle crash sites and fires)? If so, may we please copy these reports? Who (entity) was the responder?

no vehicle crash sites or fires they are aware of

[redacted] remembers a pipe leak at E4040 3 years ago of AFFF before there was heating in that room

[redacted] - fire chief remembers another leak at E4040 but in 1998.

PA Interview Questionnaire - Environmental Manager

Facility: Weide AASF
Interviewer: [redacted]
Date/Time: 5/22/18

16. Do you have records of fuel spill logs? Was it common practice to wash away fuel spills with AFFF? Is/was AFFF used as a precaution in response to fuel releases or emergency runway landings to prevent fires? If more than 5gallons of fuel is spilled they call APG Fire Departm
less than 5gallons they use absorbent materials + booms
No records, did not use AFFF for fuel spills to their knowledge

Runway fires were not common place because of nature of APG + chemical laboratories nearby

17. Was AFFF used for forest fires or fire management on-post/off-post? If so, please describe what happened and who was involved?

not aware

18. Are there mutual aid/use agreements between county, city, and local fire department? Please list, even if informal. If formalized, may we have a copy of the agreement?

U of MD Fire Rescue Training Unit - Cluster 13
no AFFF used for training @ Weide Field

19. Can you provide any other locations where AFFF has been stored, released, or used (i.e. hangars, buildings, fire stations, firefighting equipment testing and maintenance areas, emergency response sites, storm water/surface water, waste treatment plants, and AFFF ponds)?

AFFF Stored at Aberdeen Area Phillips Airfield

20. Are you aware of any other creative uses of AFFF? If so, how was AFFF used? What entities were involved?

A Interview Questionnaire - Environmental Manager

Facility: Weide AASF
Interviewer: [redacted]
Date/Time: 5/22/18

21. Are there past studies you are aware of with environmental information on plants/animals/ groundwater/soil types, etc., such as Integrated Cultural Resources Management Plans or Integrated Natural Resources Management Plans?

22. What other records might be helpful to us (environmental compliance, investigation records, admin record) and where can we find them?

23. Do you have or did you have a chrome plating shop on base? What were/are the years of operation of that chrome plating shop?

24. Do you know whether the shop has/had a foam blanket mist suppression system or used a fume hood for emissions control? If foam blanket mist suppression was used, where was the foam stored, mixed, applied, etc.?

25. How is off-spec AFFF disposed (used for training, turned in, or given to a local Fire Station)? If applicable, do you know the name of the vendor that removes off-spec AFFF? Do you have copies of the manifest or B/L?

PA Interview Questionnaire - Environmental Manager

Facility: Weida AASF
Interviewer: [redacted]
Date/Time: 5/22/18

26. Do you recommend anyone else we can interview? If so, do you have contact information for them?

Yes - 2-3 retired maintenance workers of the hangars

CW2 [redacted] will get me contact information after he makes 1st contact with them. They are in thier 80s and not the best health.

Weide Field

PA Interview Questionnaire – Fire Station

Facility: APG, MD [redacted]
Interviewer: [redacted]
Date/Time: 5/22 0830 hrs

Interviewee: [redacted]
Title: Fire Chief + Assistant Fire Chief
Phone Number: [redacted]
Email: [redacted]

Can your name/role be used in the PA Report? (Y) or N
Can you recommend anyone we can interview?
(Y) or N [redacted] - DSHE Safety

1. Roles or activities with the Facility/years working at the Facility.

[redacted] started working at APG 1990
started working at APG 2014

2. What can you tell us about the history of AFFF at the Facility? Was it used for any of the following activities, circle all that apply and indicate years of active use, if known? Identify these locations on a facility map.

Maintenance (e.g., ramp washing)
(Fire Training Areas) once a week training or at least 2x a month prior to early 2000s
Firefighting (Active Fire)
Crash
Fire Suppression Systems (Hangers/Dining Facilities)
Fire Protection at Fueling Stations
Non-Technical/Recreational/ Pest Management (year unknown)
Near Firestation E5180 used AFFF on cedar trees (killed them)

3. Are any current buildings constructed with AFFF dispensing systems or fire suppression systems? YES
What are the AFFF/suppression system test requirements? What is the frequency of testing at the AFFF/suppression systems?

