FINAL
Preliminary Assessment Report
Brooksville Readiness Center / AASF #2
Spring Hill, Florida

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

August 2020

Prepared for:

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

Table of Contents

Executive Summary 1
1. Introduction 4
    1.1 Authority and Purpose 4
    1.2 Preliminary Assessment Methods 4
    1.3 Report Organization 5
    1.4 Facility Location and Description 5
    1.5 Facility Environmental Setting 5
        1.5.1 Geology 6
        1.5.2 Hydrogeology 6
        1.5.3 Hydrology 7
        1.5.4 Climate 7
        1.5.5 Current and Future Land Use 8
2. Fire Training Areas 12
3. Non-Fire Training Areas 13
    3.1 Wash Rack Area 13
    3.2 AFFF Spill Area 13
    3.3 AASF #2 Hangar 13
    3.4 C-23 Hangar 13
4. Emergency Response Areas 16
5. Adjacent Sources 17
    5.1 Brooksville – Tampa Bay Regional Airport 17
6. Preliminary Conceptual Site Model 19
7. Conclusions 22
    7.1 Findings 22
    7.2 Uncertainties 22
    7.3 Potential Future Actions 23
8. References 25

Figures

Figure ES-1 Summary of Findings
Figure ES-2 Conceptual Site Model, Brooksville Readiness Center
Figure 1-1 Facility Location
Figure 1-2 Groundwater Features
Figure 1-3 Surface Water Features
Figure 3-1 Non-Fire Training Areas
Figure 5-1 Adjacent Sources
Figure 6-1 Areas of Interest
Figure 6-2 Conceptual Site Model, AOI 1 Wash Rack Area / AOI 2 AFFF Spill Area
Figure 7-1 Summary of Findings

Tables

Table 7-1: AOIs at Brooksville RC
Table 7-2: No Suspected Release Areas
Table 7-3: Uncertainties within the PA
Table 7-4: Rationale

Appendices

Appendix A Data Resources
Appendix B Preliminary Assessment Documentation
B.1 Interview Records
B.2 Visual Site Inspection Checklists
B.3 Conceptual Site Model Information
Appendix C Photographic Log

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
Brooksville RC	Brooksville Readiness Center/Army Aviation Support Facility #2
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CSM	conceptual site model
EDR	Environmental Data Resource
FEMA	Federal Emergency Management Agency
FL	Florida
FLARNG	Florida Army National Guard
FTA	fire training area
gpm	gallons per minute
NGWA	National Ground Water Association
PA	Preliminary Assessment
PFAS	per- and poly-fluoroalkyl substances
PFOA	perfluorooctanoic acid
PFOS	perfluorooctanesulfonic acid
RC	Readiness Center
SI	Site inspection
US	United States
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
VSI	visual site inspection

Executive Summary

The United States (US) Army Corps of Engineers (USACE) Baltimore District on behalf of the Army National Guard (ARNG) G9, Cleanup Branch contracted AECOM Technical Services, Inc. (AECOM) to perform *Preliminary Assessments (PAs) and Site Inspections (SIs) for Perfluorooctanesulfonic acid (PFOS) and Perfluorooctanoic acid (PFOA) Impacted Sites at ARNG Facilities Nationwide*. The ARNG is assessing potential effects on human health related to processes at facilities that used per- and poly-fluoroalkyl substances (PFAS) (a suite of related chemicals), primarily in the form of aqueous film forming foam (AFFF) released during firefighting activities or training, although other PFAS sources are possible.

AECOM completed a PA for PFAS at Brooksville Readiness Center (RC)/Army Aviation Support Facility (AASF) #2 (also referred to as "Brooksville RC") in Spring Hill, Florida (FL), to assess potential PFAS release areas and exposure pathways to receptors.

The performance of this PA included the following tasks:

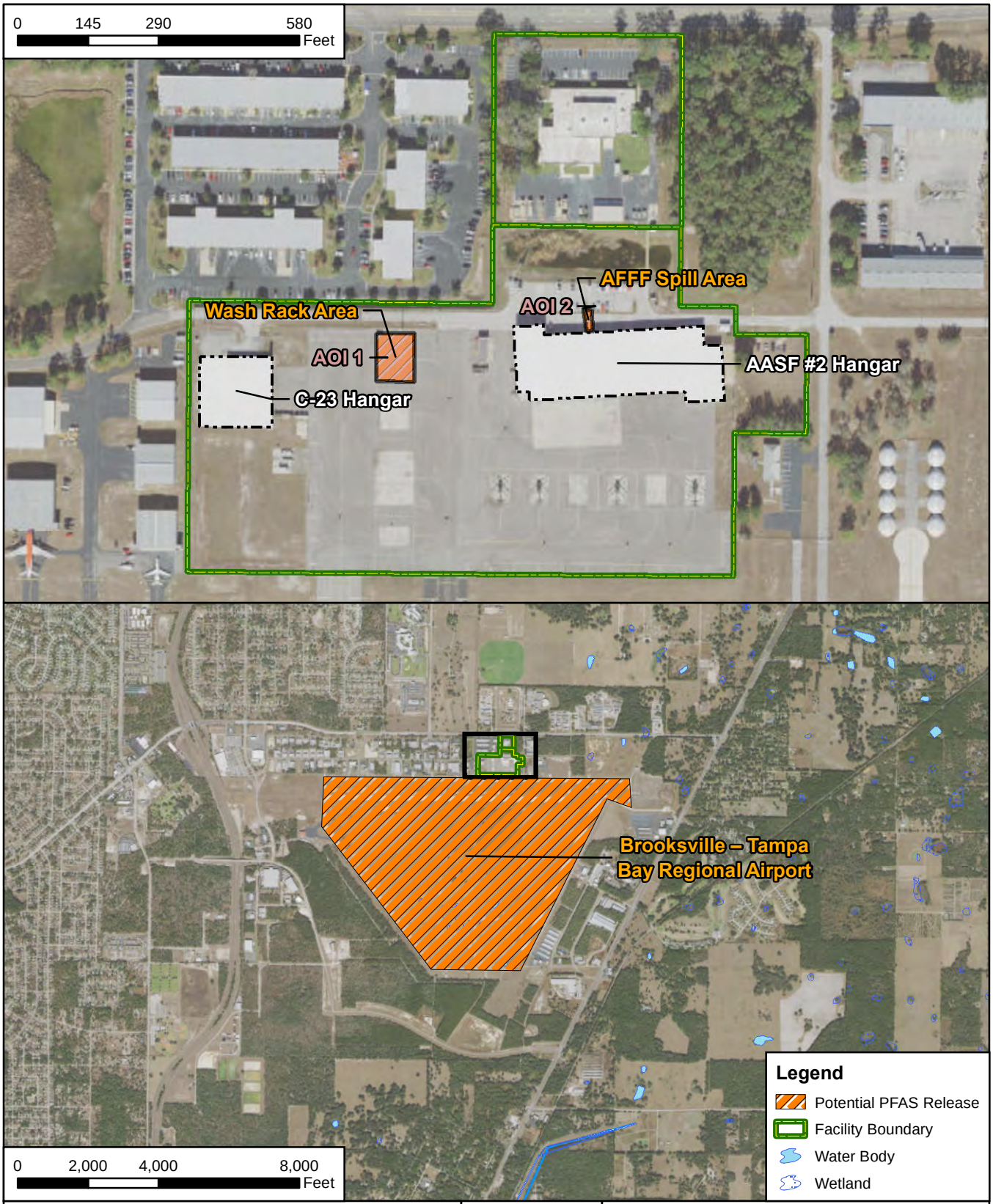
- Reviewed data resources to obtain information relevant to suspected PFAS releases
- Conducted a 1-day site visit on 4 February 2019.
- Interviewed current Brooksville RC personnel during the site visit including Florida ARNG (FLARNG) operations staff and Hernando County Station No. 14 Fire Chief.
- Completed visual site inspections (VSIs) at known or suspected PFAS release locations and documented with photographs
- Developed a conceptual site model (CSM) to outline the potential release, pathway, and receptors of PFAS for Brooksville RC.

Two Areas of Interest (AOIs) related to potential PFAS releases were identified at Brooksville RC during the PA. The AOIs are shown on **Figure ES-1** and described in **Table ES-1** below:

Table ES- 1: AOIs at Brooksville RC/AASF#2

Area of Interest	Name	Used by	Potential Release Dates
AOI 1	Wash Rack Area	FLARNG	2007 - 2008
AOI 2	AFFF Spill Area	FLARNG	2002 - 2003

Based on documented potential PFAS releases at these AOIs, there is potential for exposure to PFAS contamination in media at or near the facility. The CSM for Brooksville RC, which presents the potential receptors and media impacted, is shown on **Figure ES-2**. Based on the third Unregulated Contaminant Monitoring Rule (UCMR3) data, it was indicated that there were no detections above USEPA Health Advisory levels in public water systems within 20 miles of the facility.



