FINAL
Preliminary Assessment Report Army Aviation Support Facility #1, Cecil Field, Jacksonville, Florida

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

June 2020

Prepared for:

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

UNCLASSIFIED

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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
ARNG	Army National Guard
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CSM	conceptual site model
EDR™	Environmental Data Resources, Inc.™
FLARNG	Florida Army National Guard
FLDEP	Florida Department of Environemntal Protection
FTA	fire training area
HA	Health Advisory
IED	Installations & Environment Division
JAA	Jacksonville Aviation Authority
JFRD	Jacksonville Fire and Rescue Department
NAS	Naval Air Station
NGWA	National Ground Water Association
PA	Preliminary Assessment
PFAS	per- and poly-fluoroalkyl substances
PFOA	perfluorooctanoic acid
PFOS	perfluorooctanesulfonic acid
SI	Site Inspection
UCMR3	Unregulated Contaminant Monitoring Rule 3
US	United States
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
VSI	visual site inspection

Executive Summary

The Army National Guard (ARNG) is performing *Preliminary Assessments (PAs) and Site Inspections (SIs) for Perfluorooctanesulfonic acid (PFOS) and Perfluorooctanoic acid (PFOA) Impacted Sites at ARNG Facilities Nationwide*. A PA for per- and polyfluoroalkyl substances (PFAS)-containing materials was completed for the Army Aviation Support Facility (AASF) #1 in Jacksonville, Florida, to assess potential PFAS release areas and exposure pathways to receptors. AASF #1 is constructed on a parcel of land owned by the Jacksonville Aviation Authority (JAA) leased to the Florida ARNG (FLARNG). The performance of this PA included the following tasks:

- Reviewed available administrative record documents and Environmental Data Resources, Inc. (EDR)™ report packages to obtain information relevant to potential PFAS releases, such as: drinking water well locations, historical aerial photographs, Sanborn maps, and environmental compliance actions in the area surrounding the facility;
- Conducted a site visit 29 January 2019 and completed visual site inspections at locations where PFAS-containing materials were suspected of being stored, used, or disposed;
- Interviewed current FLARNG personnel, FLARNG environmental managers and operations staff, and personnel at the Jacksonville Fire Department – Station 56; and
- Identified areas of interest (AOIs) and developed a conceptual site model (CSM) to summarize potential source-pathway-receptor linkages of potential PFAS in soil, groundwater, surface water, and sediment for each AOI.

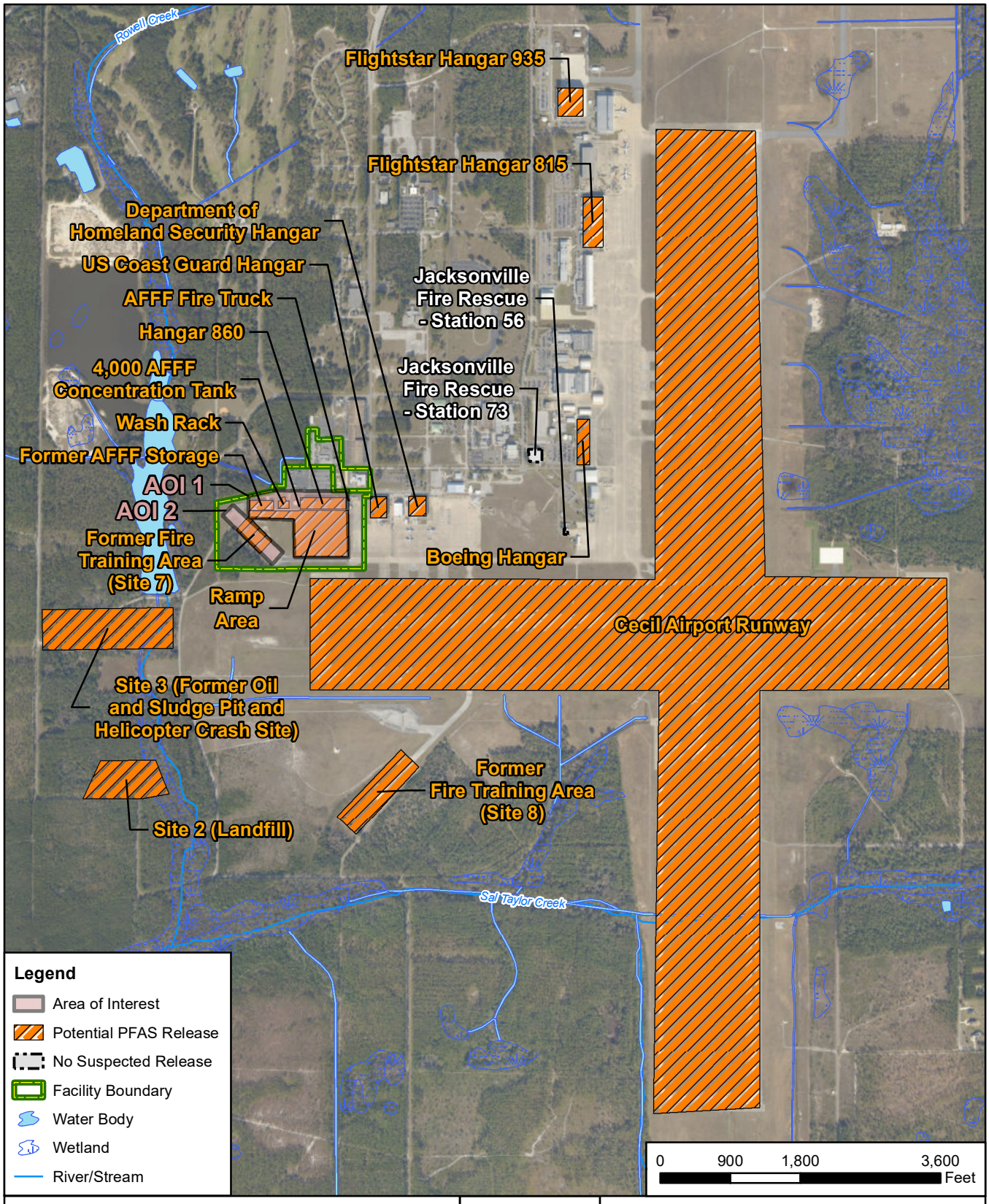
Two AOIs related to potential PFAS releases were identified at the Cecil Field AASF #1 during the PA. The AOIs are shown on **Figure ES-1** and described in **Table ES-1** below:

Table ES-1: AOIs at Cecil Field AASF #1

Area of Interest	Name	Used by	Potential Release Dates
AOI 1	Former Navy Fire Training Area, Site 7	Navy	1950s to 2003
AOI 2	Other Releases	Navy/FLARNG	Approximately 1970s to present

Cecil Field AASF #1 was previously occupied by the United States Navy from 1941 through 1999. In 1993, the property was slated for closure by the Base Realignment and Closure Act Commission. In 1999, the Navy ceased operation at the facility. In 2003, the property was transferred from Navy ownership to the JAA. From 2003 to the present, FLARNG has leased the AASF #1 facility from the JAA.

Based on potential PFAS releases at the AOIs, there is potential for exposure to PFAS contamination in media at or near the facility. The preliminary CSM for the facility is shown on **Figure ES-2**, which presents the potential receptors and media impacted. Based on the US Environmental Protection Agency (USEPA) Unregulated Contaminant Monitoring Rule 3 (UCMR3) data, it was indicated that no PFAS were detected in a public water system above the USEPA's lifetime Health Advisories (HAs) (70 parts per trillion for PFOA and PFOS) within 20 miles of the facility. PFAS analyses performed in 2016 had method detection limits that were higher than currently achievable. Thus, it is possible that low concentrations of PFAS were not detected during the UCMR3 but might be detected if analyzed today.



CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Cecil Field AASF #1, FL			
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SCALE	1:21,600	CHK BY	BM	3/23/2020
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,		PM	RG	3/23/2020

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Summary of Findings

AECOM
12420 Milestone Center Drive
Germantown, MD 20876

Figure ES-1

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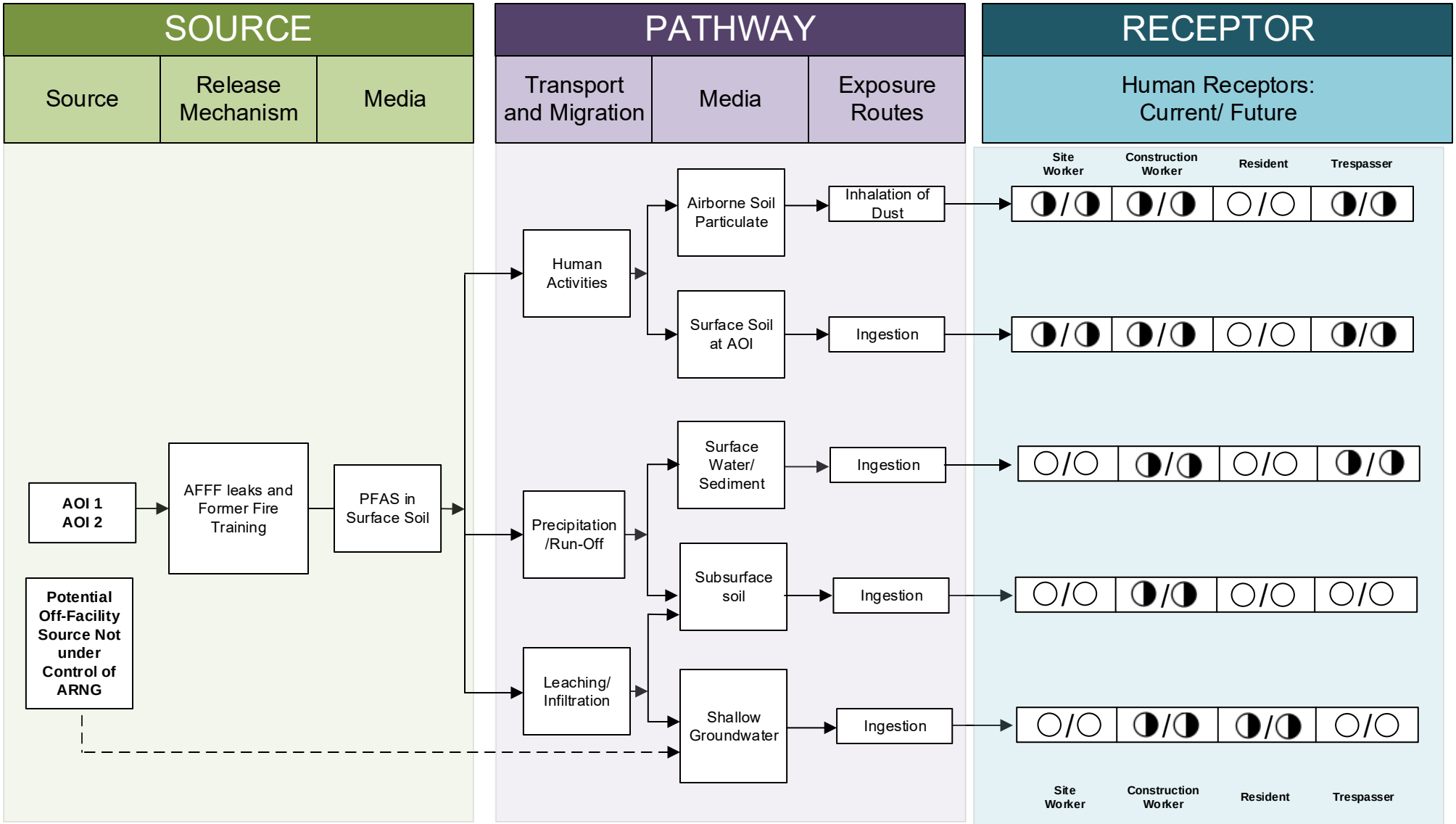


LEGEND

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

Notes:
1. The resident receptor refers to an off-site resident
2. Dermal contact exposure pathway is incomplete for PFAS

Figure ES-2
Preliminary Conceptual Site Model
Cecil Field AASF #1
Florida

1. Introduction

1.1 Authority and Purpose

The Army National Guard (ARNG)-Installations & Environment Division (IED) is the lead agency in performing *Preliminary Assessments (PAs) and Site Inspections (SIs) for Perfluorooctanesulfonic acid (PFOS) and Perfluorooctanoic acid (PFOA) at Impacted Sites at ARNG Facilities Nationwide*. This work is supported by the United States (US) Army Corps of Engineers (USACE) Baltimore District and their contractor AECOM Technical Services, Inc. (AECOM) 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 facilities that used per- and poly-fluoroalkyl substances (PFAS), primarily in the form of aqueous film forming foam (AFFF) released as part of firefighting activities, 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.

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 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 (HAs) for PFOA and PFOS in May 2016, but there are currently no promulgated national standards regulating PFAS in drinking water. In the absence of federal maximum contaminant levels, some states have adopted their own drinking water standards for PFAS. The state of Florida does not currently have drinking water standards for PFAS.

This report presents the findings of a PA for PFAS-containing materials at the current Cecil Field Army Aviation Support Facility (AASF) #1 (also referred to as “the facility”), in Jacksonville, Florida, 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 [CFR] Part 300), and Army requirements and guidance.

This PA documents the known fire training areas (FTAs) as well as other locations where PFAS may have been released into the environment at AASF #1. 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 available administrative record documents and Environmental Data Resources, Inc. (EDR)™ report packages to obtain information relevant to potential PFAS releases, such as: drinking water well locations, historical aerial photographs, Sanborn maps, and environmental compliance actions in the area surrounding the facility;
- Conducted a site visit on 29 January 2019 and completed visual site inspections (VSIs) at locations where PFAS-containing materials were suspected of being stored, used, or disposed;
- Interviewed current Florida ARNG (FLARNG) personnel, FLARNG environmental managers and operations staff, and personnel at the Jacksonville Fire Department – Station 56; and

- Identified areas of interest (AOI) and developed a conceptual site model (CSM) to summarize potential source-pathway-receptor linkages of potential PFAS in soil, groundwater, surface water, and sediment for each AOI.