AFFF at E4040
E4081

4. Are fire suppression systems currently charged with AFFF or have they been retrofitted for use of high expansion foam? YES

Remember a leak at the old flying club (E4040) when a tank of concentrate AFFF leaked over a weekend. Drained the entire tank (late 1990s)
No annual test to check tanks then, they just checked for safety.
Unaware of incident report documentation or reports on safety checks.

5. How is AFFF procured? Do you have an inventory/procurement system that tracks use?

Will get that information for us and it will be sent to [redacted] (Arcadis) technical PFAS expert

PA Interview Questionnaire – Fire Station

Facility: Weide Field
Interviewer: [redacted]
Date/Time: 5/22/18

6. What type of AFFF has been/is being used (3%, 6%, Mil Spec Mil-F-24385, High Expansion)? Manufacturer (3M, Dupont, Ansul, National Foam, Angus, Chemguard, Buckeye, Fire Service Plus)?

7. Is AFFF formulated on base? If so, where is the solution mixed, contained, transferred, etc.?

Stored in climate controlled rooms

Mixed on the truck w/ aerator nozzle

8. Where is the AFFF stored? How is it stored (tanks, 55-gallon drums, 5-gallon buckets)? What size are the storage tanks? Is the AFFF stored as a mixed solution (3% or 6%) or concentrated material?

Used to store AFFF in 5gal pails until at E5005 had to move out of Bldg because of WP smoking in area 2005

AFFF is Stored in Aberdeen area of APG BLDG. 2308 in 5gallon buckets for manually adding it to Fire Trucks

No designated mixing area. Also Stored on foam trailers at APG (AA)

9. How is the AFFF transferred to emergency response vehicles, suppression systems, flightline extinguishers? Is/was there a specified area on the facility where vehicles are filled with AFFF and does this area have secondary containment in case of spills? How and where are vehicles storing AFFF cleaned/decontaminated?

NO

10. Provide a list of vehicles that carried AFFF, now and in the past, and where are/were they located?

AFFF is on all Fire Trucks in 30 gallon tanks on the trucks

300 gallons at the ARFF - Airport Rescue Fire Fighting

11. Any vehicles have a history of leaking AFFF? Do you/did you test the vehicles spray patterns to make sure equipment is working properly? How often are/were these spray tests performed and can you provide the locations of these tests, now and in the past?

NO

used AFFF at FTA on Noble Road near horse stables

possible training could have occured on Apron but did not burn on airfield.

PA Interview Questionnaire – Fire Station

Facility: Wide AASF
Interviewer: [redacted]
Date/Time: _____

12. How many FTAs are/were on this facility and where are they? Locate on a map. How many FTAs are active and inactive? For inactive FTAs, when was the last time that fire training using AFFF was conducted at them?

One FTA on Noble Road inactive now
was used before 1990s when he started working at APG
Stopped using in early 2000s
now they use UMD Fire Rescue Training Site (MIFRS) @ Cluster 13 Landuck Creek

13. What types of fuels/flammables were used at the FTAs?

Anything + everything

14. What was the frequency of AFFF use at each location? When a release of AFFF occurs during a fire training exercise, now and in the past, how is/was the AFFF cleaned and disposed of? Were retention ponds built to store discharged AFFF? Was the AFFF trickled to the sanitary sewer or left in the pond to infiltrate?

up to once a week in good weather

15. Are there mutual aid/use agreements between county, city, local fire department? Please list, even if informal. If formalized, may we have a copy of the agreement? Can you recall specific times when city, county, state personnel came on-post for training? If so, please state which state/county agency, military entity? Do you have any records, including photographs to share with us?

MD Fire Rescue Training Insititute - moved facility to Cluster 13 Landuck Creek

16. Did individual units come on-post with their own safety personnel, did they also bring their own AFFF? Was training with AFFF part of these exercises? How were emergencies handled under these circumstances?

PA Interview Questionnaire – Fire Station

Facility:_____
Interviewer:_____
Date/Time:_____

17. Did military routinely or occasionally fire train off-post? List units that you can recall used/trained at various areas.