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NOTES	Preliminary Assessment for PFAS at Brooksville Readiness Center, FL			
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SCALE	1:48,000	CHK BY	MG	7/29/2019
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,		PM	RG	7/29/2019

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Summary of Findings

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Figure ES-1

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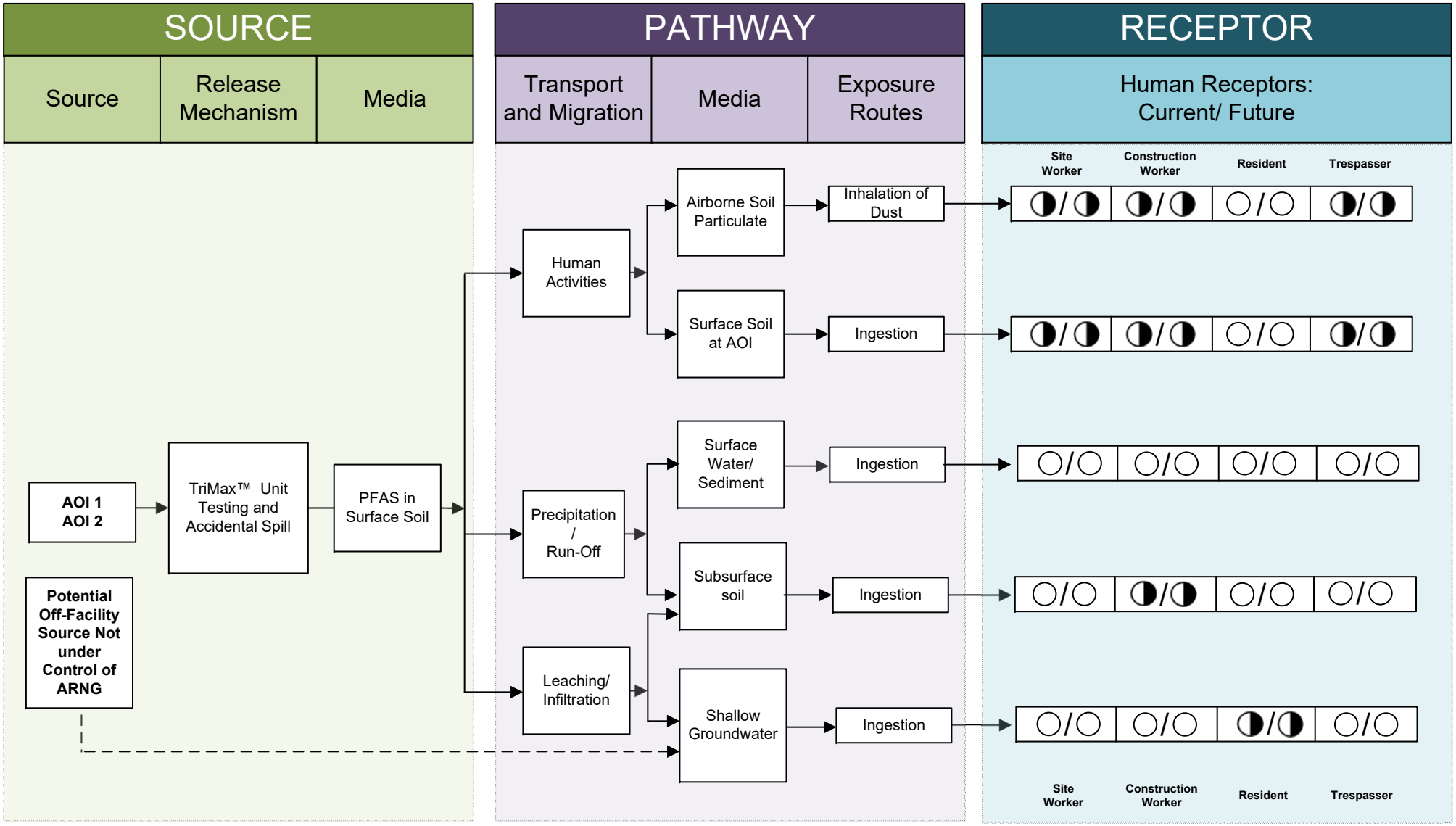


LEGEND

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

Figure ES-2
Preliminary Conceptual Site Model
Brooksville Readiness Center/AASF #2

1. Introduction

1.1 Authority and Purpose

The United States (US) Army Corps of Engineers (USACE) Baltimore District on behalf of the Army National Guard (ARNG) G9, Cleanup Branch contracted AECOM Technical Services, Inc. (AECOM) to perform *Preliminary Assessments (PAs) and Site Inspections (SIs) for Perfluorooctanesulfonic acid (PFOS) and Perfluorooctanoic acid (PFOA) Impacted Sites at ARNG Facilities Nationwide* under Contract Number W912DR-12-D-0014, Task Order W912DR17F0192, issued 11 August 2017, and Modification 01 issued 30 September 2017. The ARNG is assessing potential effects on human health related to processes at their facilities that used per- and poly-fluoroalkyl substances (PFAS) (a suite of related chemicals), primarily releases of aqueous film forming foam (AFFF) although other sources of PFAS are possible. In addition, the ARNG is assessing businesses or operations adjacent to the ARNG facility (not under the control of ARNG) that could potentially be responsible for a PFAS release.

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

This report presents findings of a PA for PFAS at Brooksville Readiness Center (RC)/Army Aviation Support Facility (AASF) #2 (also referred to as Brooksville RC) in Spring Hill, FL, 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 USACE requirements and guidance.

This PA documents the known fire training areas (FTAs) as well as additional locations where PFAS may have been released into the environment at Brooksville RC. The term PFAS will be used throughout this report to encompass all PFAS chemicals being evaluated, including PFOS and PFOA, which are key components of AFFF.

1.2 Preliminary Assessment Methods

The performance of this PA included the following tasks:

- Reviewed data resources to obtain information relevant to suspected PFAS releases
- Conducted a 1-day site visit on 4 February 2019
- Interviewed current Brooksville RC personnel during the site visit including Florida Army National Guard (FLARNG) operations staff and Hernando County Station No. 14 Fire Chief
- Completed visual site inspections (VSI) at known or suspected PFAS release locations and documented with photographs
- Developed a conceptual site model (CSM) to outline the potential release and pathway of PFAS for each area of interest (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** – **Conceptual Site Model:** describes the pathways of PFAS transport and receptors at each AOI.
- **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

Brooksville RC is located at 16386 Spring Hill Drive, Spring Hill, Florida in Hernando County in western central Florida and borders the Brooksville – Tampa Bay Regional Airport to the south. (**Figure 1-1**).

Brooksville RC is an FLARNG aviation maintenance facility for helicopters. Impervious surfaces made up of roadways, parking lots, helipads, and taxi lanes. Physical structures include two hangars, wash rack, equipment storage areas, and cantonment areas with dining facilities. Based on Interviewee knowledge dating back to 2001, the hangar facility was constructed March 2001. Aerial photos from the Environmental Data Resource (EDR) Reports show only an armory within the property boundaries from 1995 to 1998. Prior to 1995, the property boundary remained undeveloped.

1.5 Facility Environmental Setting

Brooksville RC resides within Hernando County. Hernando County can be divided into four general parts based on physiography: the coastal swamps, the Gulf Coastal Lowlands, Brooksville Ridge, and Tsala Apopka Plain. Brooksville RC is within the Gulf Coastal Lowlands, southwest of the Brooksville Ridge and situated between the Weeki Wachi and Withlacoochee Rivers. This area is not continuous throughout the length of the county and ranges from less than a mile to about 2 miles in width. Elevations are mostly between about 10 and 50 feet above sea level. The area consists mostly of pine and palmetto flatwoods with numerous small ponds in

smaller areas of broad, grassy sloughs. The soils are predominantly nearly level, wet, and sandy. The sandy subsoil is weakly cemented with organic matter (Hyde, 1975).

1.5.1 Geology

Pasco and Hernando Counties are underlain by several thousand feet of sedimentary rocks, primarily limestones. Geological formation ages for Paso and Hernando counties include Eocene, Oligocene, Miocene, and Pleistocene Series.

The Eocene age formations include Lake City Limestone, Avon Park Limestone, Inglis Formation, Williston Formation, and the Crystal River Formation. The Lake City and Avon Park Limestone lithology consists of soft to hard, fossiliferous, brown limestone with dark brown beds of dolomitic limestone at irregular intervals, which contains more sulfate than water from overlying formations. Thickness of the Avon Park Limestone in the area ranges from 50 to about 500 feet. The dolomitic zone about 100 feet below the top of the formation is highly permeable and yields large quantities of water to surrounding wells. The Inglis Formation lithology consists of brown to gray, fossiliferous, hard dolomitic limestone, overlies the Avon Park Limestone, and attains a thickness of 40 to 60 feet. The formation is highly permeable over the area and yields large quantities of water to wells. Wells that produce more than 1,000 gallons per minute (gpm) generally penetrate the Inglis Formation. The Inglis Formation is overlain by the Williston Formation, which is overlain by the Crystal River Formation. The Crystal River and Williston Formations exhibit similar lithologic and hydrologic formations. Lithologically, the formations are generally white to tan, soft chalky, coquinoid limestones. The formations attain a thickness of 100 to 150 feet and are not an important source of water in the area.

The Oligocene Series Formation include the Suwannee Limestone, which overlies the Crystal River Formation. Lithology in this formation is generally white to yellow, fine-grained, fossiliferous limestone. Lower parts of the formation are harder, denser, and less fossiliferous than the upper part. The Suwannee Limestone is a very permeable, productive aquifer. Most domestic and many irrigation wells produce from the lower part of the Suwannee Limestone.

The Miocene Series Formation include the Hawthorn Group and Tampa Limestone, which overlies the Suwannee Limestone. Lithology in this formation is a white to gray, sandy, fossiliferous limestone. Thickness of the formation in the area is erratic due to irregular erosional surfaces. The Tampa Limestone is not a major source of water in Pasco and Hernando counties. (Wetterhall 1964). The Hawthorn Group is thin and discontinuous in the south, and generally absent toward the north, except for a few erosional remnants associated with the ridges. The limestone units beneath the clastic deposits of the Cypress head Formation and the Hawthorn Group in this region can include the Suwannee Limestone of Oligocene age and Ocala Limestone and Avon Park Formation of Eocene age (Trommer 2009).

The Pleistocene Series formation include undifferentiated deposits of sand and clay that overlie the Tampa Limestone. These sediments consist of interbedded sands and clays that reach a maximum thickness of 250 feet. A few domestic wells produce water from the sand. The water generally contains iron and are likely to be highly colored (Wetterhall 1964).

1.5.2 Hydrogeology

The principal hydrogeologic units within the watershed from shallow to deep are the surficial aquifer, the intermediate confining unit, the Upper Floridan aquifer, middle confining unit, and the Lower Floridan aquifer. The discussion below focuses on the uppermost aquifer, as it is the most likely to be affected by PFAS releases.

The surficial aquifer consists of unconsolidated clastic sediments of sand, clayey sand, and organic debris. This unit is referred to as the surficial aquifer system where more than one permeable unit is present or where these units are interbedded. The thickness of the aquifer is variable generally, surficial deposits are thinnest near the river and thickest toward the ridges. Where low permeability clays of the Hawthorn Group separate the limestone and sand, a water table may develop within the sands. Along the Withlacoochee River, the surficial aquifer is generally thin to nonexistent, and the Upper Floridan aquifer is exposed along much of the river channel. The surficial aquifer is not a substantial source of water supply in the Withlacoochee River watershed. However, where present, the surficial aquifer does provide a source of water that flows to streams and recharges the Upper Floridan aquifer either by downward vertical leakage through the confining unit (Miocene siliclastic sediments of interbedded sand, clay, limestone, sandy phosphatic limestone, and marl), or directly through breaches in the confining unit (Trommer 2009).

