Final
Preliminary Assessment Report
Camp Blanding Joint Training Center, Florida

Perfluorooctane-Sulfonic Acid (PFOS) and Perfluorooctanoic Acid (PFOA) Impacted Sites
ARNG Installations, Nationwide

October 2018

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Acronyms and Abbreviations

AECOM	AECOM Technical Services, Inc.
AFFF	aqueous film forming foam
amsl	above mean sea level
AOI	area of interest
ARNG	Army National Guard
ARNG-ILE	Army National Guard Environmental Programs Division
BC	Battalion Chief
bgs	Below ground surface
CBJTC	Camp Blanding Joint Training Center
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Crash/Fire Rescue
CSM	conceptual site model
DFAC	dining facility
DPW	Department of Public Works
FARP	forward area refueling point
FDEP	Florida Department of Environmental Protection
FLARNG	Florida Army National Guard
FTA	fire training area
IED	Installations and Environment Division
LTC	Lieutenant Colonel
LZ	Landing Zone
MATES	maneuver area training equipment site
NAS JAX	Jacksonville Naval Air Station
ng/L	Nanograms per liter
PA	Preliminary Assessment
PFAS	per- and poly-fluoroalkyl substances
PFOA	perfluorooctanoic acid
PFOS	perfluorooctanesulfonic acid
SI	Site Inspection
SGT	Sergeant
UAS	unmanned aerial systems
US	United States
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
WEA	wildlife and environmental area
WMA	wildlife management area
WWTP	waste water treatment plant

Executive Summary

The United States (US) Army Corps of Engineers (USACE) Baltimore District on behalf of the Army National Guard (ARNG)-Installations & Environment Division (IED), 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), primarily in the form of aqueous film forming foam (AFFF) released as part of firefighting activities, although other PFAS sources are possible.

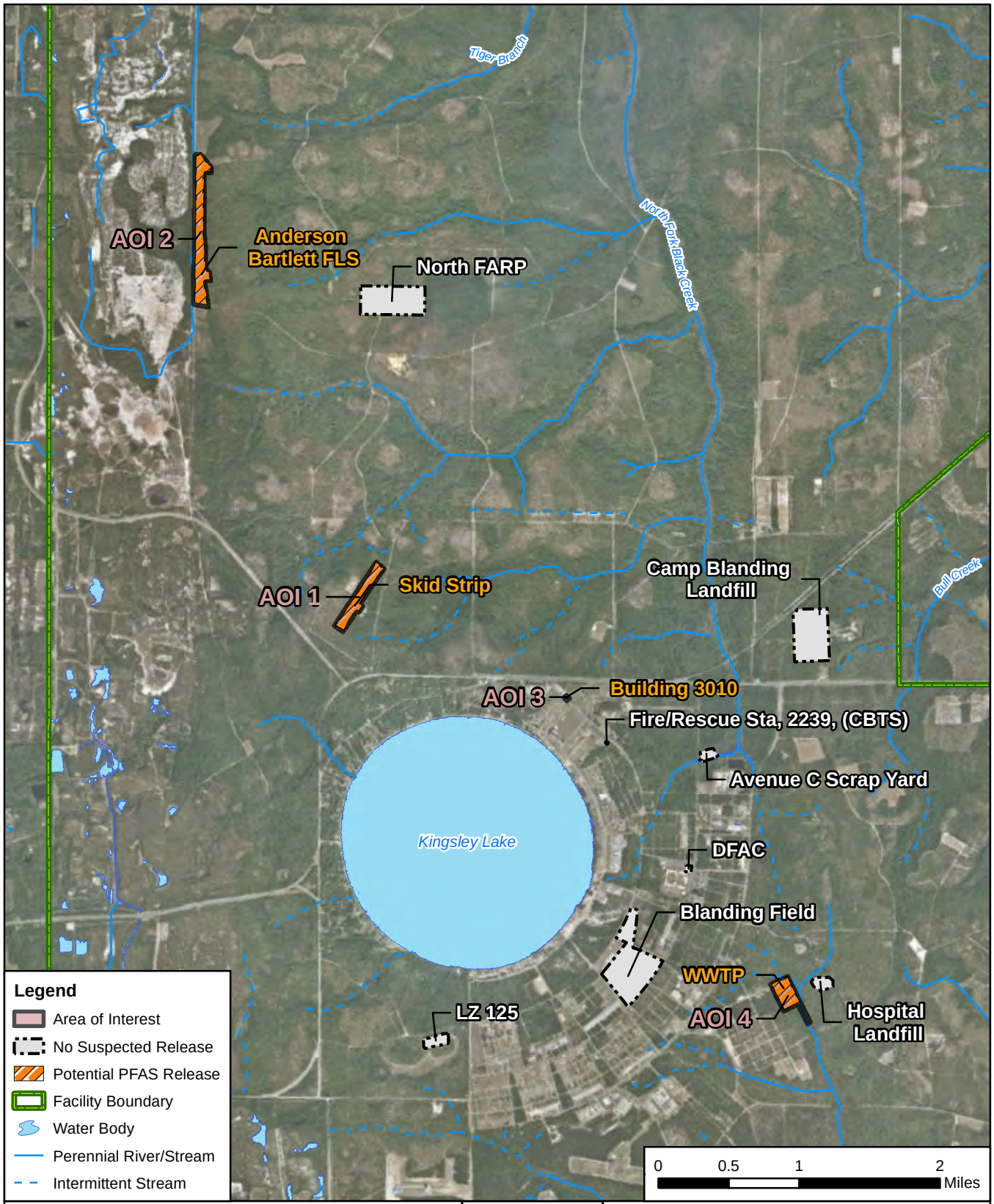
AECOM completed a PA for PFAS at Camp Blanding Joint Training Center (CBJTC) in Clay County, Florida, to assess potential PFAS release areas and exposure pathways to receptors. The performance of this PA included the following tasks:

- Reviewed data resources to obtain information relevant to suspected PFAS releases
- Conducted a 2-day site visit on February 21 and 22, 2018
- Interviewed personnel associated with CBJTC activities during the site visit including the CBJTC Forestry Program Administrator, a CBJTC sergeant (SGT), the Clay County Fire Department Battalion Chief (BC), a Clay County Fire Department Lieutenant Colonel (LTC) and CBJTC contractors that formerly held positions with CBJTC
- Completed visual survey inspections at known or suspected PFAS release locations and document with photographs

Four areas of interest (AOIs) related to PFAS release were identified at CBJTC based on PA data. The AOIs are shown on **Figure ES-1** and described below:

Area of Interest	Name	Used by	Release Dates
AOI 1	Skid Strip	FLARNG, NAS JAX, Other State ARNG Units	None known
AOI 2	Anderson Bartlett Airfield	FLARNG, NAS JAX, Other State ARNG Units	None known
AOI 3	Building 3010	FLARNG	None known
AOI 4	WWTP	FLARNG	None known

Based on the potential for AFFF releases at these AOIs, there is potential for exposure to PFAS contamination in surface soils to site and construction workers, residents, and recreational users/trespassers, and in subsurface soils to site and construction workers via inhalation and ingestion. There is also the potential for exposure to PFAS contamination in surface water and sediment for all receptors via ingestion, and in shallow groundwater for all receptors due to the comingling of surface water and shallow groundwater at the facility (including Kingsley Lake) and due to the presence of facility drinking water supply wells. No sources of PFAS were identified in the local area surrounding CBJTC through interviews or review of previous environmental investigations. The CSM for CBJTC is shown on **Figure ES-2.**



CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Camp Blanding, FL			
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SCALE	1:63,360	CHK BY	JW	10/19/2018
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,		PM	RG	10/19/2018