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 FTAs at the facility identified during the site visit
- **Section 3** – **Non-Fire Training Areas:** describes other locations of potential PFAS releases at the facility identified during the site visit
- **Section 4** – **Emergency Response Areas:** describes areas of potential PFAS release at the facility, specifically in response to emergency situations
- **Section 5** – **Adjacent Sources:** describes sources of potential 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 for the AOIs and 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

Cecil Field AASF #1 is located along State Road 228 (Normandy Boulevard) in Duval County, Jacksonville (**Figure 1-1**), approximately 8 miles southeast of Baldwin, Florida, and 11 miles northwest of Orange Park, Florida.

In 1941, Naval Air Station (NAS) Cecil Field consisted of 2,600 acres of land that were purchased to provide facilities, services, and material support for the operation and maintenance of Naval weapons, aircraft and other units of the operating forces. The NAS facility expanded through World War II to 1960. In 1993, the property was slated for closure by the Base Realignment and Closure Act. In 1999, the Navy ceased operation at the facility (Tetra Tech Nus, Inc., 2000). In 2003, the property was transferred from Navy ownership to the Jacksonville Aviation Authority (JAA) (City of Jacksonville, 2019). From 2003 to the present, FLARNG has leased the AASF #1 facility from the JAA. JAA currently owns the 5,837-acre facility and leases portions of the property to various entities, including the AASF #1 facility. See **Appendix A** for real estate documents. The current AASF #1 facilities include a hangar for the operation, maintenance, and repair of FLARNG rotary-winged aircraft, administrative offices, and classrooms. Water and electric utilities are provided by the local municipality.

1.5 Facility Environmental Setting

The Cecil Field AASF #1 lies within lower St. Johns River Basin, which encompasses several land tributaries to the St. Johns River. The topography of Duval County is gentle to flat and composed of a series of ancient marine terraces, formed as a result of repeated changes in sea level in response to retreats and advances of the glaciers (Phelps, 1994). These terraces represent former shorelines and trend parallel to the present Atlantic shoreline. The highest altitude measures about 190 feet above mean sea level in the extreme southwest corner of Duval County, at the topographic feature known as the “Trail Ridge”, which is a remnant of the highest ancient marine terrace in Duval County. Surface drainage is primarily driven by the ancient marine terraces which form ridges that direct runoff so that streams flow parallel to the ancient shorelines (Fairchild, 1972).

1.5.1 Geology

Prior to 1988, near-surface sediments had not been given formal names and were therefore referred to as the Pleistocene and Holocene Deposits and the upper Miocene or Pliocene Deposits. These deposits are now referred to as the Cypresshead Formation and characterized by tan to yellow, medium- to fine-grained, loose, quartz sand, locally stained brown and red from iron oxide (**Figure 1-2**). These deposits locally contain thin, gray, sandy, clay beds. Discontinuous layers of rusty brown hardpan, composed of slightly to well indurated iron oxide-cemented quartz underlie some of the higher areas of the county (Fairchild, 1972). These deposits range from 150 feet thick in western Duval County and average 20 feet in thickness in central and eastern Duval County (Leve, 1966). Miocene or Pliocene deposits consist of sand, shell, sandy clay, and limestone. These deposits are generally distinguished from the underlying Hawthorn Formation by their lack of phosphate and lighter color (Fairchild, 1972). The limestone and shell deposits are typically found at the base of this unit and unconformably overlay the Hawthorn Formation. These deposits are approximately 100 feet thick adjacent to the St. Johns River in central Duval County and less than 20 feet thick in Western Duval County (Leve, 1966).

The Hawthorn Formation consists of Miocene age, dark-gray and olive-green, sandy to silty clay, clayey sand, clay, and sandy limestone, all containing moderate to large amounts of black phosphate sand, granules, and pebbles (Fairchild, 1972). Phosphatic sandy limestone and gray, hard dolomite have been observed and tend to be thicker and more prevalent at the base of the formation (Leve, 1966). The Hawthorn ranges in thickness from about 250 to 500 feet in Duval County and generally thickens to the northeast but varies in thickness form place to place because of the irregular lower surfaces where the Hawthorne unconformably overlies the Crystal River Formation and where the Hawthorn unconformably underlies above units (Fairchild, 1972).

Bedrock in the area consists of thick sequences of Eocene Age, consolidated, carbonate rock. In descending order, these bedrocks consist of Ocala group limestones, the Avon Park Formation, and the Oldsmar Formation.

1.5.2 Hydrogeology

Three aquifer systems in the area of Cecil Field AASF #1 consists of the Surficial Aquifer System, the Intermediate Confining unit, and the Floridan Aquifer System. The water table in the area of the facility is encountered at approximately five feet below land surface. Local groundwater flow beneath the facility is toward the northwest.

The Surficial Aquifer System has two water bearing units: the water-table unit, which is composed of predominantly sand (Pleistocene and Holocene deposits), and the limestone unit (Miocene or Pliocene deposits). Groundwater in the surficial aquifer system primarily recharges via local rainfall, and water table elevations are related to seasonal rainfall fluctuations (Phelps, 1994).

Some water for lawn irrigation is obtained from the shallowest part of the aquifer, while most water is drawn from near the base of the upper Miocene or Pliocene deposits. Water from the surficial sands generally contain iron that gives it a pronounced taste and stains plumbing fixtures. Additionally, wells screened in surficial sands and located adjacent to brackish waters are prone to contamination from lateral encroachment of such water. Wells screened in the limestone units are generally of good quality and suitable for most domestic, irrigation, and industrial uses.

The surficial aquifer system is underlain by the intermediate confining unit comprised of deposits that make up the Hawthorn Formation. Clays and silty clays within the Hawthorn Formation serve as a confining unit that inhibits the movement of water from the underlying Floridan Aquifer (Fairchild, 1972).

The Florida Aquifer System underlies the intermediate confining unit of the Hawthorn Formation and is the principle source of fresh water in northeast Florida (Leve, 1966). The Ocala Group (Iglis, Williston, and Crystal River Formation) is one homogenous sequence of hydraulically connected limestone beds that contain few hard limestone or dolomite beds to restrict vertical movement of water. The Avon Park Formation underlies the Ocala Group and consists of hard, relatively impermeable dolomite beds that restrict groundwater movement between the Ocala Group and the Oldsmar Formation. Groundwater within the Floridan Aquifer System (Ocala Group and Oldsmar Formation) is artesian (Leve, 1966). The Florida Aquifer is recharged via breaches in the intermediate confining unit caused by sinkholes, by leakage where the intermediate confining unit is thin or absent, or directly into the aquifer where the aquifer is exposed at the surface. Wells in the Floridan Aquifer are generally cased in the top of the Ocala Group (Crystal River Formation) and are used for public water supply, industrial use, and large commercial or private use (Leve, 1966). One public well and one private well are located approximately 1 mile southwest of the facility. The public well has a depth of 650 feet, and the private well has a depth of 128 feet and is screened in the intermediate confining unit. Groundwater features surrounding the facility are shown in **Figure 1-2**.

Water for the facility is provided by the local municipality. Based on the USEPA Unregulated Contaminant Monitoring Rule 3 (UCMR3) data, it was indicated that no PFAS were detected in a public water system above the HA within 20 miles of the facility. PFAS analyses performed in 2016 had method detection limits that were higher than currently achievable. Thus, it is possible that low concentrations of PFAS were not detected during the UCMR3 but might be detected if analyzed today.

1.5.3 Hydrology

AASF #1 facility lies within the lower St. Johns River Basin. Drainage at the facility consists of sheet flow across areas of low topographic relief combined with streams and canals of low order (having few to no tributaries). Surface runoff is directed by storm sewers and vegetated ditches to the receiving streams that boarder the facility. These streams include Rowell Creek and Sal Taylor Creek, which drain to the St. Johns River (ABB Environmental Services, Inc., 1994). Surface water features surrounding the facility are shown in **Figure 1-3**.

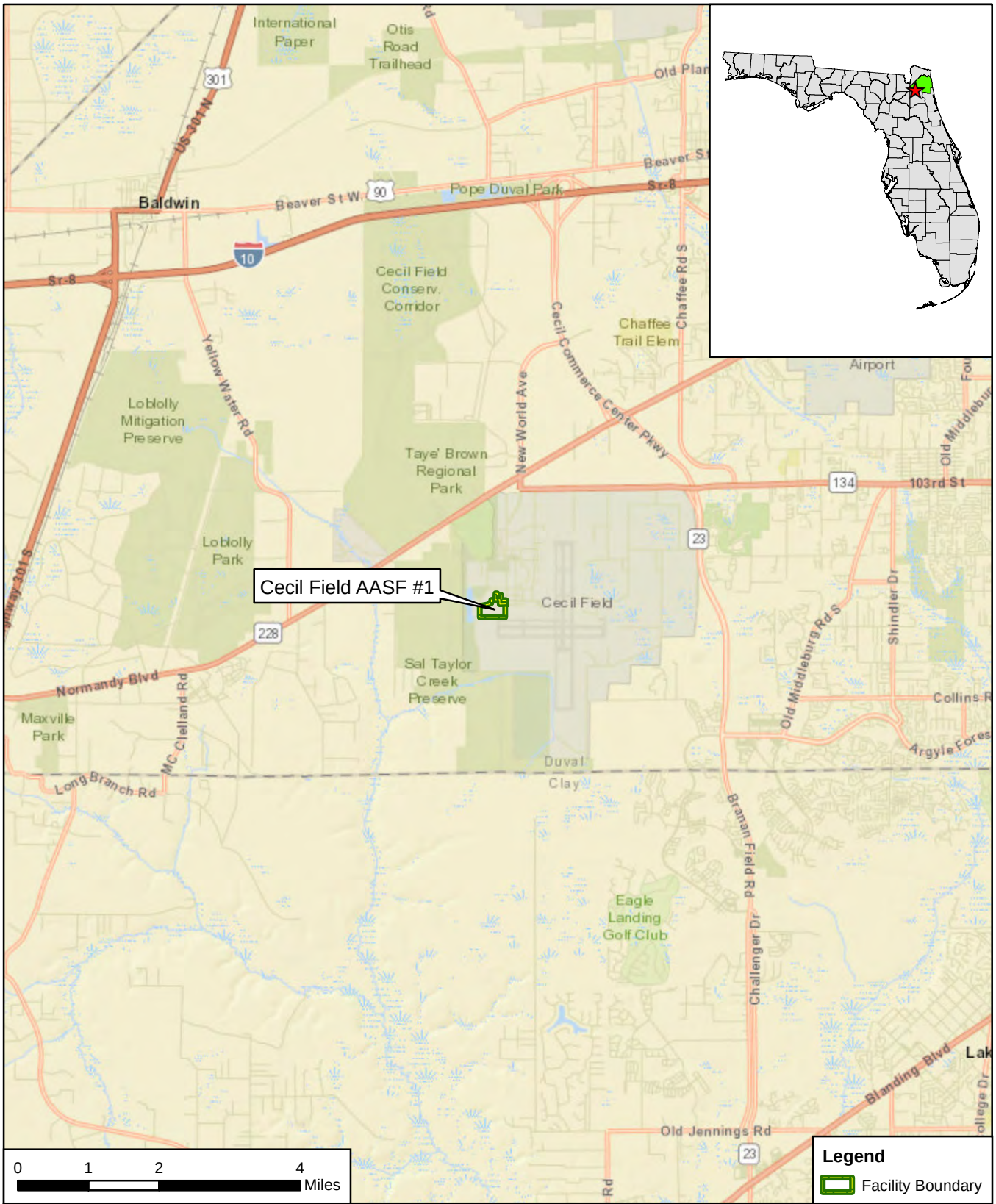
1.5.4 Climate

The Jacksonville area has a climate approaching the semitropical range. The annual mean temperature is 69 degrees Fahrenheit (°F), with an average summer maximum temperature of 84.3 °F, and an average winter minimum of 46.1°F. The area experiences an average of 51 inches of rainfall per year, most of which accumulates during frequent summer rain showers. Winds of hurricane force can occur, most likely in August through October (NOAA, 2018).

1.5.5 Current and Future Land Use

The Cecil Field AASF #1 facility is one of multiple aviation facilities that make up the Cecil Commerce Center, owned by JAA. Aviation facilities associated with other military entities are located to the east and northeast of the facility. Commercial aviation facilities, including KCI Aviation, The Boeing Company, Jacksonville JetPort, and Northrop Grumman are also located to the east and northeast of the facility. Jacksonville Fire and Rescue Department (JFRD) Station 56 is located in the Cecil Commerce Center, northeast of the facility. Conservation areas are located to the south and northwest of the facility. Beyond the JAA property, the area is characterized by mixed residential and rural properties (Cecil Commerce Center, 2019).

Future commercial developments are planned for the Cecil Commerce Center. A conceptual site plan on the Cecil Commerce Center website shows future development plans for industrial/distribution, aviation, and mixed-use properties (Cecil Commerce Center, 2019).