Recharge to the surficial aquifer is through infiltration of streamflow, precipitation, and leakage from Withlacoochee River. Locally at Brooksville RC, the groundwater flow direction is predominantly to the southeast (**Figure 1-2**). There are two public supply wells within a 1-mile radius of the facility, upgradient of the inferred groundwater flow. Several public supply and private wells exist approximately 2.28 miles downgradient of the facility. Drinking water for the facility is provided by Hernando County Utilities. Based on the USEPA Unregulated Contaminant Monitoring Rule 3 data, it was indicated that no PFAS was detected in a public water system above the USEPA Health Advisory level within 20 miles of the facility.

1.5.3 Hydrology

Brooksville RC sits within the Crews Lake Watershed, with Weeki Wachi Drain Watershed to the northwest and the Hancock Lake Watershed to the Southeast (**Figure 1-3**). The Crews Lake Outlet (Pithlachascotee River) Watershed is located in western Florida, in southern Hernando and Pasco counties. The combined watershed covers an area of approximately 171 square miles. The Weeki Wachi Prairie Watershed is approximately 11.2 square miles and is located in southwest Hernando County. A majority of the watershed lies within the unincorporated area of Hernando County. A small portion of the watershed projects south into Pasco County. The watershed is predominantly developed, consisting of mostly residential and some commercial and vacant lands. The area at the south end of the watershed, near Quality Drive, is rapidly developing with predominantly commercial land uses (Federal Emergency Management Agency 2012). There are no surface water intakes for drinking water near the facility.

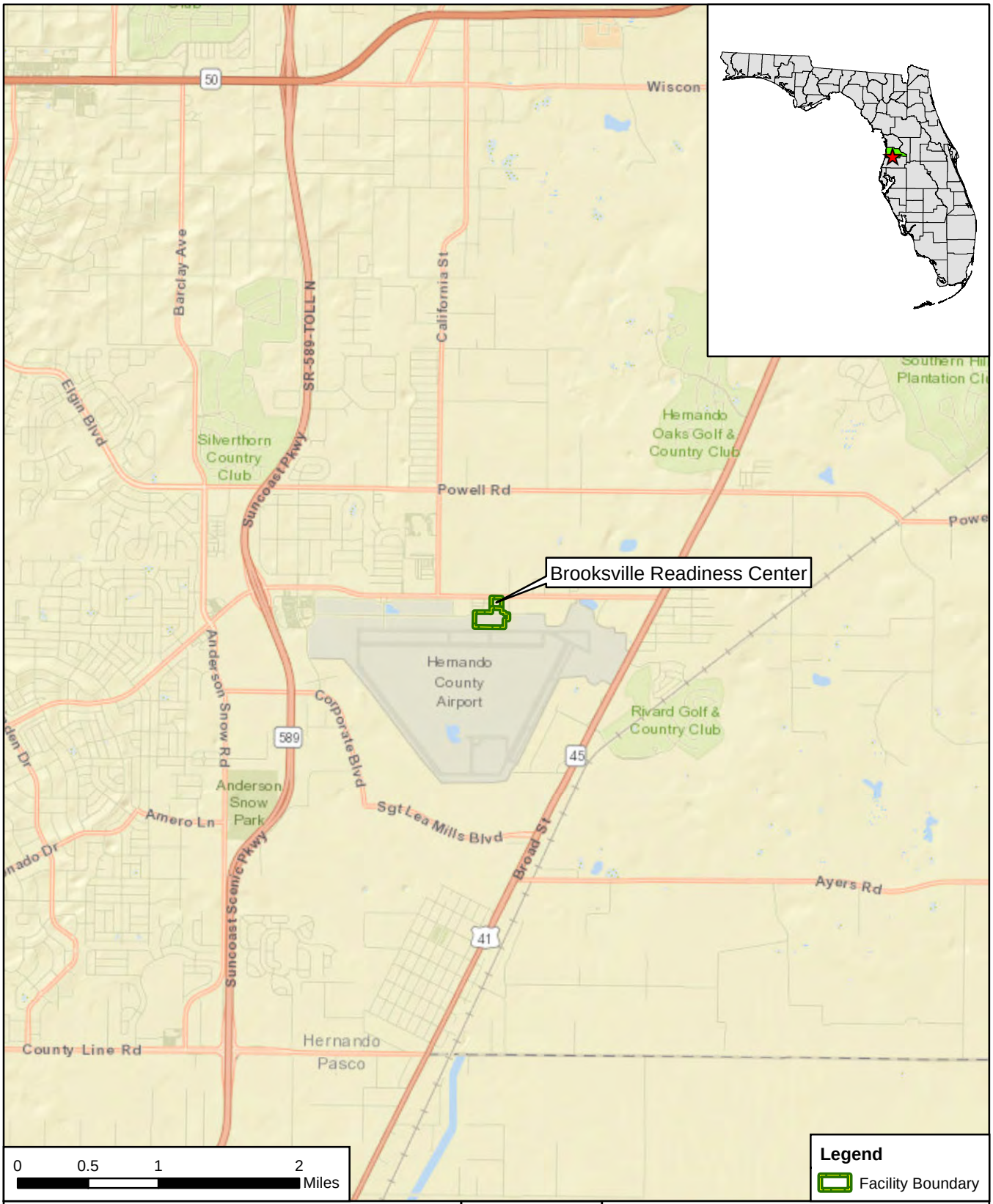
1.5.4 Climate

Brooksville Florida has highest average temperatures in July and August, at 91 degrees Fahrenheit (°F) and 90°F, respectively. The greatest mean monthly precipitation occurs in August. The average annual precipitation is 52.52 inches (U.S. Climate Data 2019).

The climate of west-central Florida is characterized as humid southern temperate to subtropical, with frost and freezing temperatures occurring at least once a year. Local weather patterns are strongly influenced by the Gulf of Mexico, which moderates winter and summer temperatures. Based on data available from long-term rainfall gaging stations in Pasco and Hernando counties, rainfall was typically highest during the months of June through September, likely associated with convective and tropical storms that occur during the wet season months. Evapotranspiration for the area has been reported at approximately 39 inches per year and annual evaporation rates of 47 to 59 inches are reported for shallow, central Florida lakes (Southwest Florida Water Management District 2016).

1.5.5 Current and Future Land Use

Brooksville RC serves as an FLARNG aviation maintenance facility for helicopters. FLARNG has operated the readiness center since 2001. Lease documents were requested but not available. The facility includes maintenance hangars, various storage buildings, and related infrastructure including parking lots, aircraft parking areas, wash rack. The facility is categorized as a conditionally exempt small-quantity hazardous waste generator, because is manages a variety of hazardous materials. Reasonably anticipated future land use it not expected to change from the current land use described above. Land use near the facility consists of rural, residential, recreational, and commercial.



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SCALE	1:63,360	CHK BY	MG	3/27/2019
Base Map: Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI,		PM	RG	3/27/2019

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Facility Location

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Figure 1-1

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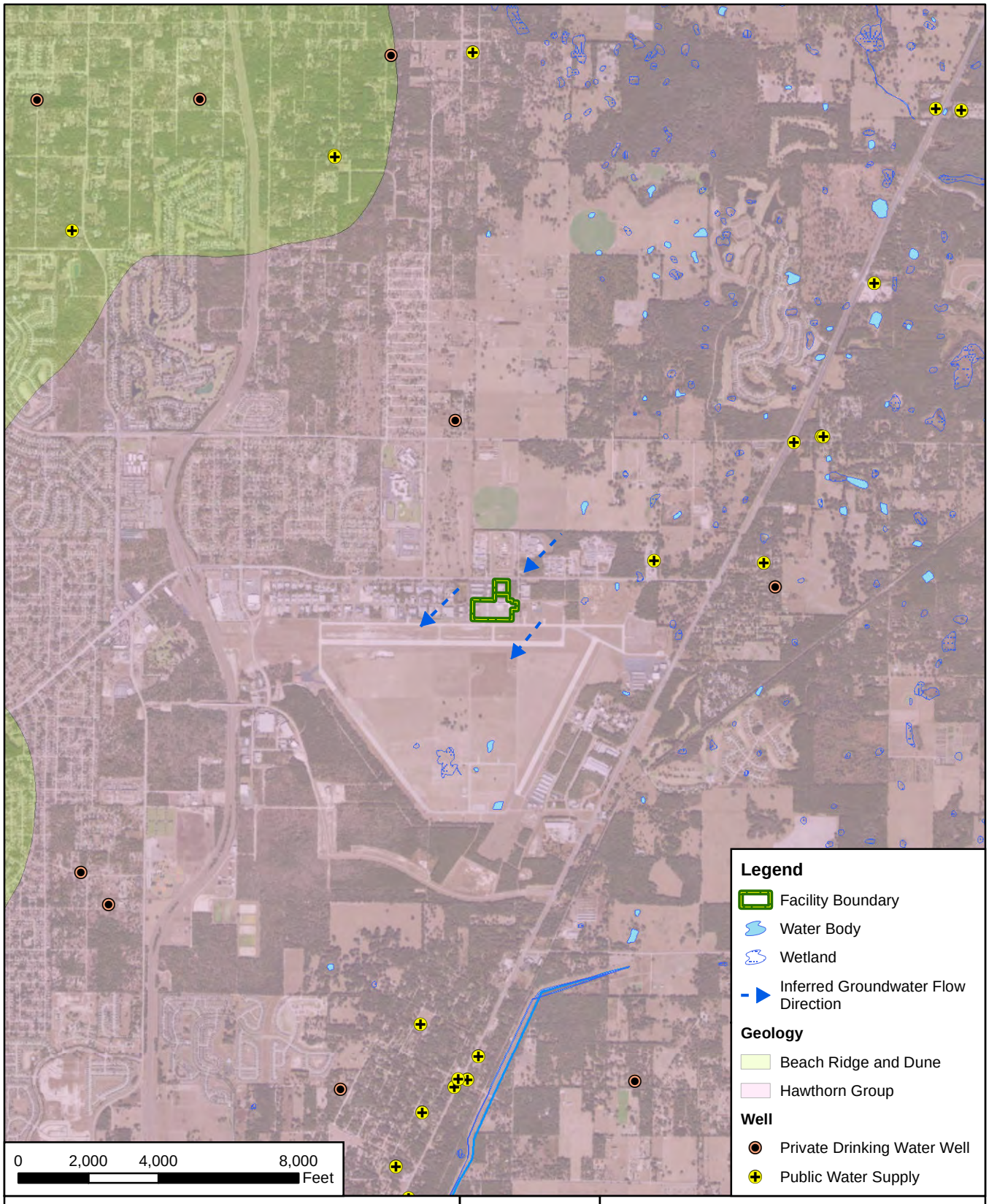