No

18. Are there specific emergency response incident reports (i.e., aircraft or vehicle crash sites and fires)? If so, may we please copy these reports? Who (entity) was the responder?

no crashes
training never occured on runway, as it was discouraged to have fires so close to ECBC laboratories

19. Do you have records of fuel spill logs? Was it common practice to wash away fuel spills with AFFF? Is/was AFFF used as a precaution in response to fuel releases or emergency runway landings to prevent fires?

No, occasionally AFFF was sprayed on small fuel/oil spills but it was not commm practice, adsorbent mat'l & booms were used.

20. Was AFFF used for forest fires or fire management on-post/off-post? If so, please describe what happened and who was involved? Not used for forrest fires but was used on post in a training exersise at the CASY. Yard (Chemical Agent Storage Yard) in the Bush River Area. The training exercise assumed 10-12 victims in the CASY. They would spray foam to suppress potential chemical agent vapors. 3-5 year period in the 1990s. Each exercise would be approx 2-3 hours. continuous application of AFFF.

21. Can you provide any other locations where AFFF has been stored, released, or used (i.e. hangars, buildings, fire stations, firefighting equipment testing and maintenance areas, emergency response sites, storm water/surface water, waste water treatment plants, and AFFF ponds)?

See Q #8

PA Interview Questionnaire – Fire Station

Facility:_____
Interviewer:_____
Date/Time:_____

22. Are you aware of any other creative uses of AFFF? If so, how was AFFF used? What entities were involved?

See Q#2 Sprayed on cedar trees

23. How is off-spec AFFF disposed (used for training, turned in, or given to a local Fire Station)? If applicable, do you know the name of the vendor that removes off-spec AFFF? Do you have copies of the manifest or B/L?

24. Do you recommend anyone else we can interview? If so, do you have contact information for them?

[redacted] DSHE-Safety retired

Weide AASF - APG

PA Interview Questionnaire - Other

Facility: MFRI
Interviewer: [redacted]
Date/Time: 5/22/18 11:35am

Interviewee: Mr. [redacted] **Title:** NERTC Coordinator **Phone Number:** [redacted] **Email:** [redacted]	Can your name/role be used in the PA Report? Y or N Can you recommend anyone we can interview? Y or N

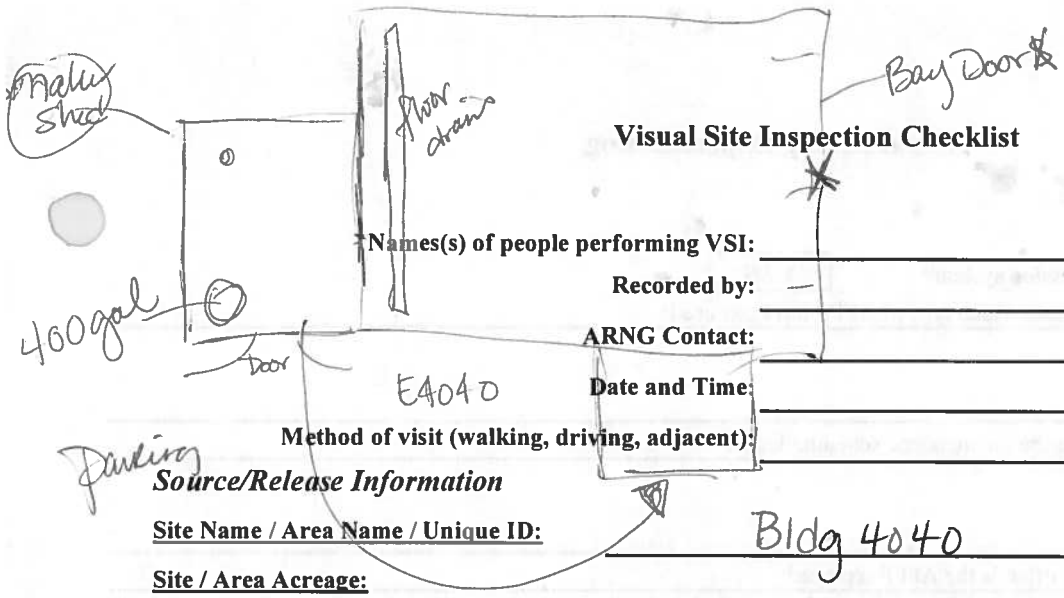
Roles or activities with the Facility/Years working at the Facility:

(MFRI) Maryland Fire and Rescue Institute - 41 acre parcel that was previously owned by ANG relinquished 3Mar2010
The North East Regional Training Center (NERTC) Region 3 is located 9258 Lauderick Creek Road, Edgewood Area, Gunpowder, MD

PFAS Use: Identify accidental/intentional release locations, time frame of release, frequency of releases, storage container size (maintenance, fire training, firefighting, buildings with suppression systems (as builts), fueling stations, crash sites, pest management, recreational, dining facilities, metals plating, or waterproofing). How are materials ordered/purchased/disposed/shared with others?

	Known Uses
No foam (AFFF) products are used at the Maryland Fire and Rescue Institute (MFRI)	Use
	Procurement
	Disposition
Facility in use @ 2011 only use water prior to 2011 training occured at Phillips Airfield (Aberden Area)	Storage (Mixed)
	Storage (Solution)
	Inventory, Off-Spec
	Containment
Concerned that "EPA ~~will~~ is trying to sue us for residual foam products in the ground" (soil)	SOP on Filling
	Leaking Vehicles
	Nozzle and Suppression System Testing
	Dining Facilities
	Vehicle Washing
	Ramp Washing
	Fuel Spill Washing and Fueling Stations
	Chrome Plating or Waterproofing

Appendix B.2
Visual Site Inspection Checklists



Visual Site Inspection Checklist

Names(s) of people performing VSI:

Recorded by:

ARNG Contact:

Date and Time:

Method of visit (walking, driving, adjacent):

Source/Release Information

Site Name / Area Name / Unique ID: Bldg 4040 400 gal tank AFFF water pipe leak

Site / Area Acreage:

Historic Site Use (Brief Description):

Current Site Use (Brief Description):

Physical barriers or access restrictions:

1. Was PFAS used (or spilled) at the site/area? **Y / N**

1a. If yes, document how PFAS was used and usage time (e.g., fire fighting training 2001 to 2014):

2. Has usage been documented? **Y / N**

2a. If yes, keep a record (place electronic files on a disk):