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Summary of Findings

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Figure ES-1

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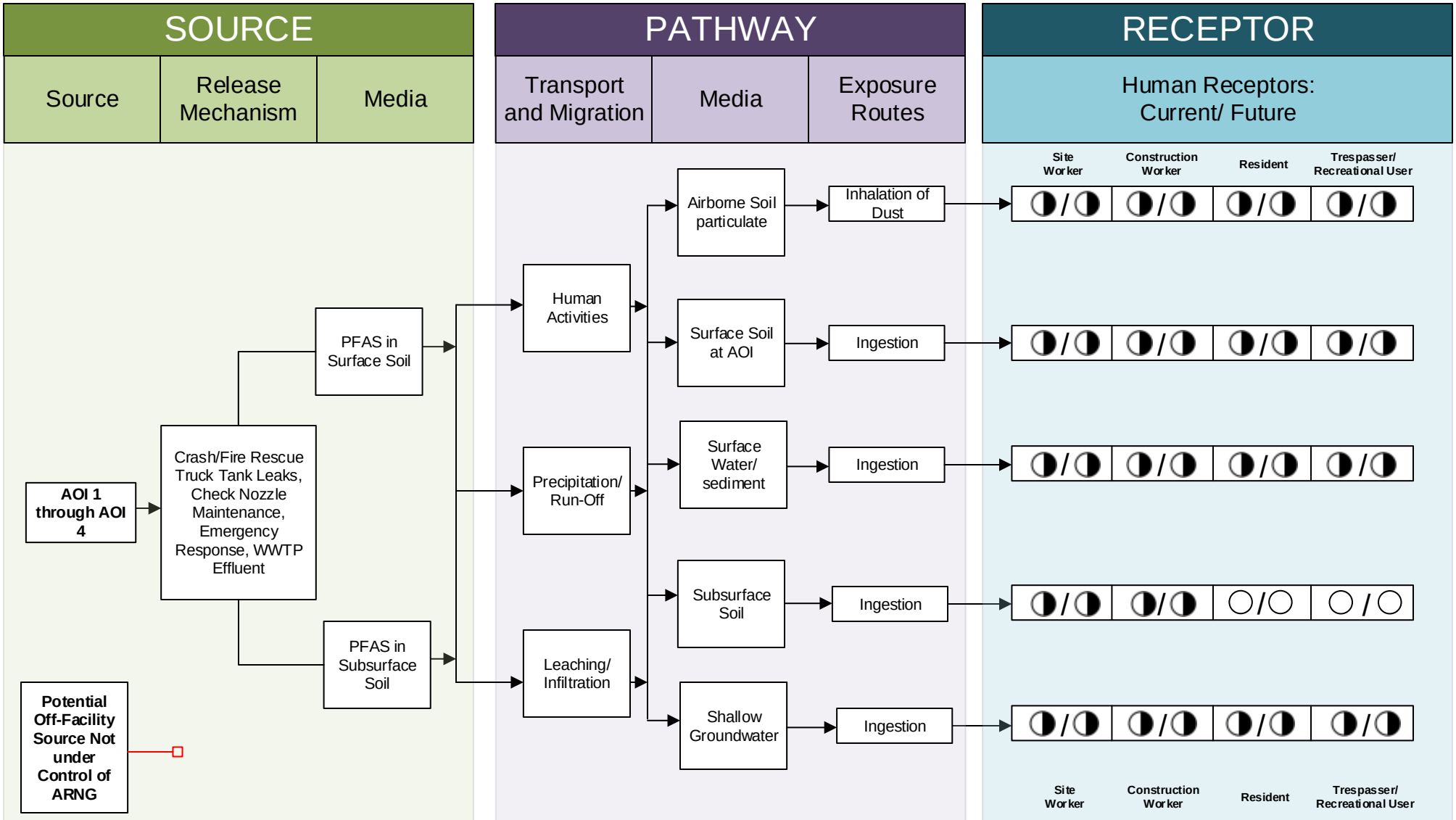


LEGEND

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

Figure ES-2
Conceptual Site Model
Camp Blanding Joint Training Center

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)-Installations & Environment Division (IED), 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), 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. The regulatory framework at both federal and state levels continues to evolve. The U.S. 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. In the absence of federal maximum contaminant levels, some states have adopted their own drinking water standards for PFAS.

This report presents findings of a PA for PFAS at Camp Blanding Joint Training Center (CBJTC) in Clay County, 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 Part 300), and USACE requirements and guidance.

This PA documents the known airfields as well as additional locations where PFAS may have been stored or released into the environment at CBJTC. 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 2-day site visit on February 21 and 22, 2018
- Interviewed CBJTC personnel during the site visit including the CBJTC forestry program administrator, a CBJTC sergeant (SGT), the Clay County Fire Department Battalion Chief (BC), a Clay County Fire Department lieutenant colonel (LTC), and CBJTC contractors who formerly held operations positions at CBJTC.
- Completed visual site inspections at known or suspected PFAS release locations and documented with photographs
- If areas of interest (AOIs) were identified, developed a conceptual site model (CSM) to outline the potential release and pathway of PFAS 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 potential or suspected fire training areas (FTAs) at the facility identified during the site visit
- **Section 3** – **Non-Fire Training Areas:** describes other locations of potential or suspected PFAS releases at the facility identified during the site visit
- **Section 4** – **Emergency Response Areas:** describes areas of suspected or potential AFFF release at the facility, specifically in response to emergency situations
- **Section 5** – **Adjacent Sources:** describes sources of PFAS release adjacent to the facility that are not under the control of ARNG
- **Section 6** – **Conceptual Site Model:** describes the pathways of PFAS transport and receptors at the facility
- **Section 7** – **Conclusions:** summarizes the data findings and presents the conclusions of the PA
- **Section 8** – **References:** provides the references used to develop this document
- **Appendix A** – Data Resources
- **Appendix B** – Preliminary Assessment Documentation
- **Appendix C** – Photographic Log

1.4 Facility Location and Description

Section 1.4 presents information taken from the CBJTC 2016 Operational Range Assessment Phase II Report (CAPE/URS, 2016), updated as necessary with recent data. CBJTC occupies 73,824 acres of land near Starke, Florida in Clay and Bradford Counties, approximately 40 miles southwest of Jacksonville and 2 miles north of Keystone Heights (**Figure 1-1**). Florida State Road 16 bisects the north and south areas of CBJTC. The central portion of CBJTC includes the recreationally used Kingsley Lake (CBJTC, 2018). Private parcels (off-facility) surround the northern and western sides of Kingsley Lake (Clay County Property Appraiser's Office, 2018).