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SCALE	1:48,000	CHK BY	MG	7/29/2019
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,		PM	RG	7/29/2019

Groundwater Features

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Figure 1-2

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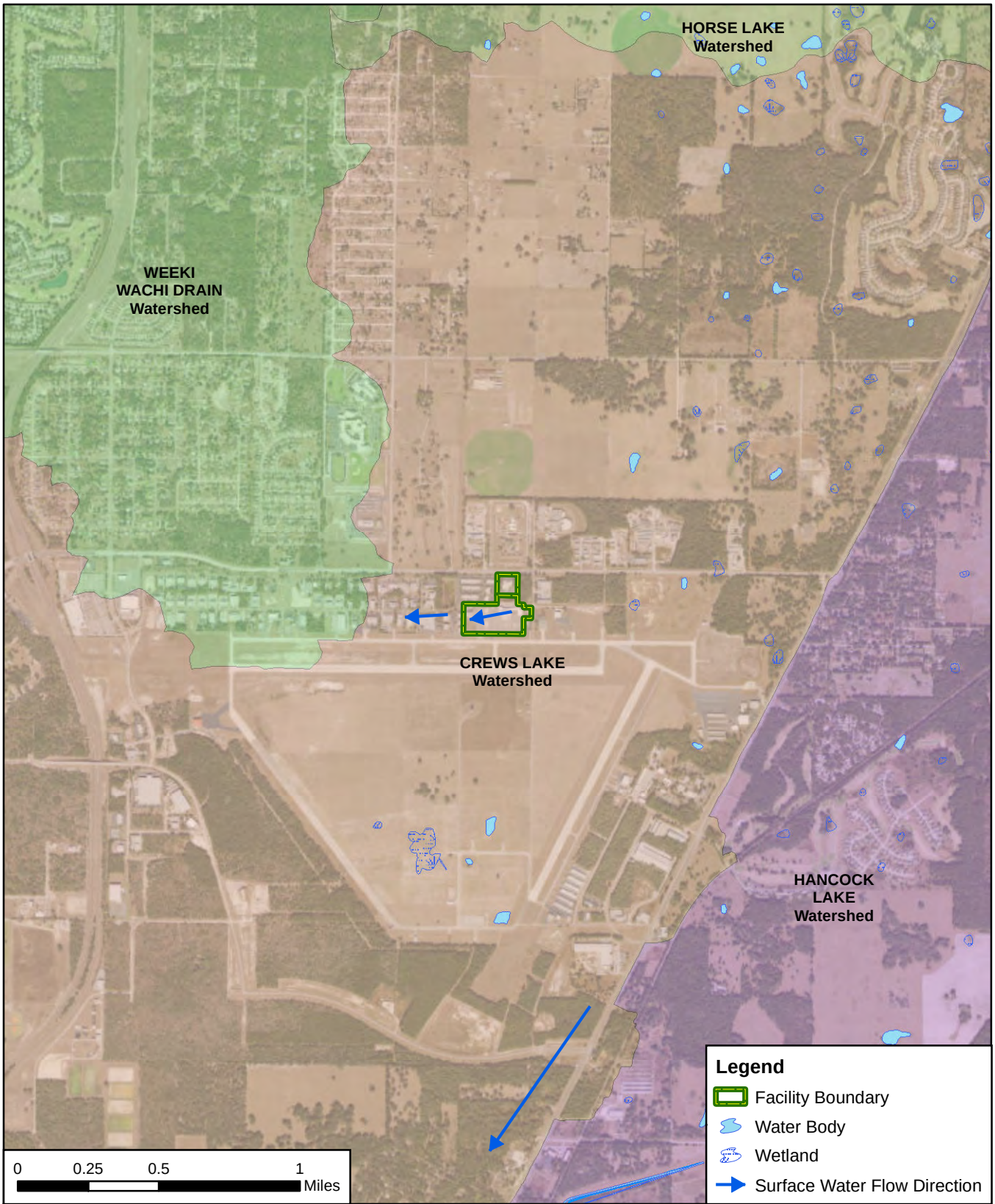

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Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,		PM	RG	3/27/2019

Surface Water Features

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Figure 1-3

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2. Fire Training Areas

Through Environmental Data Resource Reports and interviews with Brooksville RC personnel who had knowledge dating back to 2001, no FTAs were identified within the Brooksville RC facility during the PA. Training for Brooksville RC involving AFFF use was conducted offsite with simulated foam in partnership with Hernando County Fire Station No. 14. Interview records appear in **Appendix B**.

3. Non-Fire Training Areas

Several non-FTAs where PFAS was potentially released were identified during the PA. A description of each non-FTA is presented below, and the non-FTAs are shown on **Figure 3-1**. Interview records appear in **Appendix B**. Photographs appear in **Appendix C**.

3.1 Wash Rack Area

The wash rack area is located on the northwestern portion of the property (**Figure 3-1**). The geographic coordinates are 28°28'44.31"N; 82°27'20.55"W. According to interviewees and records, annual nozzle testing of the TriMax™ units was conducted at the wash rack in January 2007 and February 2008. The unit tanks were emptied and discharged on the wash rack area. The wash rack drained to an oil/water separator, which then discharges to the sanitary sewer. Four TriMax™ units containing 30 gallons of 3% AFFF were located at the facility. Shortly after the February annual testing, the units were decommissioned and removed from the site. **Photograph 11** of the spill area appears in **Appendix C**.

3.2 AFFF Spill Area

The AASF #2 hangar is equipped with an AFFF fire suppression system. Interviewees indicated sometime between 2002-2003, during the installation of the fire suppression system by Cox Fire Protection, Inc., 3% AFFF diluted with water was spilled out of the fire suppression tank room (**Figure 3-1**). The geographic coordinates of the AFFF spill area are 28°28'44.96"N; 82°27'16.06"W. The spill was approximately 5 gallons that flowed onto the pavement behind the building and into the grassy area in the adjacent parking lot but did not reach the parking lot itself (see Photographs 8 and 9 in **Appendix C**).

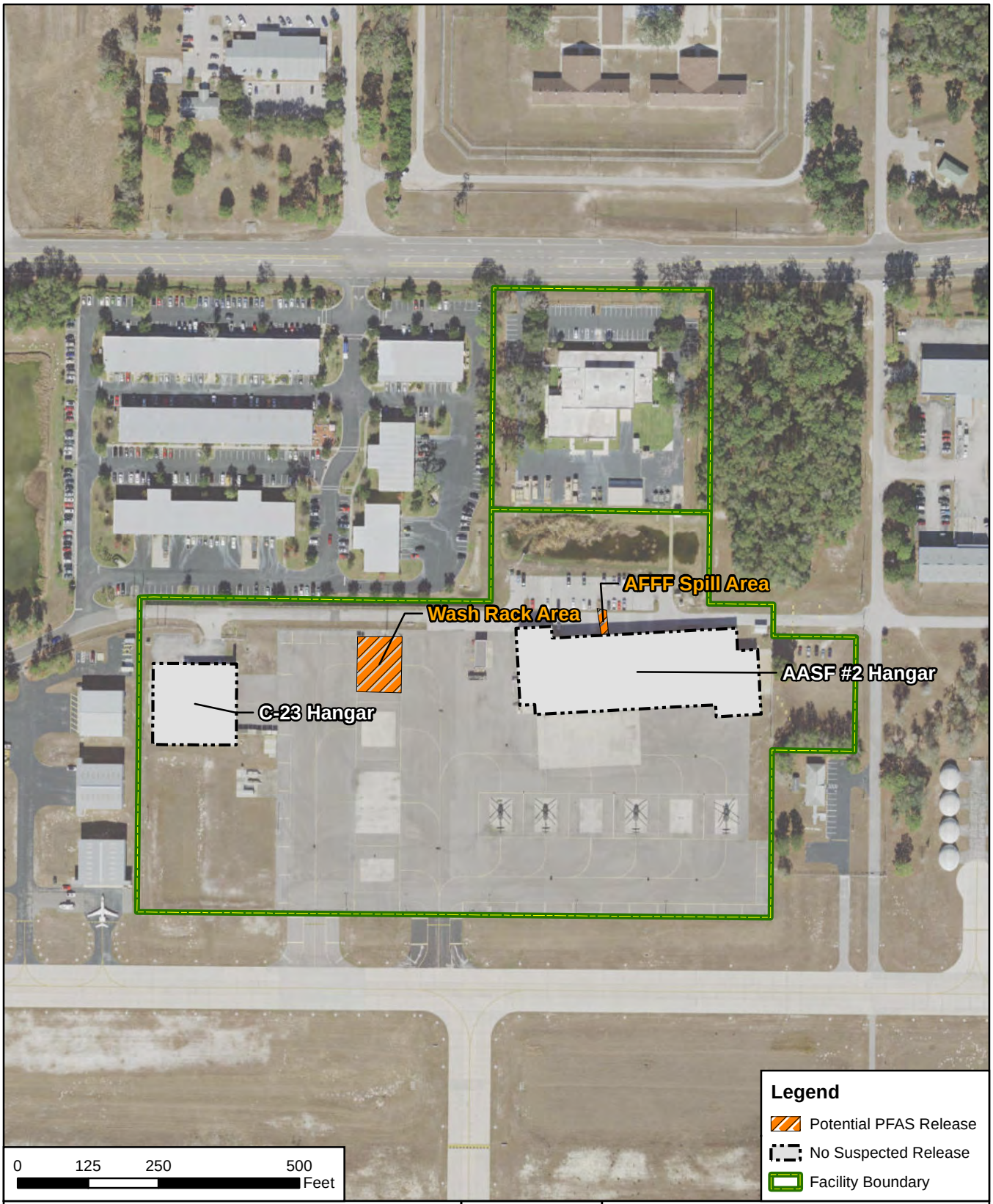
3.3 AASF #2 Hangar

AASF #2 hangar is centrally located within the Brooksville RC boundary (**Figure 3-1**). The geographic coordinates are 28°28'44.35"N; 82°27'16.25"W. The hanger was previously equipped with four TriMax™ 30 foam fire extinguishers in the corners of the hangar. Testing of the TriMax™ units was conducted in the Wash Rack area as discussed in **Section 3.1**. In 2001 the hangar was outfitted with a fire suppression system supplied by two 900-gallon AFFF tanks (**Photographs 5** through **7**, and **10**). During the site visit, it was observed that approximately 135 gallons of Ansulite AFFF concentrate for 3% proportioning on reserve were stored in a combination of 5-gallon buckets and 55-gallon drums. Interviewees stated no leaks had been reported, and no signs of leaks from the piping system were observed during the site visit. Interviewees also indicated the AFFF fire suppression system in the hangar has not been tested or used due to water pressure constraints in the area. Currently, a water supply line from the municipality in combination with a water supply line from the Brooksville – Tampa Bay Regional Airport are unable to pressurize the system. An AFFF spill occurred just outside the fire suppression system room in the north portion of the hangar as described in **Section 3.2**.