CLIENT	ARNG			
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SCALE	1:126,720	CHK BY	BM	6/17/2019
Base Map: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI,		PM	RG	6/17/2019

Facility Location

AECOM
12420 Milestone Center Drive
Germantown, MD 20876

Figure 1-1

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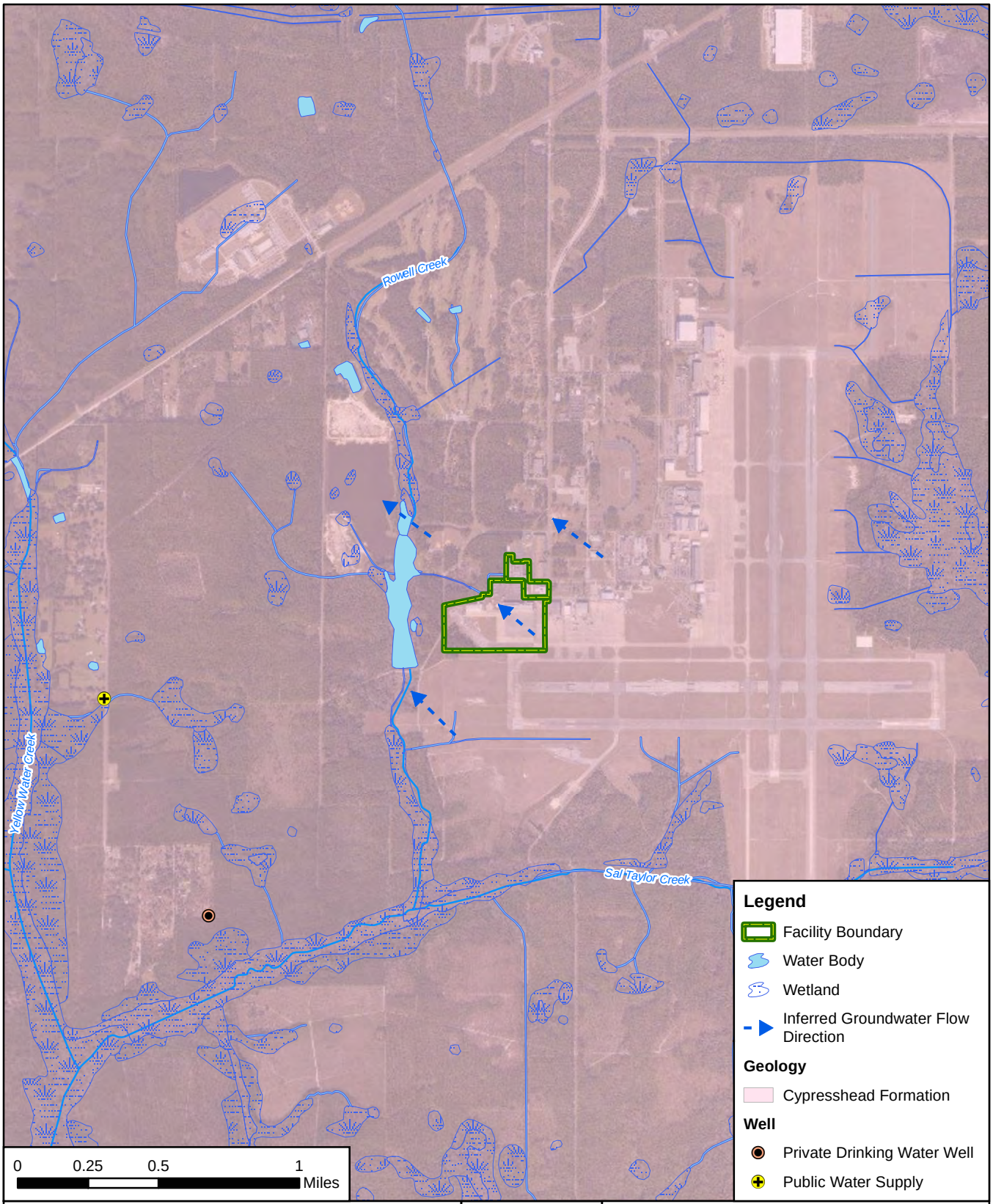

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NOTES	Preliminary Assessment for PFAS at Cecil Field AASF #1, FL			
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SCALE	1:31,680	CHK BY	MG	9/12/2019
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,		PM	RG	9/12/2019

Groundwater Features

AECOM
12420 Milestone Center Drive
Germantown, MD 20876

Figure 1-2

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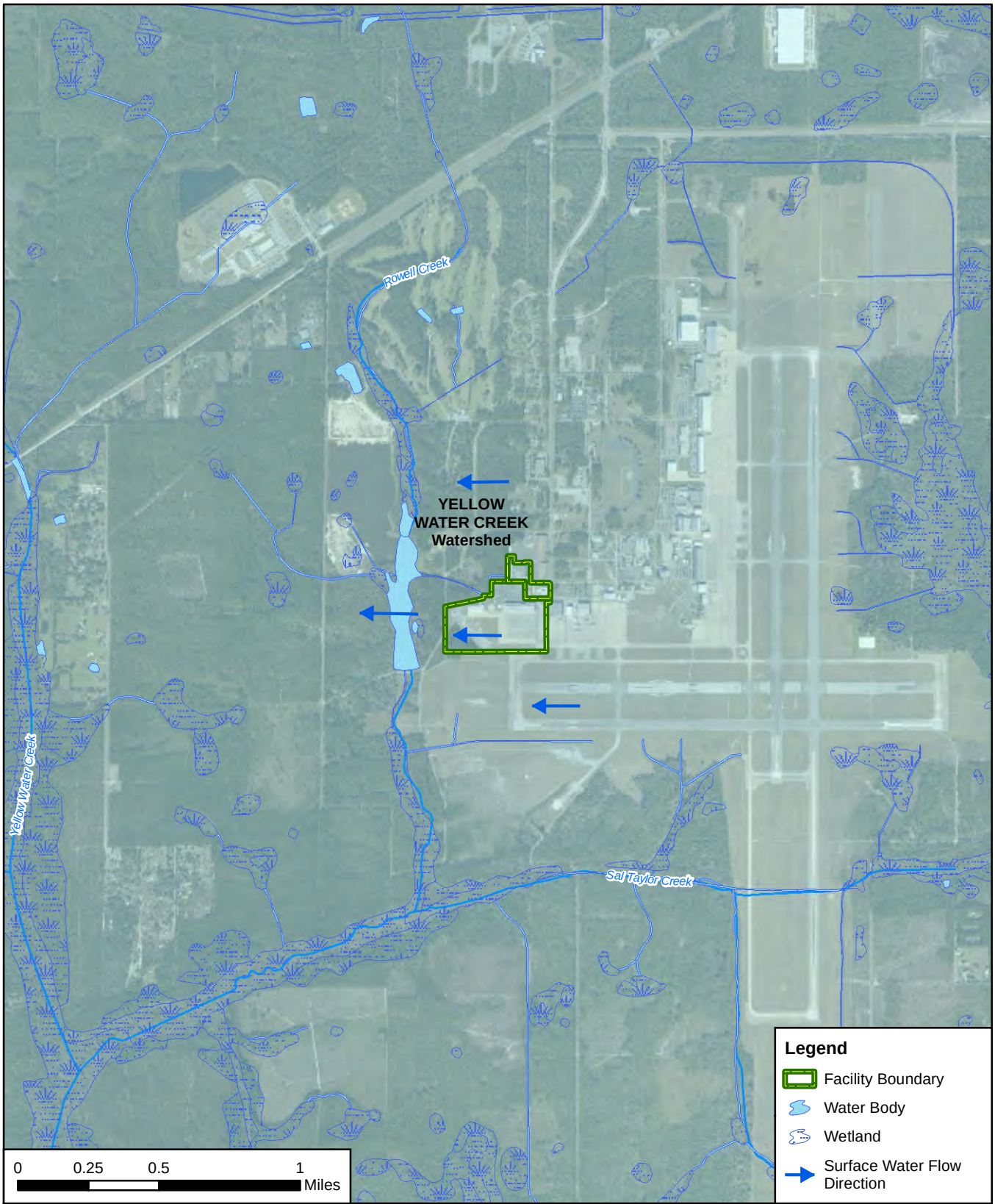

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Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,		PM	RG	6/17/2019

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Groundwater Features

AECOM
12420 Milestone Center Drive
Germantown, MD 20876

Figure 1-3

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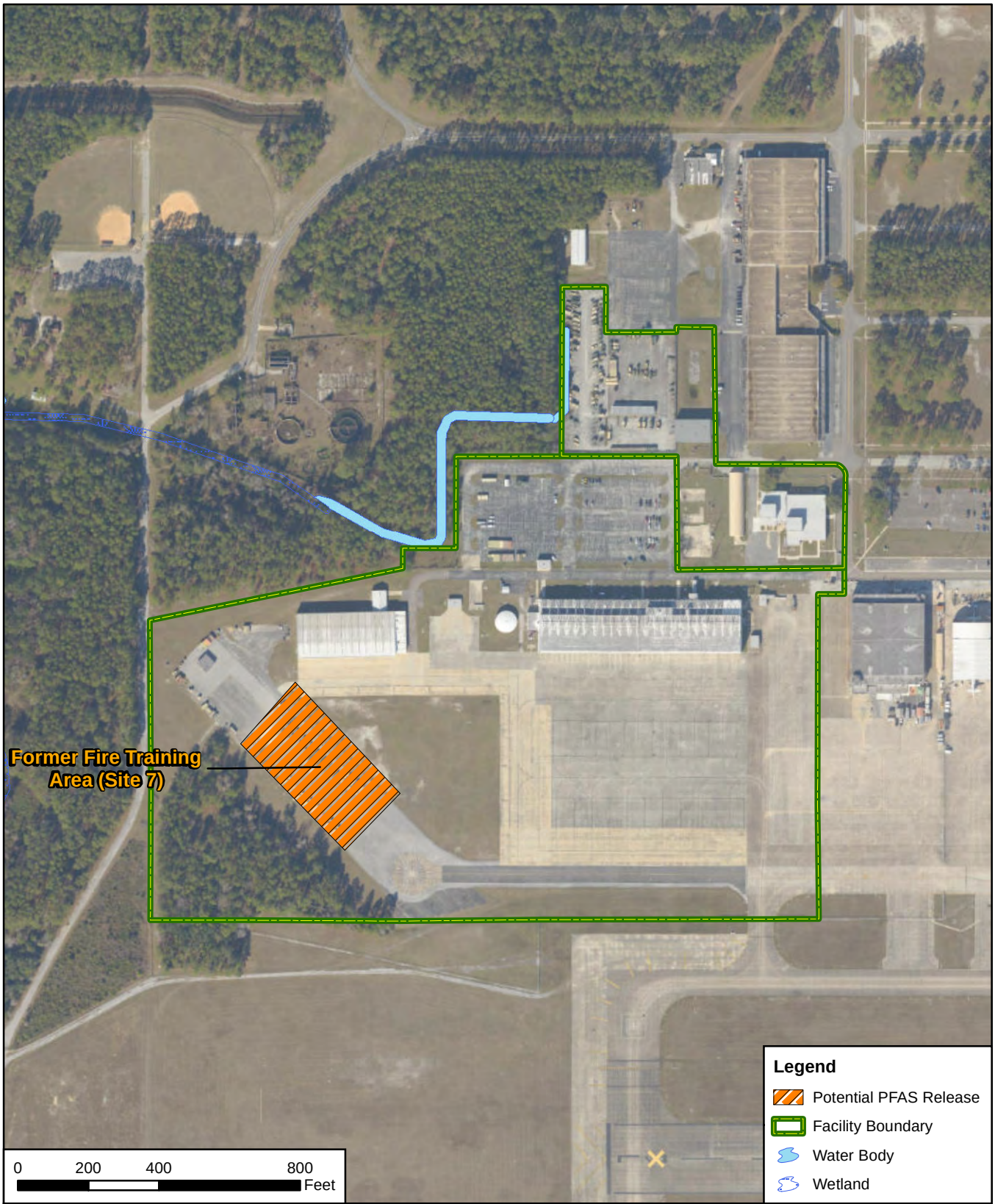
2. Fire Training Areas

One former FTA (Site 7) was identified within the AASF #1 facility during the PA through interviews and document review. According to FLARNG personnel with knowledge of the facility dating back to 2003, the FTA was not used by FLARNG. A description of the FTA is presented below, and its location is shown on **Figure 2-1**. Interview records appear in **Appendix B**, and photographs appear in **Appendix C**.

The former FTA (Site 7) was used by the Navy to train aircraft firefighting techniques in one pit and two pads. The approximate geographic coordinates for the two pads are 30° 13’ 15.1” N; 81 53’ 40.8” W and 30° 13’ 14.3” N; 81 53’ 40.0” W. Approximate geographic coordinates for the pit are 30° 13’ 16.6” N; 81° 53’ 39.6” W. Site 7 was active from the 1950s, until fire-fighting activities ceased in 1975, and was most active during the Vietnam conflict (ABB Environmental Services, Inc., 1994). The two burn pads can be seen in the two aerial photographs from 1963 and 1975 in the environmental data resource report (EDR)™ provided in **Appendix A**. However, the burn pit is not distinguishable in aerial photographs provided in the EDR™ report.

An estimated 200,000 gallons of mixed liquid waste containing water fuel, oil, chlorinated and non-chlorinated solvents, hydraulic fluid, enamel paint, epoxy paint, and/or paint strippers were reportedly used to ignite airframes in one pit and two pads. An initial assessment survey indicated the fires used for training were contained and extinguished with water and a biodegradable and nontoxic protein foaming agent composed of naturally occurring proteinaceous material such as fish meal, feather meal, and horn and hoof meal. Following discontinuance of fire training, the pit was filled with soil (ABB Environmental Services, Inc., 1994). Information regarding the use of AFFF could not be ascertained through interviews of FLARNG personnel or public records.

In 1999, the Florida Department of Environmental Protection (FLDEP) sent a letter of concurrence with a selected remedy of the removal of 3,901 cubic yards of contaminated surface soil from Site 7 (Florida Department of Environmental Protection, 1999). The completion report describing this remedial action was not found in the public record; however, other records indicate that Site 7 achieved No Further Action Status in 2003, following soil removal and long-term groundwater monitoring (NAVFAC, 2017).