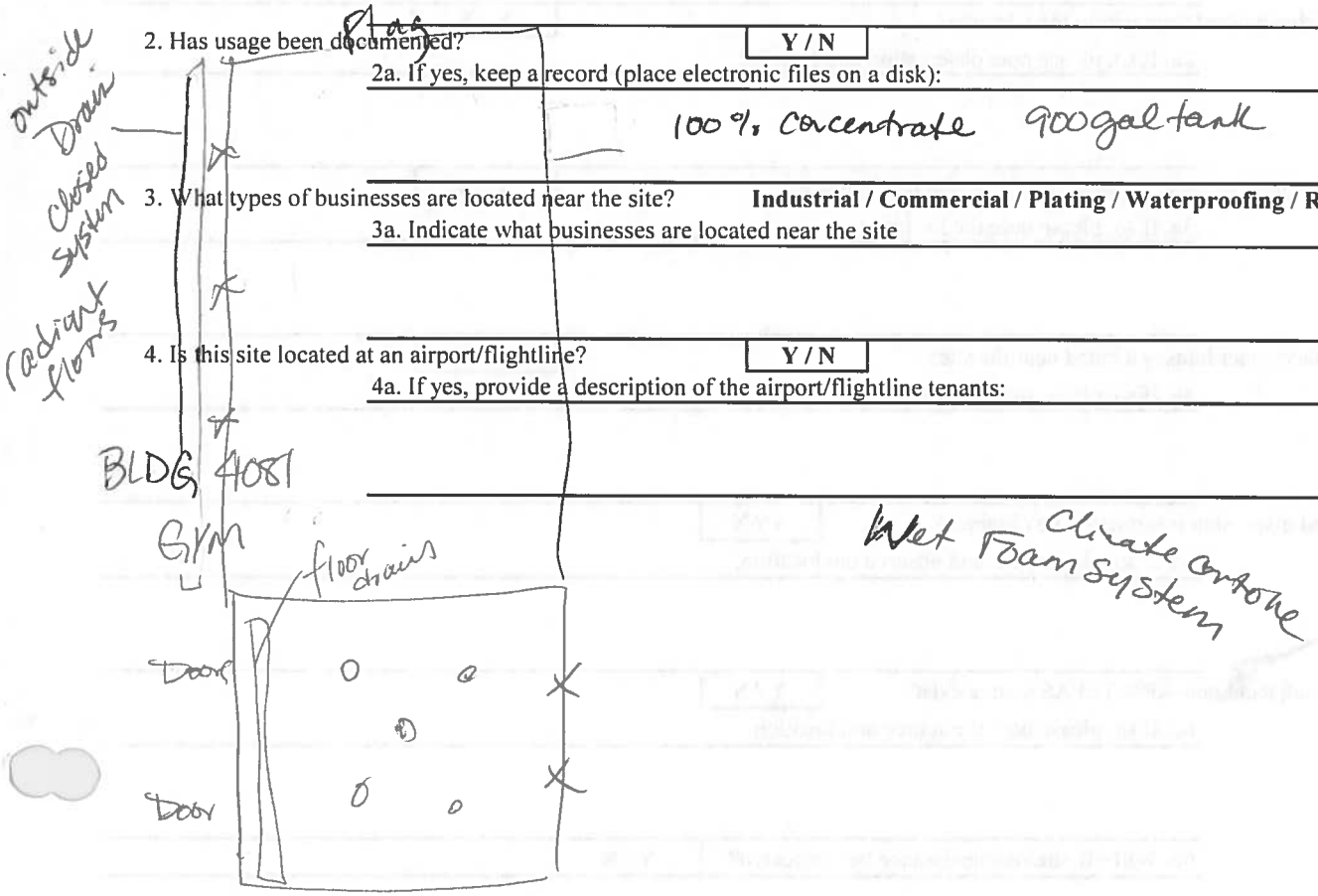
100% Concentrate 900gal tank

3. What types of businesses are located near the site? **Industrial / Commercial / Plating / Waterproofing / Residential**

3a. Indicate what businesses are located near the site

4. Is this site located at an airport/flightline? **Y / N**

4a. If yes, provide a description of the airport/flightline tenants:



[redacted] Arcadis

[redacted] U. of MD

Contact said Stopped using AFFF 1995

Visual Survey Inspection Log

Other Significant Site Features:

1. Does the facility have a fire suppression system? Y / N

1a. If yes, indicate which type of AFFF has been used:

1b. If yes, describe maintenance schedule/leaks:

1c. If yes, how often is the AFFF replaced:

1d. If yes, does the facility have floor drains and where do they lead? Can we obtain an as built drawing?

(Joint border seemed to hide

will interview later

Transport / Pathway Information

Migration Potential:

1. Does site/area drainage flow off installation? Y / N

1a. If so, note observation and location:

2. Is there channelized flow within the site/area? Y / N

2a. If so, please note observation and location:

3. Are monitoring or drinking water wells located near the site? Y / N

3a. If so, please note the location:

4. Are surface water intakes located near the site? Y / N

4a. If so, please note the location:

5. Can wind dispersion information be obtained? Y / N

5a. If so, please note and observe the location.

6. Does an adjacent non-ARNG PFAS source exist? Y / N

6a. If so, please note the source and location.

6b. Will off-site reconnaissance be conducted? Y / N

Visual Survey Inspection Log

Significant Topographical Features:

1. Has the infrastructure changed at the site/area? **Y / N**

1a. If so, please describe change (ex. Structures no longer exist):

2. Is the site/area vegetated? **Y / N**

2a. If not vegetated, briefly describe the site/area composition:

3. Does the site or area exhibit evidence of erosion? **Y / N**

3a. If yes, describe the location and extent of the erosion:

4. Does the site/area exhibit any areas of ponding or standing water? **Y / N**

4a. If yes, describe the location and extent of the ponding:

Receptor Information

1. Is access to the site restricted? **Y / N**

1a. If so, please note to what extent:

2. Who can access the site? **Site Workers / Construction Workers / Trespassers / Residential / Recreational Users / Ecological**