3.4 C-23 Hangar

C-23 hangar is located on the west side of Brooksville RC. The geographic coordinates are 28°28'43.95"N; 82°27'24.16"W. The hangar is used for maintenance and is outfitted with a water fire suppression system. A “firetruck” has been stored outside of the C-23 hangar (**Photograph 4**). The “truck” is a metal cart with wheels that contains a mechanical suppression/pump system. Interviewees state the “truck” has not been filled with AFFF and has never been used. During the

site visit, ABC Dry chemical extinguishers were found in the C-23 hangar. A potential PFAS release to the environment at the C-23 Hangar is not suspected.



CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Brooksville Readiness Center, FL			
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SCALE	1:3,000	CHK BY	MG	7/29/2019
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,		PM	RG	7/29/2019

N

Non-Fire Training Area

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Figure 3-1

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4. Emergency Response Areas

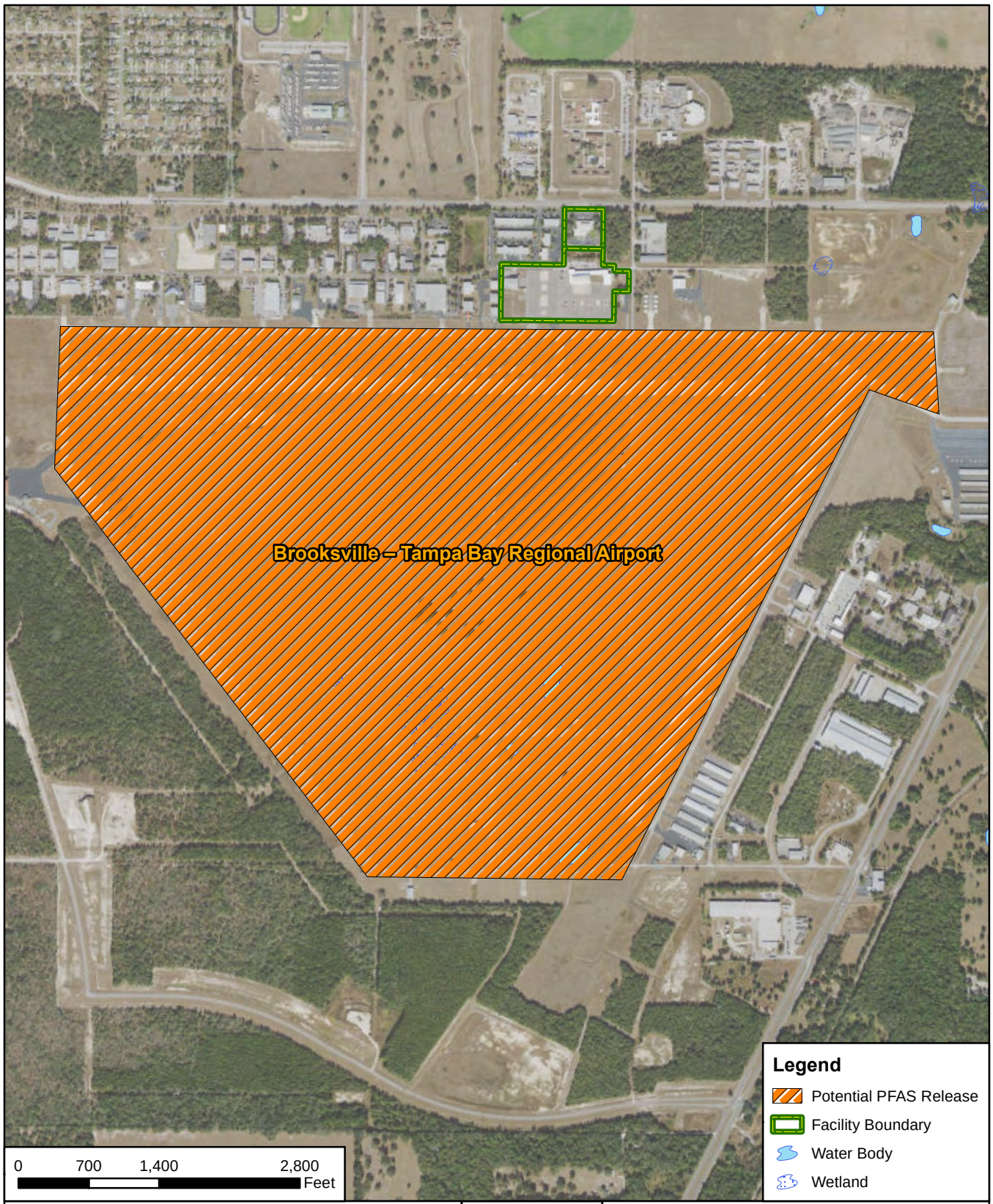
Through interviews with FLARNG personnel whose knowledge covers 2001 to present and review of Environmental Data Resource Reports, no emergency response areas were identified within the Brooksville RC facility during the PA. All emergency services for the current Brooksville RC are provided by the Hernando County Fire Department. Interview records appear in **Appendix B**.

5. Adjacent Sources

One potential off-facility source of PFAS contamination was identified during the PA. The off-facility source is shown on **Figure 5-1**.

5.1 Brooksville – Tampa Bay Regional Airport

The Brooksville – Tampa Bay Regional Airport is adjacent to the south of Brooksville RC. The geographic coordinates are 28°28'12.09"N; 82°27'25.57"W. Hernando County Fire Chief of Station No. 14 stated annual training with Brooksville RC personnel is conducted in the airport airfield. Dish washing foams are used for the simulations and training purposes. No AFFF has been used on emergency responses at the airport to the interviewee's knowledge dating back to 2001. Hernando County Fire Chief stated AFFF is stored at Fire Station No. 14. Information of AFFF storage at Brooksville – Tampa Bay Regional Airport is unknown. Information of AFFF use prior to 2001 at Brooksville – Tampa Bay Regional Airport is unknown. Because it is outside the boundary of Brooksville RC, the Brooksville – Tampa Bay Regional Airport is considered an adjacent potential source of PFAS.



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SCALE	1:16,800	CHK BY	MG	5/6/2019
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,		PM	RG	5/6/2019

N

Adjacent Source

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12420 Milestone Center Drive
Germantown, MD 20876

Figure 5-1

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6. Preliminary Conceptual Site Model

Based on the PA findings, the two distinct potential release areas were identified as AOIs: AOI 1 Wash Rack Area and AOI 2 AFFF Spill Area. The AOI locations are shown on **Figure 6-1**. The following sections describe the CSM components and the specific CSMs developed for each AOI. 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.

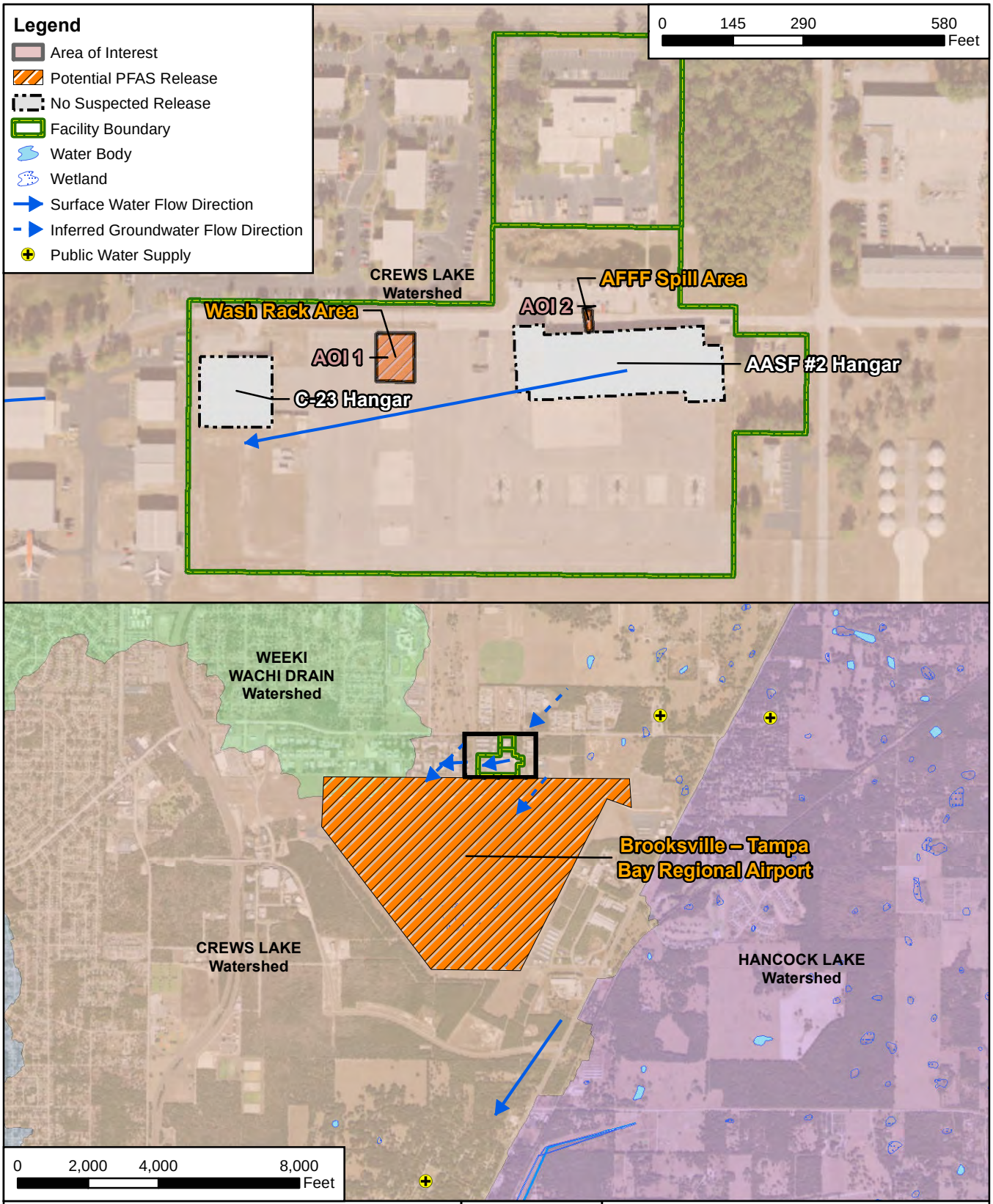
In general, the potential PFAS exposure pathways are ingestion and inhalation. Human exposure via the dermal contact pathway may occur, and current risk practice suggests it is an insignificant pathway compared to ingestion; however, exposure data for dermal pathways are sparse and continue to be the subject of PFAS toxicological study. Receptors for Brooksville RC include site workers, construction workers, residents, and trespassers. The CSMs for each AOI indicate which specific receptors could potentially be exposed to PFAS.