CLIENT	ARNG			
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SCALE	1:4,800	CHK BY	BM	6/17/2019
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,		PM	RG	6/17/2019

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Fire Training Area

AECOM
12420 Milestone Center Drive
Germantown, MD 20876

Figure 2-1

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3. Non-Fire Training Areas

In addition to FTAs, the PA evaluated areas where PFAS-containing materials may have been broadly used, stored, or disposed. This may include buildings with fire suppression systems, paint booths, AFFF storage areas, and areas of compliance demonstrations. Information on these features obtained during the PA are included in **Appendices A** and **B**. A description of each non-FTA is presented below and shown on **Figure 3-1**.

3.1 Hangar 860 Fire Suppression System

Hangar 860 contains a fire suppression system equipped with a 4,000-gallon tank filled with approximately 3,000-gallon of Ansulite 3% or 6% concentrate. The geographic coordinates of the hangar are 30° 13' 18.3" N; 81° 53' 29.8"W (**Figure 3-1**). The exact date of construction for Hangar 860 is unknown, but aerial images from the EDR™ report (**Appendix A**) show the building existing as far back as 1982. Thus, Hangar 860 was likely built and used by the Navy, although their activities within the building are unknown. The AFFF concentrate tank is located on the west side of the hangar building (Building 860). A 250,000-gallon water tank is also located on the west side of the building and is used as the water supply for the AFFF system. According to FLARNG personnel, the suppression system is tested weekly for 30 minutes. During the tests, the AFFF concentrate is isolated (disconnected), and only water supplied by the 250,000-gallon tank is used to test the system. That water is collected in storm drains and conveyed to the oil water separator that empties to the municipal storm water system. A five-year inspection of the system is scheduled for the year 2020.

During the PA site visit, FLARNG personnel noted three areas where seepage of AFFF may have occurred. Near AFFF concentrate tank, FLARNG personnel identified where corrosion of one section of conduit between the AFFF concentrate tank and the pump room had occurred outside Hangar 860, along the westernmost wall. The corroded section of pipe was removed and replaced. Another section of conduit outside Hangar 860 appeared to have been patched due to a leak. Evidence of historical seepage of AFFF was also noted in the deluge room at the shut-off valve and overhead conduits. Photographs of these areas are provided in **Appendix C**.

3.2 AFFF Firetruck and AFFF Storage Area

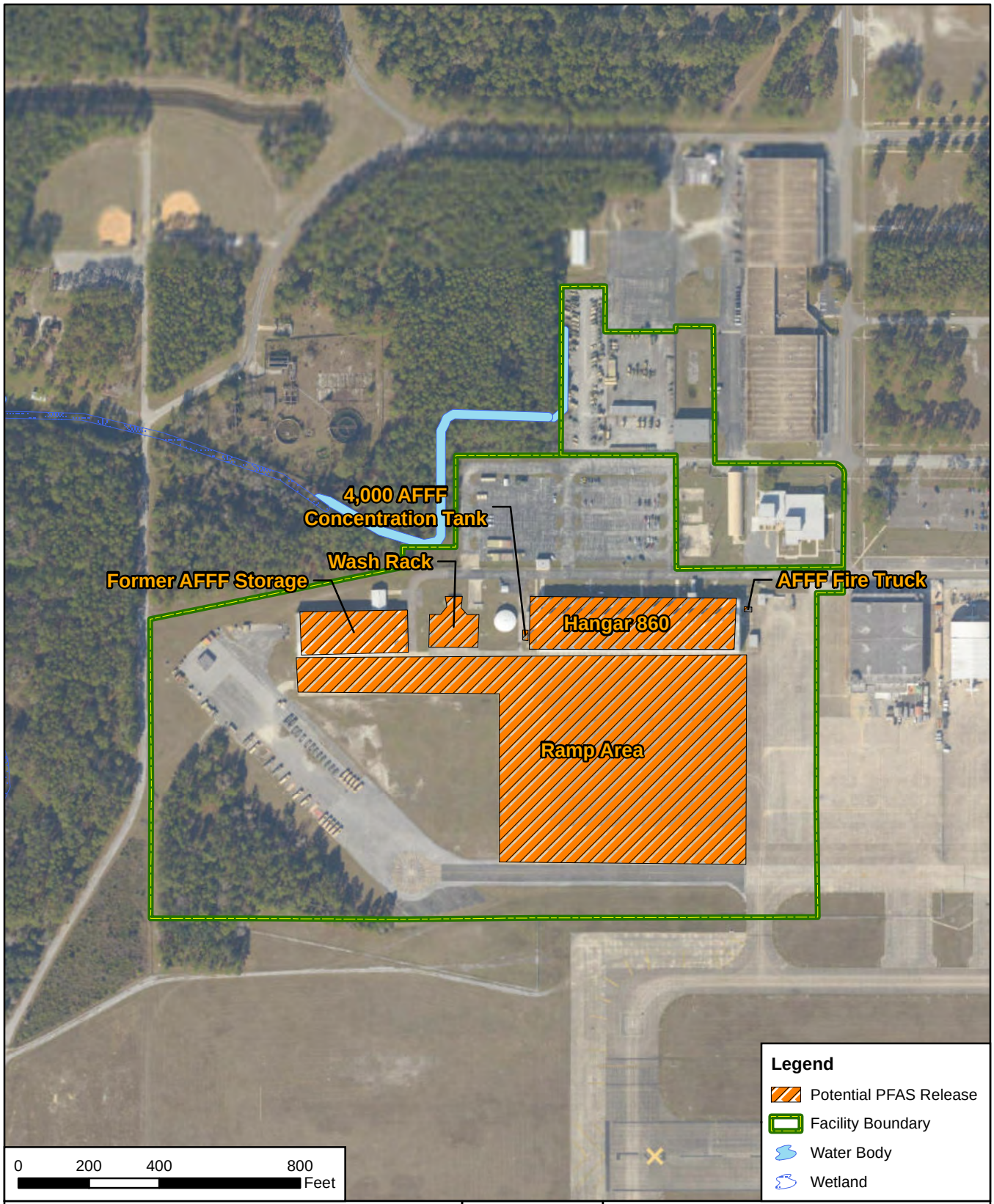
During the PA site visit, FLARNG personnel identified one firetruck located at the east side of the hangar building. The geographic coordinates of the firetruck are 30° 13' 18.7" N; 81° 53' 25.17" W. This firetruck is currently equipped with a skid mounted AFFF and Purple K unit, and according to FLARNG personnel familiar with this firetruck, the firetruck was brought onto the facility from Craig Airport around the time FLARNG transitioned to Cecil Field in 2003. The firetruck has not been used in approximately 10 years. When the firetruck was in operation, a 3% concrete was mixed onsite with water at the warehouse located approximately 360 feet west of Hangar 860. Historically, 5-gallon buckets containing the 3% concentrate were stored in this warehouse. FLARNG personnel did not have any recollection of this firetruck dispensing AFFF at the AASF #1 facility. However, annually, the firetruck was taken to the Jacksonville Fire Academy for flight line training exercises. This academy is owned and operated by Florida State College of Jacksonville and is located 22 miles northwest of the facility. At this training, the AFFF and Purple K tanks would be emptied and then replenished. This practice likely ceased in 2008, according to former FLARNG personnel familiar with this activity.

3.3 Wash Rack

The wash rack is an approximately 0.4-acre paved area between the former AFFF storage building and Hangar 860. The exact date of construction for the wash rack is unknown, but aerial images from the EDR™ report (**Appendix A**) show the wash rack existing as far back as 1982. Thus, the wash rack was likely built and used by the Navy, although their activities at the wash rack are unknown. The wash rack drains lead into an oil water separator and then sanitary sewer but can be routed via a diverter valve to the storm sewer system instead. The wash rack is not currently used by FLARNG personnel for any activities or storage containing AFFF. However, based on the historical usage of wash racks as fire extinguisher training or maintenance areas, the wash rack was identified as a potential PFAS release area.

3.4 Ramp Area

Based on aerial images from the EDR™ report (**Appendix A**), the aircraft ramp existed as far back as 1982 and previously had a drainage ditch that wrapped along the southern and western edge of the ramp before connecting with a tributary of Rowell Creek. Between 2007 and 2010, a portion of the ramp was extended west in front of the former AFFF storage building, and the drainage ditch was paved over. The ramp extension is made noticeable by the lighter colored pavement adjacent to the older, darker colored pavement. The ramp was likely used and constructed by the Navy, although their activities on the ramp are unknown. Based on the historical usage of ramps as fire extinguisher training or maintenance areas, the ramp was identified as a potential PFAS release area.



CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Cecil Field AASF #1, FL			
REVISED	3/4/2020	GIS BY	MS	3/4/2020
SCALE	1:4,800	CHK BY	BM	3/4/2020
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,		PM	RG	3/4/2020

Non-Fire Training Areas

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Figure 3-1

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4. Emergency Response Areas

No emergency response areas were identified within the AASF #1 facility during the PA through interviews or document review. The City of Jacksonville provides fire emergency services for the Cecil Field AASF #1.

5. Adjacent Sources

Multiple potential off-facility sources of PFAS adjacent to AASF #1, not under the control of the FLARNG, were identified during the PA. These potential sources are depicted on **Figure 5-1** and described below.

5.1 Navy Site 2 (Landfill)

Site 2 was a trench-and-fill landfill used from 1965 to 1975. Waste at Site 2 was believed to be similar to Site 1. Site 2 was not lined at the time of operation and was covered with native soil. Burning activities at Site 2 were not noted in public records (Resolution Consultants, 2016).

Landfills are not usually primary releases of PFAS, but materials disposed in landfills may create secondary sources of contamination. Such materials may include AFFF storage containers or products associated with weatherproofing uniforms or boots. At Cecil Field AASF #1, no information obtained indicates PFAS-related materials were disposed of in the landfill areas, nor could information regarding AFFF training during the burning at Site 2 be confirmed.

5.2 Navy Site 3 (Oil and Sludge Pit and Helicopter Crash Site)

Site 3 was formerly used as an oil and sludge disposal from as early as the mid-1950s until 1975. Liquid wastes were brought to Site 3 and drained into the disposal pit in which waste would seep into the soil or evaporate. When the liquid would approach the top, typically every three months, the Former NAS Cecil Field fire department would burn the pit wastes. After the disposal activities, ceased around 1975, the pit was filled and covered with soil. Use of AFFF for training purposes at the burn pit is unknown (Resolution Consultants, 2016).

On 8 February 1992, a Navy helicopter crashed into the wooded area located in the central portion of Site 3. The helicopter had a fuel capacity of between 1,800 and 2,000 gallons and ignited on impact (Resolution Consultants, 2016). The fire department responded to the crash, and based upon other public records, extinguished the flames using AFFF (NAVFAC, 2017). Therefore Site 3 is considered an adjacent potential source of PFAS for AASF #1.

5.3 Site 8 (Former FTA)

Site 8, similar to Site 7 (discussed in **Section 2**) is a former Navy FTA. Four fire pits were used at Site 8 from 1975 through 1984. Approximately 145,000 gallons of mixed liquid wastes containing waste fuel, oil, chlorinated and non-chlorinated solvents, hydraulic fluid, enamel paint, epoxy paint, and/or paint strippers were reportedly used to ignite airframes from 1975 through 1979. After 1979 only jet fuel was used as an ignitor. The fires were extinguished with water and AFFF, as well as with protein foam being used from 1975 through 1979 (ABB Environmental Services, Inc.,1994). Because of the historical use of AFFF for Fire Training, Site 8 is considered an adjacent potential source of PFAS for AASF #1.

5.4 Boeing Hangar

The Boeing Company at Cecil Airport is part of the company's Aerospace Support Division, and it focuses primarily on the modification of military aircraft (Cecil Commerce Center, 2019). A hangar operated by Boeing is located approximately 0.5 miles northwest of the AASF #1 facility. The geographic coordinates of the Boeing hangar are 30° 13' 26.1" N; 81° 52' 51.1" W. According to former fire personnel working at Jacksonville Fire Rescue Station #56 from 1999 to 2019, the fire suppression system within the Boeing hangar was inadvertently triggered and discharged

AFFF. Details regarding the quantity of AFFF released or resulting cleanup efforts were not known by Station #56 personnel.

According to a news article covering the event, the fire suppression system was triggered on 2 November 2018. According to the report, the aircraft in the hangar were washed and cleaned per “standard Navy protocol” (NavyTimes, 2018).

Because the Boeing facility is outside of the AASF #1 boundary, it is considered an adjacent potential source of PFAS.

5.5 Flightstar Hangar

Flightstar specializes in maintenance, repair, and overhaul of various types of heavy aircraft. The company operates two hangars at the Cecil Commerce Center: Hangars 815 and 935. Hangar 815 is about 1 mile northwest of the AASF #1 facility at geographic coordinates 30° 13' 54.5" N; 81° 52' 49.6" W. Hangar 935 is about 1.2 miles northeast of the AASF #1 facility, at geographic coordinates 30° 14' 09.4" N; 81° 52' 52.9" W.

According to former fire personnel working at Jacksonville Fire Rescue Station #56 from 1999 to 2019, the fire suppression system within Flightstar Hangar 935 was triggered when lighting struck the building sometime in 2017. However, a video following the system trigger was uploaded to YouTube and indicates the system was triggered 14 August 2014 (YouTube, 2014). The quantity of AFFF released or cleanup efforts following the release were unknown to Station #56 personnel.

Because the Flightstar Hangar 935 is outside and upgradient of the AASF #1 boundary, it is considered an adjacent potential source of PFAS. It is suspected that Hangar 815 may be equipped with an AFFF fire suppression system. Information regarding AFFF use or storage at Hangar 815 could not be ascertained; however, Hangar 815 is considered an adjacent potential source of PFAS due to the possible presence of an AFFF fire suppression system.

5.6 US Coast Guard Hangar

A US Coast Guard Hangar is located directly east of the facility at address 13520 Aerospace Way, Jacksonville, Florida 32221. During the PA interviews, it was learned that the US Coast Guard had a release from the AFFF fire suppression system within the hangar. Thus, the US Coast Guard Hangar has been identified as an adjacent potential source of PFAS.