2a. Circle all that apply, note any not covered above:

3. Are residential areas located near the site? **Y / N**

3a. If so, please note the location/distance:

4. Are any schools/day care centers located near the site? **Y / N**

4a. If so, please note the location/distance/type:

5. Are any wetlands located near the site? **Y / N**

5a. If so, please note the location/distance/type:

Visual Survey Inspection Log

Additional Notes

Photographic Log

Photo ID/Name	Date & Location	Photograph Description

east branch Cabal creek E5 248

Beenused more stopped approx 2000

Solid concrete floors
Chief Jones 1990s
Knew [redacted]

Visual Site Inspection Checklist

TWP Plant

Names(s) of people performing VSI: [redacted] get a hold of

Recorded by:

Road

ARNG Contact:

Date and Time:

Method of visit (walking, driving, adjacent):

Source/Release Information

Site Name / Area Name / Unique ID:

Site / Area Acreage:

Historic Site Use (Brief Description):

Current Site Use (Brief Description):

Physical barriers or access restrictions:

1. Was PFAS used (or spilled) at the site/area? **Y / N**

   1a. If yes, document how PFAS was used and usage time (e.g., fire fighting training 2001 to 2014):

2. Has usage been documented? **Y / N**

   2a. If yes, keep a record (place electronic files on a disk):

3. What types of businesses are located near the site? **Industrial / Commercial / Plating / Waterproofing / Residential**

   3a. Indicate what businesses are located near the site

4. Is this site located at an airport/flightline? **Y / N**

   4a. If yes, provide a description of the airport/flightline tenants:

% concentration testing up concentration on on the fire trucks
foam adequate ~~ration~~

only burn facility @ aberdeen at the time

doused w/ fuel pallets

Continue practice

frequency 2x month

old Boiler Plant Bldg
early 1990s

High X foam
Protien foams
Come out like a really fine cal

Visual Survey Inspection Log

Other Significant Site Features:

1. Does the facility have a fire suppression system? Y / N

1a. If yes, indicate which type of AFFF has been used:

1b. If yes, describe maintenance schedule/leaks:

1c. If yes, how often is the AFFF replaced:

1d. If yes, does the facility have floor drains and where do they lead? Can we obtain an as built drawing?

Transport / Pathway Information

Migration Potential:

1. Does site/area drainage flow off installation? Y / N

1a. If so, note observation and location:

2. Is there channelized flow within the site/area? Y / N

2a. If so, please note observation and location:

3. Are monitoring or drinking water wells located near the site? Y / N

3a. If so, please note the location:

4. Are surface water intakes located near the site? Y / N

4a. If so, please note the location:

5. Can wind dispersion information be obtained? Y / N

5a. If so, please note and observe the location.

6. Does an adjacent non-ARNG PFAS source exist? Y / N

6a. If so, please note the source and location.

6b. Will off-site reconnaissance be conducted? Y / N

Visual Survey Inspection Log

Significant Topographical Features:

1. Has the infrastructure changed at the site/area? **Y / N**

1a. If so, please describe change (ex. Structures no longer exist):

2. Is the site/area vegetated? **Y / N**

2a. If not vegetated, briefly describe the site/area composition:

3. Does the site or area exhibit evidence of erosion? **Y / N**

3a. If yes, describe the location and extent of the erosion:

4. Does the site/area exhibit any areas of ponding or standing water? **Y / N**

4a. If yes, describe the location and extent of the ponding:

Receptor Information

1. Is access to the site restricted? **Y / N**

1a. If so, please note to what extent:

2. Who can access the site? **Site Workers / Construction Workers / Trespassers / Residential / Recreational Users / Ecological**

2a. Circle all that apply, note any not covered above:

3. Are residential areas located near the site? **Y / N**

3a. If so, please note the location/distance:

4. Are any schools/day care centers located near the site? **Y / N**

4a. If so, please note the location/distance/type:

5. Are any wetlands located near the site? **Y / N**

5a. If so, please note the location/distance/type:

Visual Survey Inspection Log

Additional Notes

Photographic Log

Photo ID/Name	Date & Location	Photograph Description

Appendix B.3
Conceptual Site Model Information

Preliminary Assessment – Conceptual Site Model Information

Site Name: Weide AASF

Why has this location been identified as a site?