Descriptions of the two AOIs are as follows:

AOI 1 is the wash rack area. Potential PFAS releases to soil by the FLARNG occurred at AOI 1 during annual testing of the TriMax™ units in January 2007 and February 2008. The units were discharged on the concrete wash rack area and drained to an oil/water separator which then discharges to the sanitary sewer. It is possible the AFFF foam reached the soil area outside of the concrete wash rack during discharges.

AOI 2 is the accidental release of AFFF during the installation of the fire suppression system at AASF #2 hangar, between 2002 and 2003. About 5 gallons of AFFF flowed onto the pavement behind the building and across the road into the grass area adjacently south of the parking lot.

The CSMs for AOI 1 and AOI 2 are similar, therefore, they are shown on one figure (**Figure 6-2)**. Ground-disturbing activities to surface soil at AOI 1and AOI 2 could result in site, construction worker, and trespasser exposure to potential PFAS contamination. Therefore, the exposure pathway for inhalation of soil particles and ingestion of soil is potentially complete for these receptors. Migration of PFAS from soil to groundwater is possible. Private and public supply wells currently exist within a 3-mile radius downgradient of AOI 1 and AOI 2, therefore, groundwater pathway to residents through water ingestion is potentially complete.



CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Brooksville Readiness Center, FL			
REVISED	7/29/2019	GIS BY	MS	7/29/2019
SCALE	1:3,480	CHK BY	MG	7/29/2019
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,		PM	RG	7/29/2019

N

Area of Interest

AECOM
12420 Milestone Center Drive
Germantown, MD 20876

Figure 6-1

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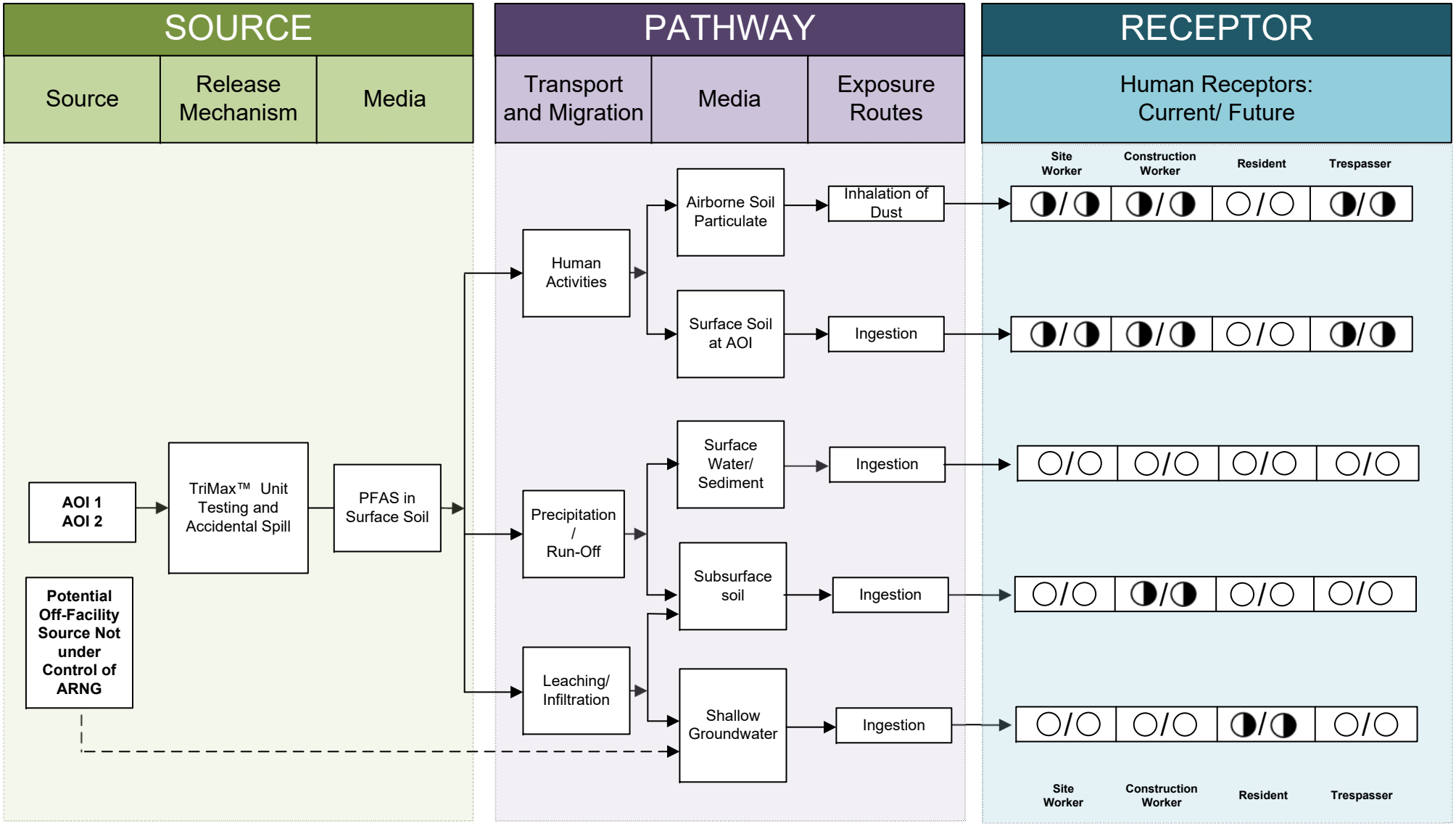


LEGEND

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

Figure 6-2
Preliminary Conceptual Site Model
Brooksville Readiness Center/AASF #2

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 Brooksville RC. The PA findings are based on the information presented in **Appendix A** and **Appendix B**.

7.1 Findings

The two AOIs listed in **Table 7-1** are potential PFAS releases identified at Brooksville RC during the PA (**Figure 7-1**).

Table 7-1: AOIs at Brooksville RC

Area of Interest	Name	Used by	Potential Release Dates
AOI 1	Wash Rack Area	FLARNG	2007 - 2008
AOI 2	AFFF Spill Area	FLARNG	2002 - 2003

Based on potential PFAS releases at these AOIs, there is potential for exposure to PFAS contamination in media at or near the facility. The preliminary CSM for Brooksville RC is shown on **Figure 6-2**, which presents the potential receptors and media impacted.

The areas listed in **Table 7-2** and discussed in **Section 3** were determined to have no suspected release:

Table 7-2: No Suspected Release Areas

No Suspected Release Area	Used by	Rationale for No Suspected Release Determination
C-23 Hangar	FLARNG	Hangar outfitted with water fire suppression system. Fire truck stored near the hangar has never been filled with AFFF.

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 predominantly based on the information provided during interviews with personnel who had direct knowledge of PFAS use at the facility and site visit. Sometimes the provided information was vague. 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 was 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 7-3 summarizes the uncertainties associated with the PA:

Table 7-3: Uncertainties within the PA

Area of Interest	Source of Uncertainty
AOI 1 Wash Rack Area	Interviewees recalled the four TriMax™ units were discharged onto the concrete wash rack; however, the approximate volume discharged is 30 gallons and it is unclear if the discharged product migrated beyond the concrete pads to the vegetation area north of the wash rack.
AOI 2 AFFF Spill Area	Interviewees recalled the AFFF spill onto the asphalt and grass area of parking lot; however, it is unclear if the discharged product migrated beyond the parking lot and grass area.