5.7 Department of Homeland Security Hangar

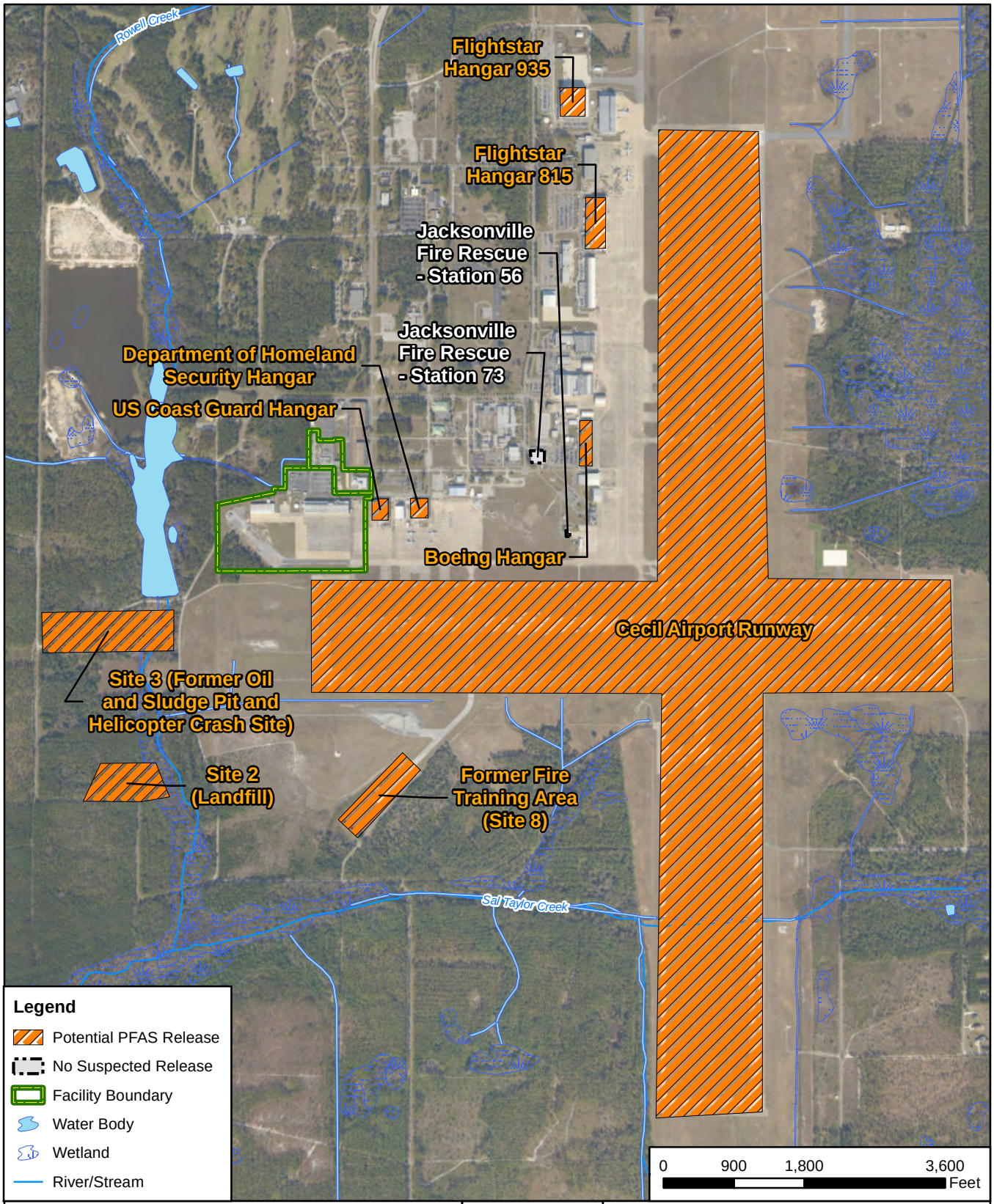
A Department of Homeland Security Hangar is located directly east of the facility at address 13510 Aerospace Way, Jacksonville, Florida 32221. During the PA interviews, it was learned that the Department of Homeland Security had a release from the AFFF fire suppression system within the hangar. Thus, the Department of Homeland Security Hangar has been identified as an adjacent potential source of PFAS.

5.8 Cecil Airport Runway

The airport runways of Cecil Commerce Center were indicated as an adjacent potential source of PFAS because the runways are typically the location of crash sites requiring the usage of AFFF in emergency response. No additional information was learned about the location of historical crash sites.

5.9 Jacksonville Fire Rescue Stations

The Jacksonville Fire Rescue Department has two fire stations. Station 56 is located within the Cecil Commerce Center near the runway intersection, and Station 73 is located at address 5845 Aviation Avenue, Jacksonville, Florida 32221. Station 56 handles aircraft emergencies at the airport, while Station 73 is situated outside the airport to facilitate local and municipal emergency response. The interviewed Station 56 staff stated that no AFFF has ever been used or stored at the two fire stations. Therefore, there are no suspected releases from the Jacksonville Fire Rescue Station 56 and Station 73.



CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Cecil Field AASF #1, FL			
REVISED	3/4/2020	GIS BY	MS	3/4/2020
SCALE	1:21,600	CHK BY	BM	3/4/2020
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,		PM	RG	3/4/2020

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Adjacent Sources

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Figure 5-1

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6. Preliminary Conceptual Site Model

Based on the PA findings, two AOIs were identified at the Cecil Field AASF #1 facility where AFFF may have been incidentally spilled or discharged to the ground surface. As such, these AOIs may be potential PFAS source areas. The AOIs and preliminary CSMs for the AOIs are shown on **Figure 6-1** to **Figure 6-3** and summarized below:

- AOI 1 – Former Navy FTA
- AOI 2 – Other Releases

The following sections describe the CSM components and the specific preliminary CSMs developed for the AOIs. The CSM identifies the three components necessary for a potentially complete exposure pathway: (1) source, (2) pathway, (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. Receptors at the current AASF include site workers, construction workers and trespassers/recreational users, and off-facility residents. The preliminary CSMs for Cecil Field AASF #1 indicate which specific receptors could potentially be exposed to PFAS.

6.1 AOI 1: Former Navy FTA

AOI 1 is the former FTA (Site 7) used by the Navy from 1950 to 1975. The Navy used one pit and two pads to train aircraft fire fighting techniques. According to FLARNG personnel with knowledge of the facility dating back to 2003, the FTA, named Site 7 in historical documents, was not used by FLARNG. Historical records indicate biodegradable and nontoxic protein foaming agents were used to extinguish fires during fire training activities. Without firsthand knowledge from FLARNG personnel as to what type of agent was used to extinguish flames, it is assumed that AFFF may have been used.

The former FTA was lined with berms to contain the discharged fluids. Therefore, any potential discharge of AFFF would have been contained within the former FTA and allowed to infiltrate into the subsurface soil and groundwater. Surface water runoff is unlikely, so the surface water/sediment exposure pathways are incomplete. Additionally, the site has been remediated with the removal of 3,901 cubic yards of contaminated soil (NAVFAC, 2017). Therefore, surface and subsurface soil pathways are also considered incomplete.

The inferred groundwater flow is toward the northwest. One public drinking water well and one private water well are located southwest and side gradient of AOI 1. Because the wells are located within a 4-mile radius of the facility, the wells may receive potentially contaminated groundwater contributions from the facility. Therefore, the groundwater ingestion pathway is considered potentially complete for off-facility residents. The water table is encountered at approximately 5 feet below land surface, so there is also a potentially complete exposure pathway via groundwater ingestion to construction workers in trenching scenarios. The preliminary CSM for AOI 1 is shown on **Figure 6-2**.

6.2 AOI 2: Other Releases

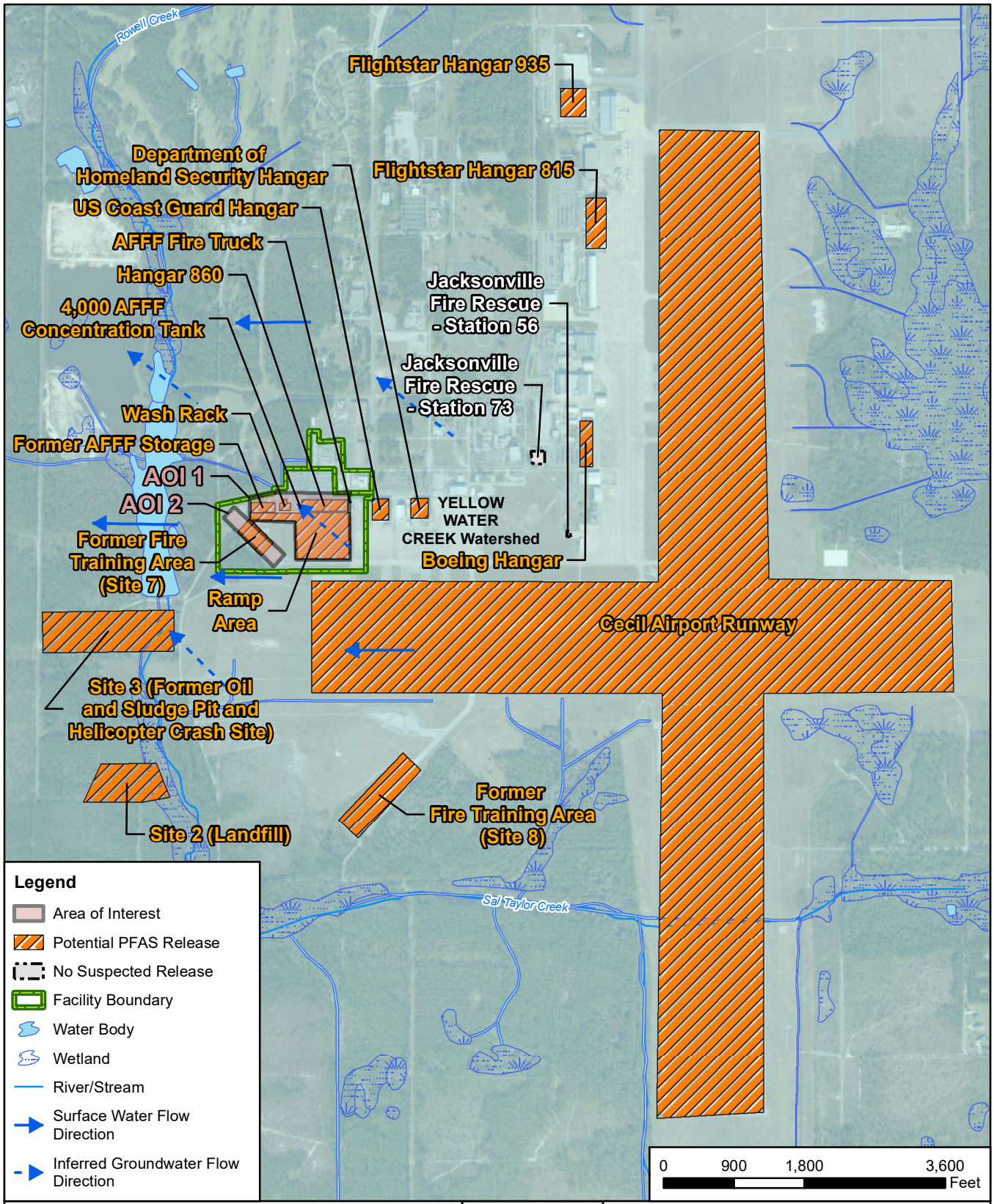
AOI 2 encompasses Hangar 860, the 4,000-gallon AFFF Concentrate Tank, the AFFF firetruck parking, the wash rack, and the ramp area. FLARNG personnel noted seepage of AFFF may have occurred near the concentrate tank as well as in the deluge room.

Ground-disturbing activities to surface soil could result in site worker, construction worker, and trespasser/recreational user exposure to potential PFAS contamination. Therefore, the exposure pathways for inhalation of soil particles and ingestion of soil, surface water, and sediment are potentially complete for these receptors.

Ground-disturbing activities to subsurface soil could result in construction worker exposure via inhalation of soil particles and ingestion of subsurface soil. Therefore, the inhalation and ingestion pathways for this receptor are considered potentially complete.

The inferred groundwater flow is toward the northwest. One public drinking water well and one private water well are located southwest and side gradient of AOI 2. Because the wells are located within a 4-mile radius of the facility, the wells may receive potentially contaminated groundwater contributions from the facility. Therefore, the groundwater ingestion pathway is considered potentially complete for off-facility residents. The water table is encountered at approximately 5 feet below land surface, so there is also a potentially complete exposure pathway via groundwater ingestion to construction workers in trenching scenarios.

Lake Fretwell and Rowell Creek are located downgradient of AOI 2 and upgradient properties at Cecil Field. Lake Fretwell is located on City of Jacksonville-owned property and is not intended to be used for recreational use to the public. Construction workers or trespassers could be exposed via ingestion of surface water. Therefore, the ingestion pathway for these receptors are considered potentially complete. The preliminary CSM for AOI 2 is shown on **Figure 6-3**.



CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Cecil Field AASF #1, FL			
REVISED	3/23/2020	GIS BY	MS	3/23/2020
SCALE	1:21,600	CHK BY	BM	3/23/2020
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,		PM	RG	3/23/2020

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Areas of Interest

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Figure 6-1

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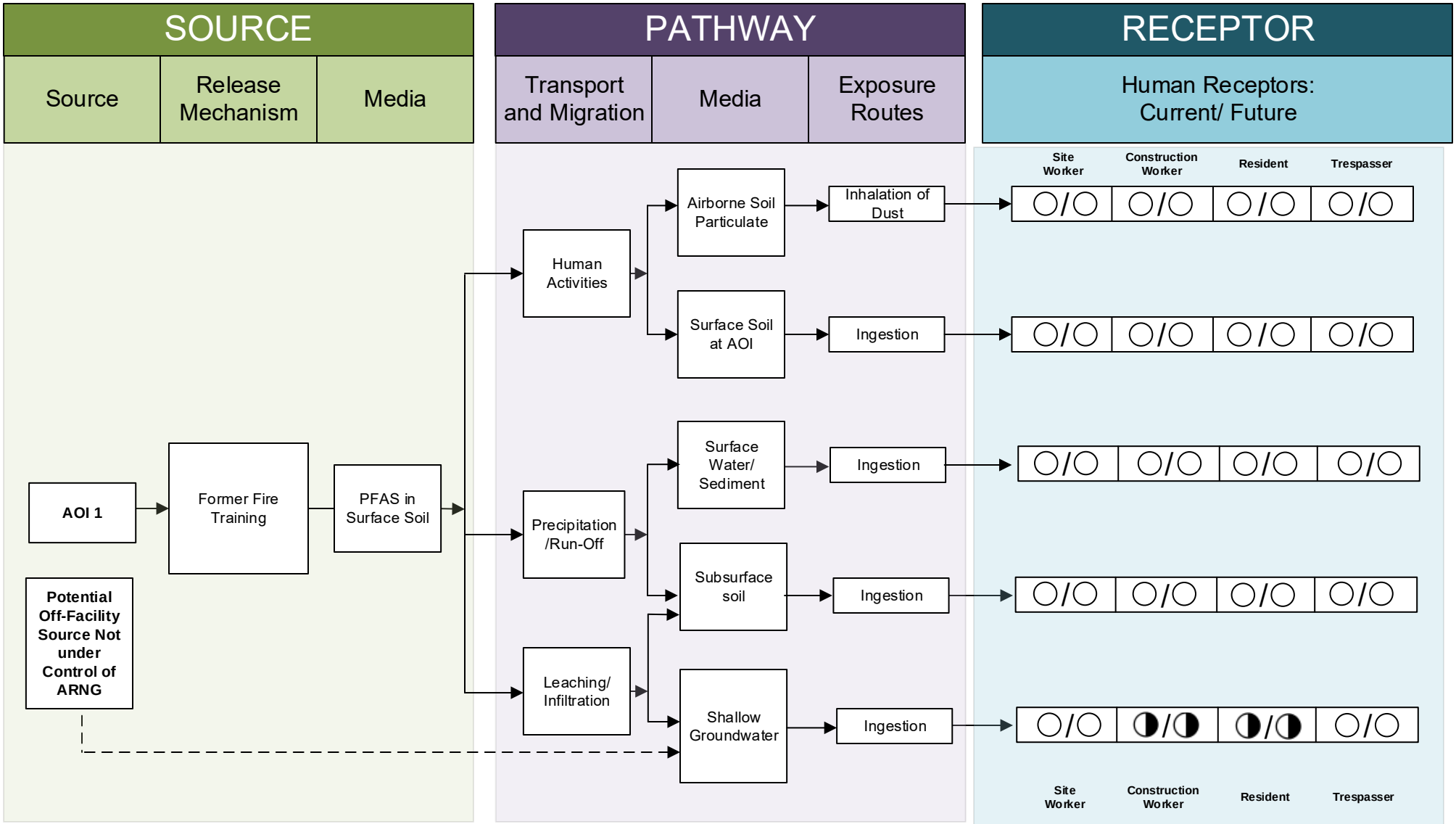
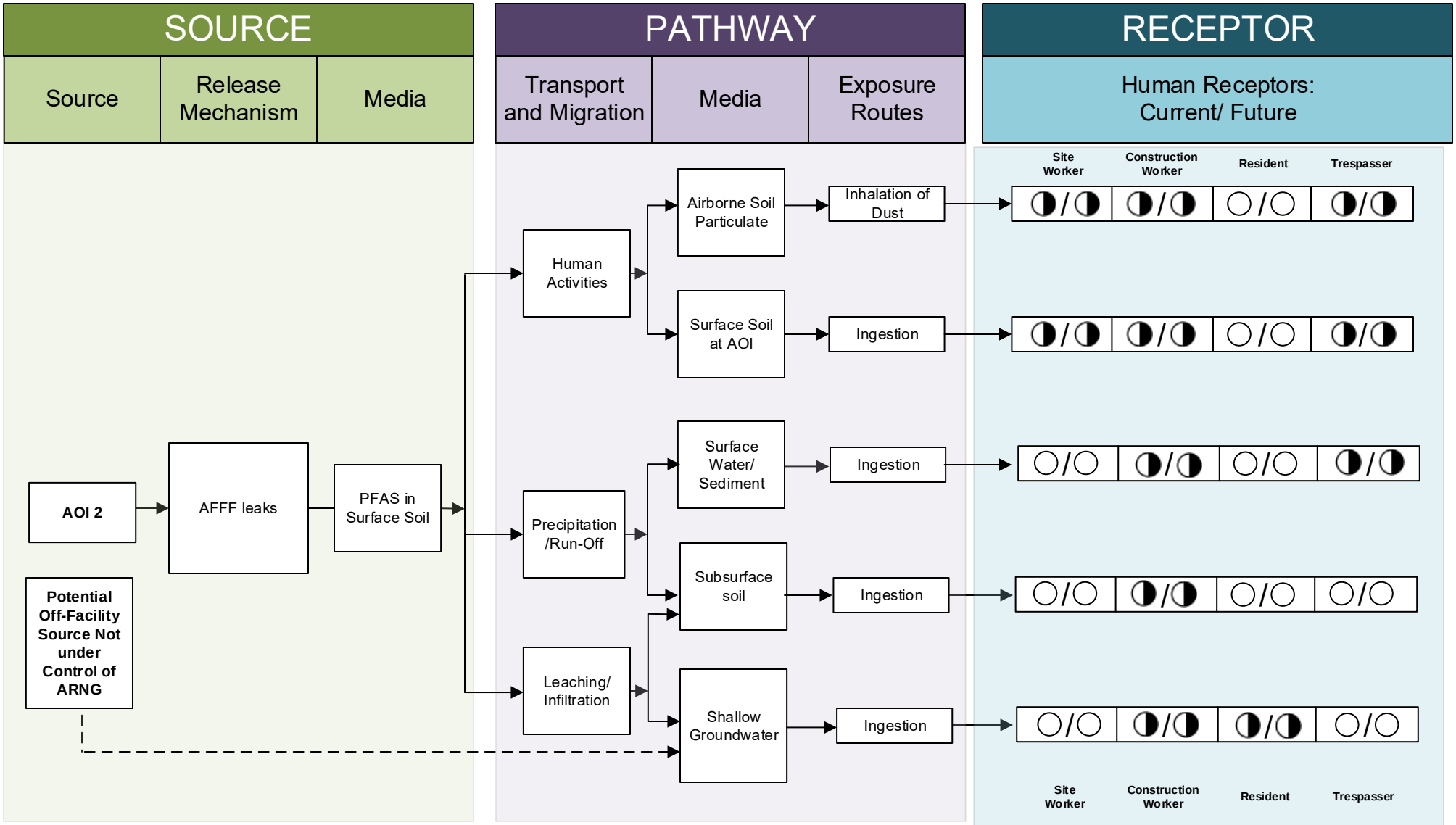


LEGEND

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

Notes:
1. The resident receptor refers to an off-site resident
2. Dermal contact exposure pathway is incomplete for PFAS

Figure 6-2
Preliminary Conceptual Site Model
AOI 1 Former Navy Fire Training Area
Florida



LEGEND

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

Notes:
1. The resident receptor refers to an off-site resident
2. Dermal contact exposure pathway is incomplete for PFAS

Figure 6-3
Preliminary Conceptual Site Model
AOI 2 Other Releases
Florida

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 Cecil Field AASF #1. The PA findings are based on the information presented in **Appendix A** and **Appendix B**.

7.1 Findings

Two AOIs related to potential PFAS release were identified at Cecil Field ASF #1 during the PA (**Figure 7-1**) and are described in **Table 7-1** below:

Table 7-1: AOIs at Cecil Field AASF #1

Area of Interest	Name	Used by	Potential Release Dates
AOI 1	Former Navy Fire Training Area, Site 7	Navy	1950s to 2003
AOI 2	Other Releases	Navy/FLARNG	Approximately 1970s to present

Based on potential PFAS release at the AOIs, there is potential for exposure to PFAS contamination in media at or near the facility. The preliminary CSMs for AASF #1, which present the potential receptors and media impacted, are shown on **Figures 6-2** and **6-3**.

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 because PFAS were considered benign. 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 based on all available information, including: previous environmental reports, EDRs™, observations made during the VSI, and interviews. Interviews of personnel with direct knowledge of a facility generally provided the most useful insights regarding a facility's historical and current PFAS-containing materials. 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, multiple persons were interviewed 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: Summary of Uncertainties

Area of Interest	Source of Uncertainty
AOIs 1 and 2	FLARNG personnel do not have firsthand knowledge of the facility prior to 2003, when the facility was operated by the Navy. Releases of AFFF prior to 2003 could only be gleaned from available public records.

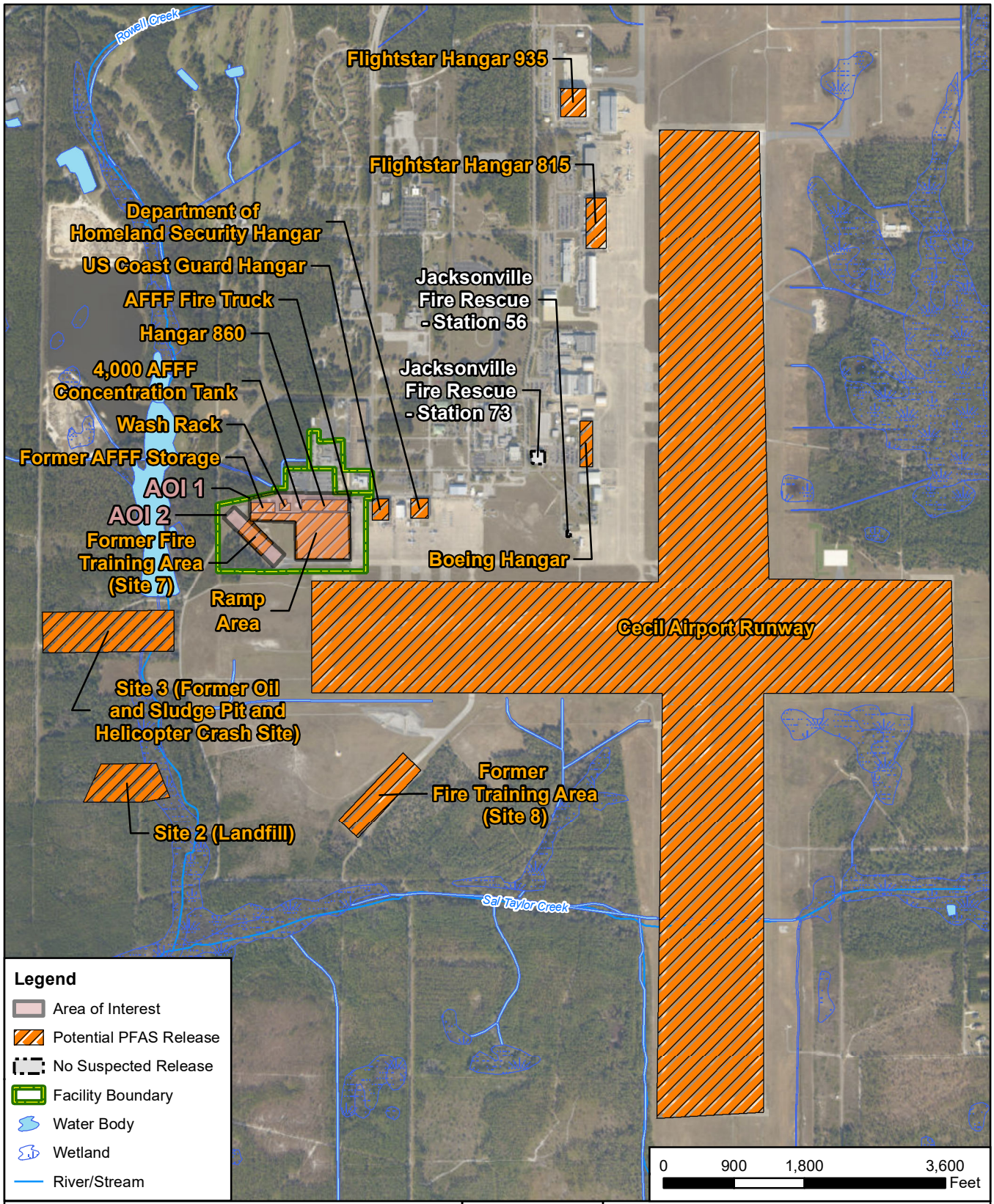
7.3 Potential Future Actions

Interviews (covering 2003 to present) indicate that FLARNG activity and former activities by the Navy may have resulted in potential PFAS releases at the AOIs identified during the PA. Based on the CSMs developed for the AOIs, there is potential for receptors to be exposed to PFAS contamination in soil, groundwater, surface water, and/or sediment at the AOIs. **Table 7-3** summarizes the rationale used to determine if the AOIs should be considered for further investigation under the CERCLA process and undergo an SI.

ARNG will evaluate the need for an SI at Cecil Field AASF #1 based on the potential receptors, the potential migration of PFAS contamination off the facility, and the availability of resources.