Interviews indicated AFFF used at two hangar areas (annual testing of fire suppression system in the late 1970s, AFFF tank leak, pipe leaks, AFFF use on helipad tarmac in 1970s)

Are there any other activities nearby that could also impact this location?

Yes, the site is surrounded by Aberdeen Proving Ground where there are multiple landfills, an off-site fire training area, and the G-street Salvage Yard (PFAS detected in groundwater) and the Chemical Agent Storage Yard where AFFF was used for training exercises for chemical gas vapor suppression

Training Events

Have any training events with AFFF occurred at this site? – *Yes, interviewee identified AFFF at the heliport tarmac*

If so, how often? – *several occasions in the 1970s*

How much material was used? Is it documented? – *Unknown, not documented*

Identify Potential Pathways: Do we have enough information to fully understand over land surface water flow, groundwater flow, and geological formations on and around the facility? Any direct pathways to larger water bodies?

Surface Water:

Surface water flow direction? *Surface water on the east of facility drains to the Bush River, and surface water on the west drains to the Gunpowder River. Both rivers drain to the Chesapeake Bay*

Average rainfall? *44 inches rain annually – 18 inches snow*

Any flooding during rainy season? *No, localized ponding during snow melt due to permafrost*

Direct or indirect pathway to ditches? *none*

Direct or indirect pathway to larger bodies of water? *Infiltration to groundwater, shallow groundwater flows towards nearest surface water features (i.e., Bush River and Gunpowder River)*

Does surface water pond any place on site? *No*

Any impoundment areas or retention ponds? *Yes, catch basins transfer stormwater to retention ponds located on either side of the E4081hangar.*

Any NPDES location points near the site? *unknown*

How does surface water drain on and around the flight line? *Storm water drains off of runways and infiltrates into soil surrounding.*

Preliminary Assessment – Conceptual Site Model Information

Groundwater:

Groundwater flow direction? *South to southwest*

Depth to groundwater? *Average depth to groundwater generally ranges from 10-20 feet bgs.*

Uses (agricultural, drinking water, irrigation)?

Any groundwater treatment systems? *Yes, on APG not on Weide AASF*

Any groundwater monitoring well locations near the site? *Yes, APG groundwater is heavily studied under Installation Restoration Program*

Is groundwater used for drinking water? *No, Van Bibber Water Treatment Plant receives water from Winters Run (6 miles north of Weide Field)*

Are there drinking water supply wells on installation? *No*

Do they serve off-post populations? *No*

Are there off-post drinking water wells downgradient? *No*

Waste Water Treatment Plant:

Has the installation ever had a WWTP, past or present? *Yes southeast of Weide Field*

If so, do we understand the process and which water is/was treated at the plant? *unknown*

Do we understand the fate of sludge waste? *unknown*

Is surface water from potential contaminated sites treated? *unknown*

Equipment Rinse Water

1. Is firefighting equipment washed? Where does the rinse water go?
unknown

2. Are nozzles tested? How often are nozzles tested? Where are nozzles tested? Are nozzles cleaned after use? Where does the rinse water flow after cleaning nozzles?
unknown

3. Other?

Preliminary Assessment – Conceptual Site Model Information

Identify Potential Receptors:

Site Worker

Construction Worker

Trespasser

Residential

Child

Ecological

Note what is located near by the site (e.g. daycare, schools, hospitals, churches, agricultural, livestock)?

Weide AASF is surrounded on all sides by military use (Aberdeen Proving Ground-Edgewood Area).

Documentation

Ask for Engineering drawings (if applicable). *Engineering drawings of E4081 expansion obtained*

Has there been a reconstruction or changes to the drainage system? When did that occur?

Appendix C
Photographic Log

APPENDIX C – Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Weide Army Heliport	Gunpowder, Maryland

Photograph No. 1

Description:

A 400-gallon tank containing concentrated AFFF within Building E4040.

Photograph No. 2

Description:

Floor drains located along the inside perimeter of the hangar at Building E4040. Floor drains are located throughout the inside of the hangar as well as outside the bay doors. Floor drains within Weide AASF are part of closed system; however, interviewees could not confirm the final destination of wastewater collected within the floor drains of the hangars.