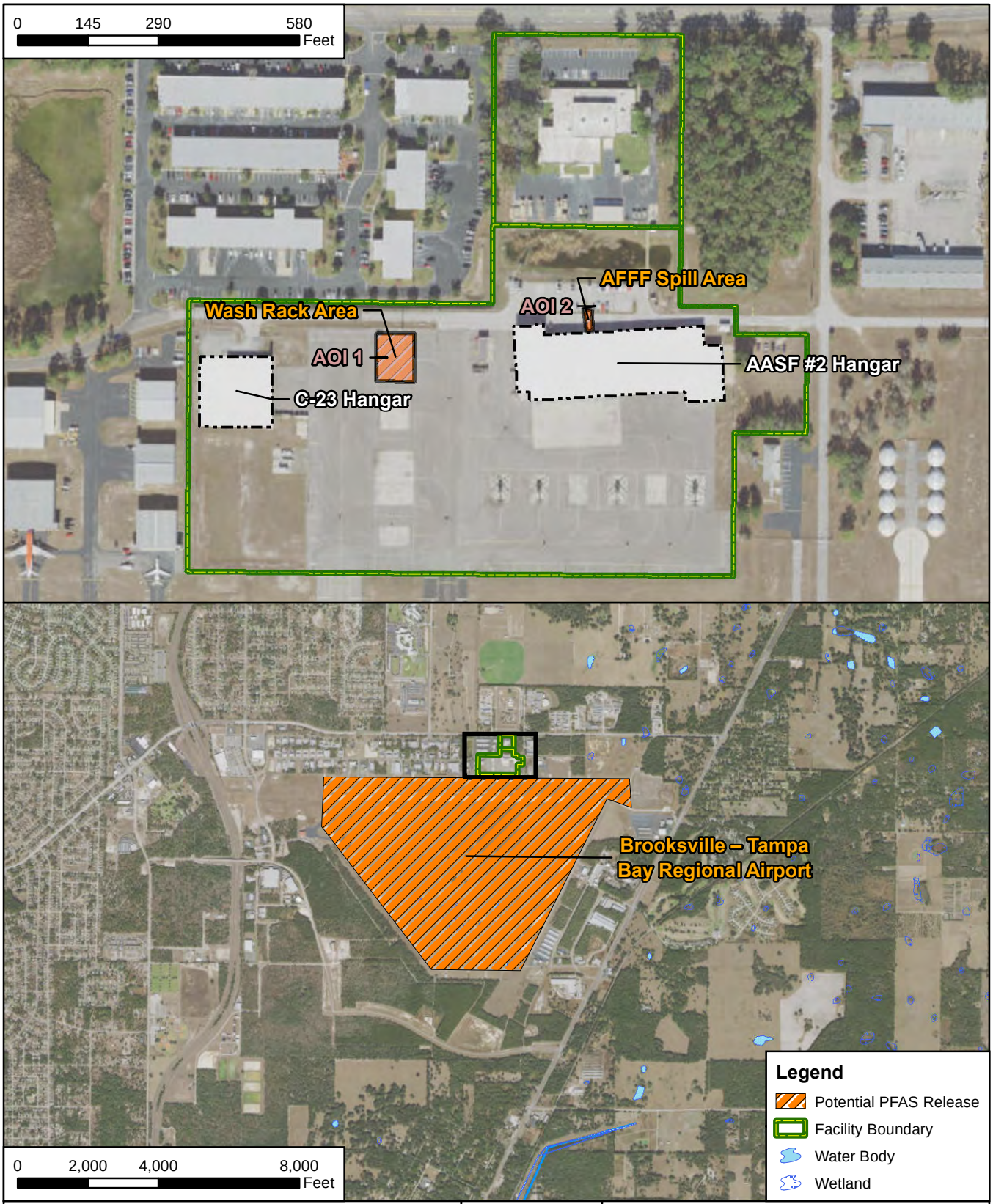
7.3 Potential Future Actions

Interviews (covering 2001 to present) indicate that current or former ARNG activities may have resulted in potential PFAS releases at the two AOIs identified during the PA. Based on the CSMs developed for the AOIs, there is potential for receptors to be exposed to PFAS contamination in soil and groundwater at these AOIs. **Table 7-4** summarizes the rationale used to determine if the AOI should be considered for further investigation under the CERCLA process and undergo an SI.

ARNG will evaluate the need for an SI at Brooksville RC based on the potential receptors, the potential migration of PFAS contamination off the facility, and the availability of resources.

Table 7-4: Rationale

Area of Interest	AOI Location	Rationale	Potential Future Action
AOI 1 Wash Rack Area	28°28'44.33"N and 82°27'20.62"W	Annual TriMax™ unit testing completed at wash rack from 2007 to 2008.	Proceed to an SI, focus on soil and groundwater
AOI 2 AFFF Spill Area	28°28'44.98"N and 82°27'16.07"W	Approximately 5 gallons of 3% AFFF spilled some time in 2002-2003.	Proceed to an SI, focus on soil and groundwater



CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Brooksville Readiness Center, FL			
REVISED	7/29/2019	GIS BY	MS	7/29/2019
SCALE	1:48,000	CHK BY	MG	7/29/2019
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,		PM	RG	7/29/2019

N

Summary of Findings

AECOM
12420 Milestone Center Drive
Germantown, MD 20876

Figure 7-1

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8. References

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Trommer, J.T., Yobbi, D.K., and McBride, W.S., 2009, *Surface-Water and Groundwater Interactions along the Withlacoochee River, West-Central Florida*: U.S. Geological Survey Scientific Investigations Report 2009–5124, 47 p.

U.S. Climate data. (2019). *Climate Brooksville - Florida*. Retrieved April 24, 2019, from U.S. Climate data: https://www.usclimatedata.com/climate/brooksville/florida/united-states/usfl0055

United States Environmental Protection Agency (USEPA). 1991. *Guidance for Performing Preliminary Assessments under CERCLA.* September.

Wetterhall, W.S., 1964. *Geohydrologic Reconnaissance of Pasco and Southern Hernando Counties, Florida, Florida*: Florida Geological Survey, Report of Investigation no. 34

Appendix A
Data Resources

Data resources will be provided separately on CD. Data resources for Brooksville Readiness Center include:

Environmental Data Resources, Inc™. Geocheck Report

- 2019 Environmental Data Resources, Inc™. Geocheck Report for Brooksville Readiness Center, Florida

Miscellaneous Data Resources

- 1964 Geohydrologic Reconnaissance of Pasco and Southern Hernando Counties, Florida, Florida: Florida Geological Survey, Report of Investigation no. 34
- 1975 Soil Survey of Hernando County, Florida
- 2009 Surface-Water and Groundwater Interactions along the Withlacoochee River, West-Central Florida
- 2012 Flood Insurance Study: Hernando County, Florida and Incorporated Areas
- 2016 Proposed Minimum and Guidance Levels for Crews Lake in Pasco County, Florida

Figure

- Brooksville R AASF 2 C23 Figure

Appendix B
Preliminary Assessment Documentation

Appendix B.1
Interview Records

PA Interview Questionnaire - Other

Facility: BROOKSVILLE
Interviewer: [redacted]
Date/Time: 02/04/19 11:15

Interviewee: [redacted]	Can your name/role be used in the PA Report? Y or N
Title: VARIES FLARNG Staff	Can you recommend anyone we can interview?
Phone Number: –	Y or N
Email: –	

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

[redacted]: UNKNOWN

[redacted]: SINCE 2001 ON AND OFF -SGT

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

	Known Uses
• (1) TRIMAX UNIT - DISCHARGED IN WASH RACK	
[redacted] SGT: FACILITY BUILT 1999 - 2000	Use
• TRIMAX TRAINING 2007 - 2008 ~~2009~~ DISCHARGED IN WASH	Procurement
RACK WHICH GOES TO OIW → SEWER.	Disposition
• AASF HANGAR FIRE SUPPRESSION SYSTEM CONTAINS	Storage (Mixed)
AFFF.	Storage (Solution)
• NO UNTRADITIONAL USES OF AFFF AROUND FACILITY	Inventory, Off-Spec
• TRIMAX UNITS REMOVED SHORTLY AFTER 2008 TRAINING/TESTING	Containment
	SOP on Filling
	Leaking Vehicles
	Nozzle and Suppression System Testing
	Dining Facilities
	Vehicle Washing
	Ramp Washing
	Fuel Spill Washing and Fueling Stations
	Chrome Plating or Waterproofing

PA Interview Questionnaire - Other

Facility: BROOKSVILLE
Interviewer: [redacted]
Date/Time: 02/04/19 1200

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

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

15 YEARS, BUILDING AND FACILITY MAINT AND SUPPORT.

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

	Known Uses
• AASF #2 HANGAR AFFF SUPPRESSION SYSTEM (2001)	Use
• C-23 HANGAR WATER SUPPRESSION SYSTEM.	Procurement
• CHEMICAL STORAGE: ABC/DRY CHEMICAL (SPILL CONTAINMENT)	Disposition
AFFF STORED ORIGINALLY (HALF DOZEN) 300 GALLONS	Storage (Mixed)
NO FIRE SUPPRESSION IN CHEMICAL STORAGE	Storage (Solution)
STORES CLASS A FOAM.	Inventory, Off-Spec
• "FIRE TRUCK": NEVER FILLED OR USED	Containment
• SOMETIME 2002-2003 A 5-GALLON SPILL OF MIXED	SOP on Filling
AFFF OUTSIDE OF FIRE SUPPRESSION SYSTEM ROOM. SPILL	Leaking Vehicles
STOPPED AT GRASS BEHIND BUILDING.	Nozzle and Suppression System Testing
• AASF #2 AFFF TANK ROOM DRAINAGE TO CITY SEWER.	Dining Facilities
	Vehicle Washing
	Ramp Washing
	Fuel Spill Washing and Fueling Stations
	Chrome Plating or Waterproofing

PA Interview Questionnaire - Other

Facility: BROOKSVILLE
Interviewer: [redacted]
Date/Time: 02/04/19 10:30

Interviewee: [redacted]	Can your name/role be used in the PA Report? Y or N
Title: CW 4, AVIATION SAFETY OFFICER	Can you recommend anyone we can interview?
Phone Number: —	Y or N [redacted]
Email: [redacted]	

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

SAFETY OFFICER

TEST PILOT

SINCE 2004 / 15 YEARS

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

	Known Uses
• FIREFIGHTING TRAING HELD WITH STATION 14 WITH ABC AND	Use
PURPLE K, BC	
• FIRE SUPPRESSION SYSTEM IN HANGAR HAS NOT BEGN TESTED	Procurement
DUE TO LOW WATER PRESSURE	Disposition
• TRIMAX UNIT NIT ON RAMPS	Storage (Mixed)
• NO FIRE TRAINING ON SITE	Storage (Solution)
• NO EMERGENCY RESPONSES AT FACILITY	Inventory, Off-Spec
• WATER TRUCK FOR SIMULATION	Containment
• FIRE RESCUE / CRASH TRAINING KEYHOLE AT AIRFIELD	SOP on Filling
• NO FIRE TRUCK ON FACILITY	Leaking Vehicles
• NO UNCONUENTIONAL USES FOR FUEL SPILLS.	Nozzle and Suppression System Testing
• NO FUELING STATION ON FACILITY	Dining Facilities
	Vehicle Washing
	Ramp Washing
	Fuel Spill Washing and Fueling Stations
	Chrome Plating or Waterproofing