Table 7-3: PA Findings Summary

Area of Interest	AOI Location	Rationale	Potential Future Action
AOI 1: Former Navy FTA (Site 7)	30°13'15.1"N; 81°53'40.8"W	This area was used as an FTA during Navy operation of the facility. Fire training was conducted from 1950 to 1975. Historical records suggest that proteinaceous foams were used to extinguish flames. However, there is a potential that AFFF could have been used based on findings at similar facilities.	Proceed to an SI, focus on groundwater
AOI 2: Other Releases	30°13'15.1"N; 81°53'35.2"W	FLARNG corroded system components associated with the AFFF dispensing system, indicating minor seepage of AFFF concentrate. FLARNG personnel did not have knowledge of AFFF dispensing system tests during Navy operation.	Proceed to an SI, focus on soil, groundwater, surface water, sediment



CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Cecil Field AASF #1, FL			
REVISED	3/23/2020	GIS BY	MS	3/23/2020
SCALE	1:21,600	CHK BY	BM	3/23/2020
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,		PM	RG	3/23/2020

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Summary of Findings

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Figure 7-1

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Appendix A
Data Resources

Data resources will be provided separately on CD. Data resources for Cecil Field AASF #1 include:

Geologic Documents

- 1972 The Shallow-Aquifer System in Duval County, Florida, Roy W. Fairchild, U.S. Geological Survey and the Florida Department of Natural Resources Bureau of Geology, Tallahassee, Florida
- 1994 Water Resources of Duval County, Florida, G.G. Phelps, U.S. Geological Survey, Jacksonville, Florida

Environmental Data Resources, Inc.™ Geocheck Report

- 2019 Environmental Data Resources, Inc.™ Geocheck Report for Cecil Field AASF #1, Jacksonville, Florida

Miscellaneous Documents

- 2018 Erosion Control Stormwater Damage Document, Cecil Field AASF #1, Department of Military Affairs, Florida National Guard

Previous Assessments

- 1994 Remedial Investigation and Feasibility Study for Operable Unit 3, Operable Unit 4, Operable Unit 5, and Operable Unit 6, NAS Cecil Field, FL, ABB Environmental Services, INC
- 2000 Site Assessment Report for Building 860 Tank 860 A/B/D Base Realignment and Closure NAS Cecil Field FL, Tetra Tech NUS, INC
- 2016 Final Fourth Five Year Review Report NAS Cecil Field, FL, Resolution Consultants
- 2017 Draft Sampling and Analysis Plan for Perfluoroalkyl Substances Investigation Onsite NAS Cecil Field FL, Tetra Tech INC

Property Documents

- 2003 Quitclaim Deed, Document # 2003142001, Book 11071, Jim Fuller, Clerk Circuit Court, Duval County, Florida

Appendix B
Preliminary Assessment Documentation

Appendix B.1
Interview Records

PA Interview Questionnaire - Environmental Manager

Facility: Cecil Field AASF #1
Interviewer: [redacted]
Date/Time: 08:06 1/24/19

Interviewee: [redacted] **Title:** Environmental Program Manager **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] / [redacted] with Fire.

1. Roles or activities with the Facility/years working at the Facility.
   Started with the Guard in 1982 at Camp Blanding until 1986

2. Where can I find previous facility ownership information?
   Difficult to pin down ownership records but provided that [redacted] maintains property records. We can contact [redacted] for more information.

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 Not aware
   Fire Training Areas None
   Firefighting (Active Fire) none
   Crash None
   Fire Suppression Systems (Hangers/Dining Facilities) located in hanger 860 @ AASF #1
   Fire Protection at Fueling Stations none
   Non-Technical/Recreational/ Pest Management None
   Metals Plating Facility None
   Waterproofing Uniforms (Laundry Facilities) none
   Other

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

5. Are any current buildings constructed with AFFF dispensing systems or fire suppression systems? 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?

   Hanger 860 @ AASF #1. No recollection of any discharge of Supression System.

PA Interview Questionnaire - Environmental Manager

Facility: Cecil Field NASFH1
Interviewer: [redacted]
Date/Time: 08:06 1/29/19

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?

Not retrofitted for high expansion foam.

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

Logistics System? unknown. will follow up with maintenance Supervisor [redacted]

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)?

unknown.

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?

unknown.

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?

N/A

PA Interview Questionnaire - Environmental Manager

Facility: Ceci Field AASF #1
Interviewer: [redacted]
Date/Time: 06:06 8/29/19

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?

N/A

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?

Not ~~recollection~~ known.

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

Un Known.

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?

Un Known.

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?

Unknown.

PA Interview Questionnaire - Environmental Manager

Facility: Cecil Field AASF #1
Interviewer: [redacted]
Date/Time: 08:06 1/29/19

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?

will need to follow up on records of fuel spill logs.

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

Forest Fire management at Camp Blanding. No use of AFFF for Forest Fires here at Cecil Field

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?

unknown.

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)?

Stored at AASF #1. The Guard has a supplier that ~~maintains~~ stores or removes AFFF from site.

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

None.

PA Interview Questionnaire - Environmental Manager

Facility: Cecil Field AASF #1
Interviewer: [redacted]
Date/Time: 9:06 ~~8/16/~~ 1/24/19.

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?

Will need to Follow up.

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

will need to follow up.

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?

N/A.

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.?

N/A

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?

Unknown.

PA Interview Questionnaire - Environmental Manager

Facility: Cecil Field AASF #1
Interviewer: [redacted]
Date/Time: 08:06 PC 1/29/19.

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

[redacted] (Maintenance Supervisor) [redacted]

[redacted] (Former Fire Chief at Craig Airport + Cecil Field) [redacted]

[redacted]

Environmental Program Manager

CONSTRUCTION & FACILITY MANAGEMENT OFFICE

Department of Military Affairs
Florida Army National Guard

[redacted]

PA Interview Questionnaire - Environmental Manager

Facility:_____
Interviewer:_____
Date/Time:_____

Interviewee: [redacted] **Title:** Fire Protection 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 _____

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

   Has been at the Facility since 2011.

2. Where can I find previous facility ownership information?

   will check with

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 NO
   Firefighting (Active Fire) None
   Crash None
   Fire Suppression Systems (Hangers/Dining Facilities) ✓
   Fire Protection at Fueling Stations None
   Non-Technical/Recreational/ Pest Management None
   Metals Plating Facility None
   Waterproofing Uniforms (Laundry Facilities) None
   Other Hum V unit with AFFF unit

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

5. Are any current buildings constructed with AFFF dispensing systems or fire suppression systems? 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?

   Hanger ✓

PA Interview Questionnaire - Environmental Manager

Facility:_____
Interviewer:_____
Date/Time:_____

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?

In Hanger. Not retrofitted for high expansion foam.

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

Cintas manages the AFFF unit & the Hum-V cylinder has never been changed.

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)?

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?

unknown may have been stored in the past.

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?

No FTAs

PA Interview Questionnaire - Environmental Manager

Facility:_____
Interviewer:_____
Date/Time:_____

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?

NO FTAs

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?

Training off post at Crais Airport

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

None on post but training off post

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?

No Training on Post

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?

Any specific ?

PA Interview Questionnaire - Environmental Manager

Facility:_____
Interviewer:_____
Date/Time:_____

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?

?

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

?

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?

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)?

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

PA Interview Questionnaire - Environmental Manager

Facility:_____
Interviewer:_____
Date/Time:_____

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?

None

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.?

None

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?

Cintas manages AFFF disposal in pump room. Since his tenure, the Num V unit was never changed

PA Interview Questionnaire - Environmental Manager

Facility:_____
Interviewer:_____
Date/Time:_____

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

PA Interview Questionnaire – Fire Station

[redacted] Facility: Cecil Fred AASF#1
Interviewer: [redacted]
Date/Time: 1/29/19

Interviewee: [redacted] **Title:** Engineer (Fire Station) **Phone Number:** [redacted] **Email:** Not provided	Can your name/role be used in the PA Report? (Y) or N Can you recommend anyone we can interview? Y or N _____

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

worked for the fire Station at 56 at 1999.

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) unknown
Fire Training Areas Performed by Navy.
Firefighting (Active Fire) unknown
Crash unknown
Fire Suppression Systems (Hangers/Dining Facilities) Surpression System in Hanger.
Fire Protection at Fueling Stations None
Non-Technical/Recreational/ Pest Management none.

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

Fire Station located offsite, 1/2 mile east of Cecil Fred AASF #1.

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

No AFFF Surpression System at Station

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

N/A

PA Interview Questionnaire – Fire Station

Facility:_____
Interviewer:_____
Date/Time:_____

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)?

N/A

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

N/A

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?

N/A

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?

N/A

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

N/A

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?

N/A

PA Interview Questionnaire – Fire Station

Facility:_____
Interviewer:_____
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?

Former Fire training area Previously identified

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

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?

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?

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.

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?

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?

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

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)?

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?
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?

PA Interview Questionnaire – Fire Station

Facility: Cecil Field AAFF #1
Interviewer: [redacted]
Date/Time: 2/7/19

Interviewee: [redacted] **Title:** Fire Chief First 111th Aviation **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

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

   Crew Year transition to Cecil. 2 or 3 years at Cecil
   No recollection no Single discharge
   training at Craig. no more than a gallon of AFFF

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 none
   Firefighting (Active Fire)
   Crash none
   Fire Suppression Systems (Hangers/Dining Facilities) Hanger
   Fire Protection at Fueling Stations
   Non-Technical/Recreational/ Pest Management no release of foam.

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

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

   N/A

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

PA Interview Questionnaire – Fire Station

Facility:_____
Interviewer:_____
Date/Time:_____

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.?

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?

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?

Ahead. Basically 11 gal tank on truck
Undo lid pour 3 gal of Concentrate.
No Spills. No Secondary Containment follow up?

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

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 Foam discharges at Cert.

PA Interview Questionnaire – Fire Station

Facility:_____
Interviewer:_____
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?

None

Crash

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

None

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?

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?

City

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?

None

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.

Crash offsite

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?

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

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

NO

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)?

Store Saddy

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?

No discharges.

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?

Stayed onsite

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

250,000 gal water tank for AFFF System

PA Interview Questionnaire - Environmental Manager

Facility: Ceal Field AASF #1
Interviewer: [redacted]
Date/Time: 1/29/19 10:26

Interviewee: [redacted] **Title:** Maintenance Supervisor **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 Sgt [redacted] Fire prevention coordinator

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

Maintenance Supervisor who has been working at Ceal Field for 16 years. Started back in 2003 - 1 year after the guard took over the facility from the navy.

2. Where can I find previous facility ownership information?

Unknown previous interview with real property & Mark Widner indicates that [redacted] maintains real property detail.

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 None onsite. All Fire training takes place at FSCJ.
Firefighting (Active Fire) No recollection of a crash or fire onsite.
Crash See above Crash rescue did not use AFFF
Fire Suppression Systems (Hangers/Dining Facilities) Only fire suppression system in Hanger 860
Fire Protection at Fueling Stations
Non-Technical/Recreational/ Pest Management None
Metals Plating Facility None
Waterproofing Uniforms (Laundry Facilities) None.
Other

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

5. Are any current buildings constructed with AFFF dispensing systems or fire suppression systems? 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?

AFFF Dispensing System in Hanger 860. The facility does a weekly re-circ run for 30 minutes. Staff simulate an event, trigger the system just running clean water. water is being discharged from heat exchanger, nothing is in contact with the AFFF.

As builts can be produced if needed. A five year inspection is scheduled for 2020.

PA Interview Questionnaire - Environmental Manager

Facility: Cecil Field AASF #1
Interviewer: [redacted]
Date/Time: 1/29/19 10:26

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?

Fire Suppression System Charged with AFFF. Have not been retrofitted with high expansion foam.

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

Local contractors, [redacted] manages taking AFFF on & offsite. They pump the 4,000 gal AFFF tank outside the Pump room directly to their trucks & manage disposal offsite.

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)?

understood to be 3 or 6%. Ansul.

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?

No Storage areas. The only Storage? is the 4,000 gallon tank west of Hanger 860 which is South of the Pump room. In this tank as Concentrated material. Material comes in contact with water when System is tripped. AFFF Bulated during tests.

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?

The guard does not have or has ever had FTAs.
Staff believe that the Navy used an FTA Southwest of hanger 860. Paved area with landing pad.
The last FTA was performed by Navy & the date is unknown.
Presumably ~ 2002.

PA Interview Questionnaire - Environmental Manager

Facility: Cecil Field AASF #1
Interviewer: [redacted]
Date/Time: 1/29/19 10:20

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?

No training onsite with AFFF. Prior use by the Navy is unknown.

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?

None specific. It is believed that the Navy performed fire training ~ 900 feet SW of Hanger 860. unable to provide records / photographs since prior use is speculated & unknown.

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

Fire training takes place at FSCJ campus.

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?

see NA

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 known emergency responses.

PA Interview Questionnaire - Environmental Manager

Facility: Cecil Field NASF #1
Interviewer: [redacted]
Date/Time: 1/29/19 10:20

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?

N/A

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

N/A

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?

City fire department Jacksonville Fire rescue Station 56.

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)?

One AFFF unite mounted on a Skid on an ATV. located at the NE Corner of Hanger 860.

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

N/A

PA Interview Questionnaire - Environmental Manager

Facility: Cecil Field AASF#1
Interviewer: [redacted]
Date/Time: 1/28/19 10:26

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?

Unknown

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

unknown

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?

N/A.

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.?

N/A

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?

[redacted] handles removal of AFFF from 4,000 gal tank outside of pump room, west of Hanger 860.

PA Interview Questionnaire - Environmental Manager

Facility: Cecil Field AASF #1
Interviewer: [redacted]
Date/Time: 1/24/19 10:26

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

Sargent [redacted]
Fire Prevention Coordinator

Appendix B.2
Visual Site Inspection Checklists

Facility ST
Visual Survey Inspection Log

Recorded by: [redacted]

ARNG Contact: [redacted]

Date: 1/29/19

Site Name / Area Name / Unique ID: Cecil Field AASSF #1 / Hanger 660 / 4,000 gal Concentrate Tank

Site / Area Acreage:

Historic Site Use (Brief Description):

Current Site Use (Brief Description): 4,000 gallon concentrate tank

1. Was AFFF used at the site/area? (Y) / N

3a. If yes, document how AFFF was used and usage time (e.g., *fire fighting training 2001 to 2014)* Holding tank for AFFF Concentrate. Local contractors exchange Concentrate directly to trucks

2. Has usage been documented? Y / (N)

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

No records available.