APPENDIX C – Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Weide AASF	Gunpowder, Maryland

Photograph No. 3

Description:

Looking southwest. Closed bay doors located outside of Building E4040.

Photograph No. 4

Description:

Looking south. Closed bay doors from Building E4040 directly to the right. Arrow in picture indicates location of Building E4081, the other hangar within Weide Army Heliport.

APPENDIX C – Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Weide AASF	Gunpowder, Maryland

Photograph No. 5

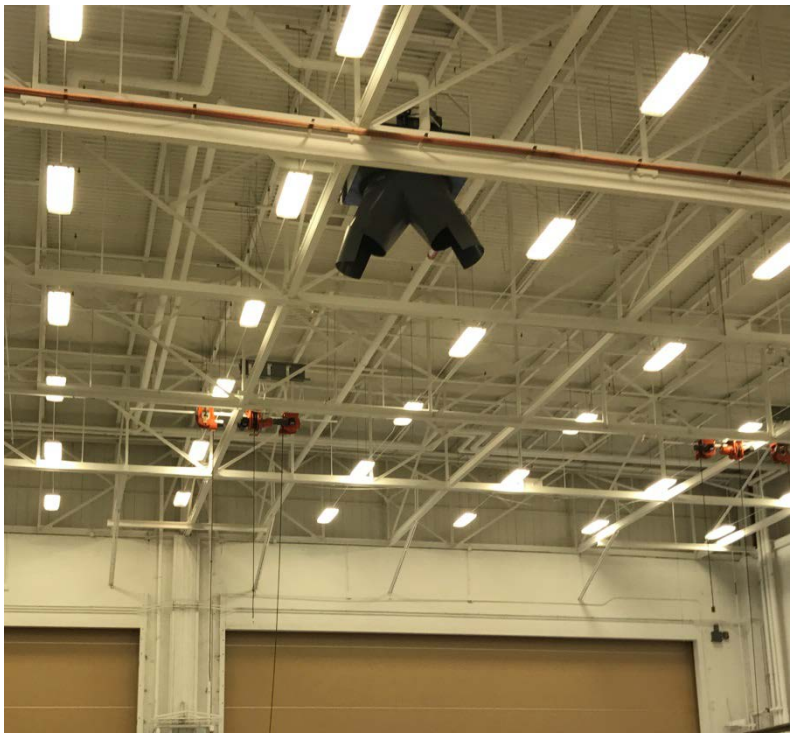
Description:

Just inside bay doors of Building E4081. Floor drains located along the inside perimeter of the hangar at Building E4081. Floor drains are located throughout the inside of the hangar as well as outside the bay doors. Any stormwater within the perimeter of the Weide AASF is captured in catch basins that are then transferred to stormwater retention ponds located on either side of the hangar located at Building E4081. Floor drains within Weide AASF are part of closed system; however, interviewees could not confirm the final destination of wastewater collected within the floor drains of the hangars.

Photograph No. 6

Description:

Fire suppression system within Building E4081. Interconnected pipes in the ceiling contain concentrated AFFF which originates from a 900-gallon holding tank in a climate controlled room.



APPENDIX C – Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Weide AASF	Gunpowder, Maryland

Photograph No. 7

Description:

Fire Tanks (tall maroon tanks) and fuel tanks outside E4081.

Photograph No. 8

Description:

900-gallon holding tank containing 3% concentrated AFFF inside of a climate controlled room within Building E4081.

APPENDIX C – Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Weide AASF	Gunpowder, Maryland

Photograph No. 9

Description:

Looking south at location of prior Fire Training Area where two buildings were used at least once a week for fire training when the weather was good. Both buildings and their foundations were removed. Buildings are seen on 2006 aerial photographs; however, they are not seen on the 2013 aerial. Therefore, exact date of removal is unknown.

Photograph No. 10

Description:

Looking south at location of prior Fire Training Area where two buildings were used at least once a week for fire training when the weather was good. Both buildings and their foundations were removed. Buildings are seen on 2006 aerial photographs; however, they are not seen on the 2013 aerial. Therefore, exact date of removal is unknown.