PA Interview Questionnaire - Other

Facility: BROOKSVILLE
Interviewer [redacted]
Date/Time: 02/04/19 12:30

Interviewee: [redacted] **Title:** CHIEF, FIRE DEPARTMENT **Phone Number:** [redacted] **Email:**	Can your name/role be used in the PA Report? Y or (N) Can you recommend anyone we can interview? Y or (N)

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

CHIEF AT FIRE STATION NO. 14

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

	Known Uses
• ANNUAL TRAINING WITH ~~HASF~~ FOR CRASH TRAINING	Use
-USE DISH WASHING FOAM FOR TRAINING SIMULATION. NEVER AFFF AT BASE.	Procurement
- SIMULATION AREA IS IN AIRFIELD AT AIRPORT.	Disposition
• NO AFFF USED ON EMERGENCY RESPONSES AT AIRPORT	Storage (Mixed)
• STORE FOAM AT STATION.	Storage (Solution)
	Inventory, Off-Spec
	Containment
	SOP on Filling
	Leaking Vehicles
	Nozzle and Suppression System Testing
	Dining Facilities
	Vehicle Washing
	Ramp Washing
	Fuel Spill Washing and Fueling Stations
	Chrome Plating or Waterproofing

Appendix B.2
Visual Site Inspection Checklists

Visual Site Inspection Checklist

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

Recorded by: [redacted]

ARNG Contact: [redacted]

Date and Time: ***February 04, 2019***

Method of visit (walking, driving, adjacent): ***driving and walking***

Source/Release Information

Site Name / Area Name / Unique ID: Brooksville Readiness Center / AASF #2

Site / Area Acreage:

Historic Site Use (Brief Description): Armory, AASF, Maintenance

Current Site Use (Brief Description): Same as above

Physical barriers or access restrictions: Gated access

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

1a. If yes, document how PFAS was used and usage time (e.g., fire fighting training 2001 to 2014):
Trimax 30 units tested/discharged from 2007-2008 in wash rack.

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

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

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

3a. Indicate what businesses are located near the site
Hernando County Jail to north, industrial businesses to the east.

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

4a. If yes, provide a description of the airport/flightline tenants:
Facility to north of Brooksville - Tampa Bay Regional Airport (Hernando County Airport).

Visual Survey Inspection Log

Other Significant Site Features:

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

1a. If yes, indicate which type of AFFF has been used:
Ansulite AFFF Concentrate for 3% proportioning.

1b. If yes, describe maintenance schedule/leaks:
Checked Annual, no reported leaks.

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

1d. If yes, does the facility have floor drains and where do they lead? Can we obtain an as built drawing?
Floor drain leads to oil water separator then to municipal water treatment.

Transport / Pathway Information

Migration Potential:

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

1a. If so, note observation and location:
to retention pond

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

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

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

3a. If so, please note the location:
Drinking wells about 1/2 mile north of site

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

4a. If so, please note the location:
N/A

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

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

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

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

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

Visual Survey Inspection Log

Significant Topographical Features:

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

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

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

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

asphalt/concrete/parking lots

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

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

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

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

Receptor Information

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

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

Gated access

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

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

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

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

less than 1/4 mile. Jail

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

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

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

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

Visual Survey Inspection Log

Additional Notes

Photographic Log

Photo ID/Name	Date & Location	Photograph Description
Photograph No.1	02/04/19; AASF Hangar	Decomissioned Purple K dry chemical fire exstinguishers formerly on the pads.
Photograph No. 2	02/04/19; Chemical Storage	Purple K dry chemical fire exstinguishers formerly on the pads.
Photograph No. 3	02/04/19; Chemical Storage	Purple K dry chemical fire exstinguishers formerly on the pads.
Photograph No. 4	02/04/19; C-23 Hangar	Foam firefighting "truck" near C-23 Hangar.
Photograph No. 5	02/04/19; AASF Hangar	Ansulite AFFF concentrate for 3% proportioning in AASF #2 hanger.
Photograph No. 6	02/04/19; AASF Hangar	Ansulite AFFF concentrate for 3% proportioning in AASF #2 hanger.
Photograph No. 7	02/04/19; AASF Hangar	(2) 900-gallon AFFF for AASF #2 hangar fire suppression system.
Photograph No. 8	02/04/19; Outside AASF Hangar	Location of 5 gallon spill of mixed AFFF solution outside of the fire suppression tank room.
Photograph No. 9	02/04/19; Outside AASF Hangar	Grass area where approximately 5 gallons of mixed AFFF solution spilled outside of the fire suppression tank room.
Photograph No. 10	02/04/19; AASF Hangar	AFFF fire suppression system in AASF #2 hangar.
Photograph No. 11	02/04/19; Wash Rack	Wash rack where Trimax 30 units were tested/expelled.

Appendix B.3
Conceptual Site Model Information

Preliminary Assessment – Conceptual Site Model Information

Site Name: Brooksville Readiness Center/ AASF #2

Why has this location been identified as a site?
Facility is an AASF. AFFF has been used/stored at facility.

Are there any other activities nearby that could also impact this location?
Brooksville – Tampa Bay Regional Airport (Hernando County Airport)

Training Events

Have any training events with AFFF occurred at this site? No

If so, how often? N/A

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

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? Yes

Surface Water:

Surface water flow direction? Intermittent surface water only during large rainfall and snowmelt events. Flow direction is north east

Average rainfall? 43 inches

Any flooding during rainy season? No

Direct or indirect pathway to ditches? Yes

Direct or indirect pathway to larger bodies of water? No

Does surface water pond any place on site? No

Any impoundment areas or retention ponds? Yes

Any NPDES location points near the site? No

How does surface water drain on and around the flight line? To stormwater drains that feed to retention pond.

Preliminary Assessment – Conceptual Site Model Information

Groundwater:

Groundwater flow direction? Southwest

Depth to groundwater? unknown

Uses (agricultural, drinking water, irrigation)? Irrigation, potable, agricultural.

Any groundwater treatment systems? no

Any groundwater monitoring well locations near the site? Yes

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? Yes, about ½ mile south of facility for landscape/

Recreational use.

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? No

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

3. Other? N/A.

Preliminary Assessment – Conceptual Site Model Information

Identify Potential Receptors:

Site Worker Yes

Construction Worker Yes

Recreational User No

Residential Yes

Child No

Ecological Yes

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

Documentation

Ask for Engineering drawings (if applicable).

Has there been a reconstruction or changes to the drainage system? When did that occur?
No

Appendix C
Photographic Log

Appendix C - Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Brooksville Readiness Center/AASF #2	Spring Hill, Florida

Photograph No. 1

Date 2/4/2019

Time 9:11

Description:

Decomissioned Purple K dry chemical fire exstinguishers formerly on the pads.

Orientation:

East

Photograph No. 2

Date 2/4/2019

Time 9:15

Description:

Purple K dry chemical fire exstinguishers formerly on the pads.

Orientation:

South

Appendix C - Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Brooksville Readiness Center/AASF #2	Spring Hill, Florida

Photograph No. 3

Date 2/4/2019
Time 9:21

Description:
Purple K dry chemical fire exstinguishers on the pads.

Orientation:
West

Photograph No. 4

Date 2/4/2019
Time 9:24

Description:
Foam firefighting "truck" near C-23 Hangar.

Orientation:
Northeast

Appendix C - Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Brooksville Readiness Center/AASF #2	Spring Hill, Florida

Photograph No. 5

Date 2/4/2019

Time 9:44

Description:
Ansulite AFFF concentrate for 3% proportioning in AASF #2 hangar.

Orientation:
Southeast

Photograph No. 6

Date 2/4/2019

Time 9:44

Description:
Ansulite AFFF concentrate for 3% proportioning in AASF #2 hangar.

Orientation:
East

Appendix C - Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Brooksville Readiness Center/AASF #2	Spring Hill, Florida

Photograph No. 7

Date 2/4/2019

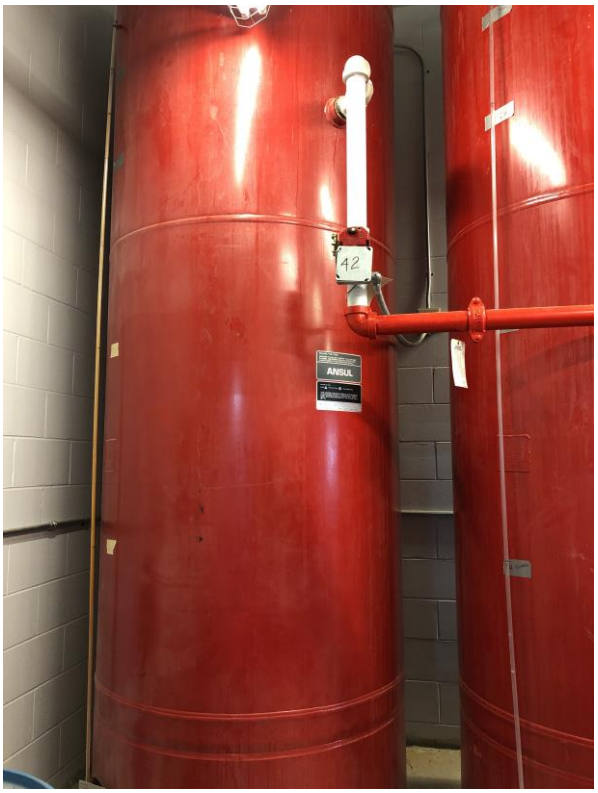
Time 9:46

Description:

(2) 900-gallon AFFF for AASF #2 hangar fire suppression system.

Orientation:

Southwest



Photograph No. 8

Date 2/4/2019

Time 9:55

Description:

Location of 5 gallon spill of mixed AFFF solution outside of the fire suppression tank room.

Orientation:

Southeast

Appendix C - Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Brooksville Readiness Center/AASF #2	Spring Hill, Florida

Photograph No. 9

Date 2/4/2019

Time 9:56

Description:

Grass area where approximately 5 gallons of mixed AFFF solution spilled outside of the fire suppression tank room.

Orientation:

Photograph No. 10

Date 2/4/2019

Time 10:03

Description:

AFFF fire suppression system in AASF #2 hangar.

Orientation:

Southwest

Appendix C - Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Brooksville Readiness Center/AASF #2	Spring Hill, Florida

Photograph No. 11

Date 2/4/2019

Time 12:22

Description:

Wash rack where Trimax 30 units were tested/ discharged.

Orientation:

North