Significant Topographical Features:

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

1a. If so, please describe change: (*ex. Structures structures 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 :

Migration Potential:

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

1a. If so, please note observation and location: Drainage to the South.

2. Is there standing water or drainage issues within the site/area? Y / (N)

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

3. Is there channelized flow within the site/area? Y / (N)

3a. If so, please note observation and location:

4. Have man-made drainage channels been constructed within the site/area? (Y) / N

4a. If so, please note the location of the channel: Storm drains to the South and West of this area.

Additional Notes

Conduit replaced due to corrosion. Another line was noted to have been patched. FLARNG noted that may have been seepage issues in the past.

Facility ST
Visual Survey Inspection Log

Photographic Log

Photo ID/Name	Date & Location	Description	Photograph
1	1/29/19 ~~Concen~~ Cecil Field	4,000-gal Concentrate tank	Looking East
2	1/29/19 Cecil Field NASF #1	Looking North	Conduit replaced due to corrosion.
3	1/29/19 Cecil Field NASF #1	Looking East	Patched conduit leading to pump room.

Facility ST
Visual Survey Inspection Log

Recorded by: [redacted]
ARNG Contact: [redacted]
Date: 1/24/19

Site Name / Area Name / Unique ID: Cecil Field AASF #1 / Hanger 860 / Pump room.
Site / Area Acreage:
Historic Site Use (Brief Description):

Current Site Use (Brief Description): Pump between 4,000 gal concentrate/250,000 gal water and Hanger

1. Was AFFF used at the site/area? (Y) / N
   3a. If yes, document how AFFF was used and usage time (e.g., *fire fighting training 2001 to 2014*)
   No record of triggering the systems. pumps mixed AFFF to suppression nozzles
2. Has usage been documented? Y / (N)
   2a. If yes, keep a record (place electronic files on a disk)
   No record of triggering system.

Significant Topographical Features:

1. Has the infrastructure changed at the site/area? Y / (N)
   1a. If so, please describe change: (*ex. Structures structures longer exist.*)
2. Is the site/area vegetated? Y / (N)
   2a. If not vegetated, briefly describe the site/area composition: Inside Hanger 860.
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 :

Migration Potential:

1. Does site/area drainage flow off installation? Y / (N)
   1a. If so, please note observation and location: Floor drains lead to oil water seperator (OWS)
2. Is there standing water or drainage issues within the site/area? Y / (N)
   2a. If so, please note observation and location:
3. Is there channelized flow within the site/area? (Y) / N
   3a. If so, please note observation and location: Floor drains lead to OWS.
4. Have man-made drainage channels been constructed within the site/area? (Y) / N
   4a. If so, please note the location of the channel: Floor drains to OWS.

Additional Notes

No evidence of Corrosion/ Seepage.

Facility ST
Visual Survey Inspection Log

Photographic Log

Photo ID/Name	Date & Location	Description	Photograph
4	1/29/19 Cecil Field #1 AASF	unknown direction	general view of Pump room.

Facility ST
Visual Survey Inspection Log

Recorded by: [redacted]
ARNG Contact: [redacted]
Date: 1/29/19

Site Name / Area Name / Unique ID: Cecil Field AASF #1 / Hangar 860 / Deluge Room
Site / Area Acreage:
Historic Site Use (Brief Description): Deluge Room associated with suppression system

Current Site Use (Brief Description): See Above

1. Was AFFF used at the site/area? (Y) / N
   3a. If yes, document how AFFF was used and usage time (e.g., *fire fighting training 2001 to 2014*) Associated with AFFF Suppression system. Full scale system test not conducted by FLRNG
2. Has usage been documented? Y / (N)
   2a. If yes, keep a record (place electronic files on a disk)
   No records available

Significant Topographical Features:

1. Has the infrastructure changed at the site/area? Y / (N)
   1a. If so, please describe change: (*ex. Structures structures 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 :

Migration Potential:

1. Does site/area drainage flow off installation? Y / (N)
   1a. If so, please note observation and location: Floor Drains to OWS
2. Is there standing water or drainage issues within the site/area? Y / (N)
   2a. If so, please note observation and location:
3. Is there channelized flow within the site/area? (Y) / N
   3a. If so, please note observation and location: Floor drains to OWS
4. Have man-made drainage channels been constructed within the site/area? (Y) / N
   4a. If so, please note the location of the channel: Floor drains to OWS

Additional Notes

Corrosion from concentrate seepage noted in Deluge Room

Facility ST
Visual Survey Inspection Log

Photographic Log

Photo ID/Name	Date & Location	Description	Photograph
5	1/29/19 Ceell Field AKFH	unknown direction	Shutoff valve with rust staining
6	1/29/19 Ceell Field AKFH	unknown direction	Corroded conduit in deluse room.

Facility ST
Visual Survey Inspection Log

Recorded by: [redacted]
ARNG Contact: 1/29/19
Date: [redacted]

Site Name / Area Name / Unique ID: Cell Field AASf#1 / Hangar 860 / Fire Truck
Site / Area Acreage:
Historic Site Use (Brief Description):

Current Site Use (Brief Description): ~~Steel~~ mounted AFFF + Purple K Fire Truck Stand. not in use

1. Was AFFF used at the site/area? Y / (N)
   3a. If yes, document how AFFF was used and usage time (e.g., *fire fighting training 2001 to 2014)* NO
   documentation or FL ARNG Knowledge of AFFF use easily.
2. Has usage been documented? Y / (N)
   2a. If yes, keep a record (place electronic files on a disk)
   See above

Significant Topographical Features:

1. Has the infrastructure changed at the site/area? Y / (N)
   1a. If so, please describe change: (*ex. Structures structures 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 :

Migration Potential:

1. Does site/area drainage flow off installation? Y / (N)
   1a. If so, please note observation and location:
2. Is there standing water or drainage issues within the site/area? Y / (N)
   2a. If so, please note observation and location: ~~Storm drain~~ 150' east drain to (Bay) canals
3. Is there channelized flow within the site/area? (Y) / N
   3a. If so, please note observation and location: Storm drain 150' east, drain to canals
4. Have man-made drainage channels been constructed within the site/area? (Y) / N
   4a. If so, please note the location of the channel: See above

Additional Notes

No evidence of Seepage.

Facility ST
Visual Survey Inspection Log

Photographic Log

Photo ID/Name	Date & Location	Description	Photograph
7	1/29/19 Cecil field ARSF #1	Looking west	Fire truck containing AFFF concentrate
8	1/29/19 Cecil Field #ASF#1	Looking N	Fire truck containing AFFF concentrate.

Facility ST
Visual Survey Inspection Log

Recorded by: [redacted]
ARNG Contact:
Date: 1/29/19

Site Name / Area Name / Unique ID: Cecil Field AASF #1 / Hangar 860 / Former FTA
Site / Area Acreage:
Historic Site Use (Brief Description): Used by Navy as a Fire Training Area

Current Site Use (Brief Description): Trucks Staged on RAMP next to Former FTA.

1. Was AFFF used at the site/area? (Y) / N
   3a. If yes, document how AFFF was used and usage time (e.g., *fire fighting training 2001 to 2014*)
   Fire Training by Navy Prior to FLARNG operation starting in 2003
2. Has usage been documented? Y / (N)
   2a. If yes, keep a record (place electronic files on a disk)
   Will have to check public records. FLARNG does not have knowledge of FTA.

Significant Topographical Features:

1. Has the infrastructure changed at the site/area? Y / (N)
   1a. If so, please describe change: (*ex. Structures structures longer exist.*)
2. Is the site/area vegetated? (Y) / N
   2a. If not vegetated, briefly describe the site/area composition: Vegetated area Northeast of RAMP.
3. Does the site or area exhibit evidence of erosion? (Y) / N
   3a. If yes, describe the location and extent of the erosion : Sandy in some areas.
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 : Storm drains in area to reduce ponding

Migration Potential:

1. Does site/area drainage flow off installation? (Y) / N
   1a. If so, please note observation and location: Surface drainage presumably west
2. Is there standing water or drainage issues within the site/area? Y / (N)
   2a. If so, please note observation and location:
3. Is there channelized flow within the site/area? (Y) / N
   3a. If so, please note observation and location: Storm drains in area. Drain to OWS
4. Have man-made drainage channels been constructed within the site/area? (Y) / N
   4a. If so, please note the location of the channel: See above.

Additional Notes
Unclear to determine exact location of FTA.

Facility ST
Visual Survey Inspection Log

Photographic Log

Photo ID/Name	Date & Location	Description	Photograph
9	1/29/19 Cecil Field AASF#1	Looking Southwest	General view of Suspected FTA

Appendix B.3
Conceptual Site Model Information

Preliminary Assessment – Conceptual Site Model Information

Site Name: Cecil Field AASF #1 / Hangar 860 / ~~Fire~~ Fire Training Area

Why has this location been identified as a site? Noted seepage at various components of the suppression system. No Testing of the system using foam by guard but use by the Navy is unknown

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

Aviation facilities at Cecil Commerce Center to the east (upgradient)

Training Events

Have any training events with AFFF occurred at this site? Not by FLARNG. Navy FTA prior to 2003

If so, how often? N/A unknown

How much material was used? Is it documented? N/A unknown

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? west

Average rainfall? ~50"

Any flooding during rainy season? unknown

Direct or indirect pathway to ditches? No ditches identified, only storm drains

Direct or indirect pathway to larger bodies of water?

Does surface water pond any place on site? No

Any impoundment areas or retention ponds? NO

Any NPDES location points near the site? unknown

How does surface water drain on and around the flight line? Drainage to the west.

Storm drains send water to ows then to municipal stormwater treatment

Preliminary Assessment – Conceptual Site Model Information

Groundwater:

Groundwater flow direction? Northwest

Depth to groundwater? ≈ 5 feet Below land surface.

Uses (agricultural, drinking water, irrigation)? Possibly agricultural, drinking from municipal of deeper aquifer.

Any groundwater treatment systems? No

Any groundwater monitoring well locations near the site? Former Navy monitoring wells appear to have been abandoned

Is groundwater used for drinking water? No.

Are there drinking water supply wells on installation? No

Do they serve off-post populations? No

Are there off-post drinking water wells downgradient potable wells Still gradient to Silt. Unknown if used for drinking.

Waste Water Treatment Plant:

Has the installation ever had a WWTP, past or present? No

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

Do we understand the fate of sludge waste? N/A

Is surface water from potential contaminated sites treated? N/A

Equipment Rinse Water

1. Is firefighting equipment washed? Where does the rinse water go? N/A. If in the past, Storm drains in area flow to city Stormwater treatment.

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? N/A. No testing or FTA by FL ARNG.

3. Other?

Preliminary Assessment – Conceptual Site Model Information

Identify Potential Receptors:

Site Worker working near in Hangar 4 by Former FTA

Construction Worker Same as above

Recreational User N/A

Residential N/A

Child N/A

Ecological Conservation area to the west

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

Rural residential beyond CCCHA Customer Center.

Documentation

Ask for Engineering drawings (if applicable).

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	Cecil Field AASF #1	Jacksonville, Florida

Photograph No. 1

Description:

Looking east

General view of the 4,000-gallon concentrate tank

Photo date 1/29/19

Photograph No. 2

Description:

Looking north.

Conduit replaced due to corrosion.

Photo Date: 1/29/19

APPENDIX C – Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Cecil Field AASF #1	Jacksonville, Florida

Photograph No. 3

Description:

Looking east.

Patched conduit leading to pump room

Photo Date: 1/29/19

Photograph No. 4

Description:

Unknown direction

General view of pump room

Photo Date: 1/29/19

APPENDIX C – Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Cecil Field AASF #1	Jacksonville, Florida

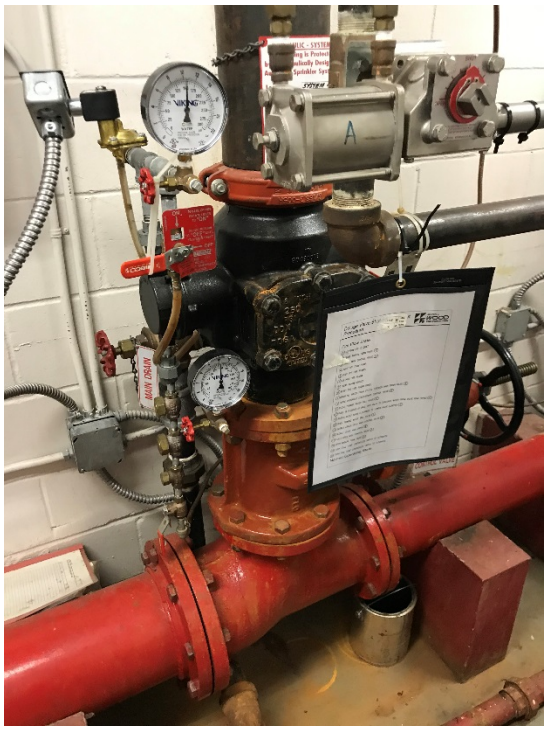
Photograph No. 5

Description:

Unknown direction

Shutoff valve with rust staining in deluge room

Photo Date: 1/29/19



Photograph No. 6

Description:

Unknown direction

Conduit in deluge room with rust staining

Photo Date: 1/29/19

APPENDIX C – Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Cecil Field AASF #1	Jacksonville, Florida

Photograph No. 7

Description:

Looking west

Fire truck containing AFFF concentrate

Photo Date: 1/29/19

Photograph No. 8

Description:

Looking north

Fire truck containing AFFF concentrate

Photo Date: 1/29/19

APPENDIX C – Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Cecil Field AASF #1	Jacksonville, Florida

Photograph No. 9

Description:

Looking southwest

General view of suspected Navy FTA

Photo Date: 1/29/19