The facility's operational range area of 69,082 acres consists of 172 training ranges. The remaining 4,742 acres comprise a cantonment area (i.e., non-operational use area) located in the central portion of CBJTC (CBJTC, 2018).

The facility was established in 1939 as a camp and training site for the Florida Army National Guard (FLARNG). During World War II, the site was leased by the U.S. Army and used as an infantry replacement-training center and included a cantonment-type camp, a large hospital, and a prisoner-of-war camp. After the war, the land was placed under the ownership of the Florida Armory Board. Today CBJTC is owned and operated on behalf of the FLARNG by the State of Florida Armory Board and serves as a major FLARNG training site.

Additionally, out-of-state ARNG units and Navy units have historically conducted training events at CBJTC. These non-FLARNG units were not tenants during their usage of the CBJTC

airfields, and documentation of their training events was not recorded at CBJTC. The Skid Strip and Anderson Bartlett Airfield, specifically, have been used by Jacksonville Naval Air Station (NAS JAX) for training exercises. NAS JAX and out-of-state ARNG units provided their own fire and rescue response.

Contract listings and expiration dates for all real property agreements on post at CBJTC are included in **Appendix A**. Approximately 10,000 acres along the western boundary are leased for mining heavy minerals (ilmenite) from sand deposits. The land use adjacent to the facility includes woodlands, residential areas, and Mike Roess Gold Head Branch State Park (U.S. Army Center for Health Promotion and Preventative Medicine [USACHPPM], 2009).

1.5 Facility Environmental Setting

Section 1.5 presents information obtained from the CBJTC Integrated Natural Resources Management Plan (FLARNG, 2014), updated as necessary with recent data. CBJTC lies within the Trail Ridge physiographic region of the state. The Trail Ridge is an ancient coastal terrace, which is part of the oldest terrestrial formation in Florida. The topography at CBJTC is flat to gently rolling with several creeks and karst lakes; the steepest slopes are in the southern portion of the site. The elevations at the facility range from approximately 40 feet above mean sea level (amsl) to 250 feet amsl. The lowest elevations generally occur along creek channels, and elevations of 200 feet amsl or greater are found southeast of Kingsley Lake (FLARNG, 2014).

1.5.1 Geology

CBJTC is underlain mostly by the Trail Ridge sands, which are Pleistocene in age. These sands outcrop along the western edge of the facility and are mined for their heavy mineral content. The Trail Ridge sands were part of an ancient shoreline, initially forming a barrier island, beach ridge, and inland dunes; since a lowering of sea level, the sands have been reworked by wind (Elsner, 1997). The Trail Ridge sands are siliciclastics composed of light gray, tan, brown to black, unconsolidated to poorly consolidated, clean to clayey, silty, unfossiliferous, variably organic-bearing sands, to blue-green to olive-green, poorly to moderately consolidated, sandy, silty clays, and can be up to 65 feet thick (Scott et al., 2001). The Cypresshead Formation, Pliocene in age, underlies the Trail Ridge sands although it is near the surface in some areas and may outcrop along CBJTC's southern and eastern boundaries. The Cypresshead Formation is a shallow marine, near-shore deposit composed of unconsolidated to poorly consolidated reddish brown to reddish orange, fine to very coarse grained, clean to clayey sands, which can be up to 200 feet in thickness (Scott, 2001; Scott et al., 2001). The Hawthorn Group underlies the Cypresshead sands and consists of discontinuous, Miocene age lenses of clay, quartz sand, carbonates, and phosphates. The Oligocene Suwannee Limestone and Eocene Ocala Limestone Formations are below the Hawthorn Formation in western Clay County, and the Ocala Formation is part of the Floridan Aquifer (FLARNG, 2014). The carbonate minerals and limestone formations make up a carbonate reef platform whose interaction with groundwater has contributed to the karst landscape at the facility which is marked by sinkholes and caves.

1.5.2 Hydrogeology

The principal aquifers underlying CBJTC consist of surficial, intermediate, and Floridan. Recharge to the surficial aquifer is through direct rainfall (Schreuder, Inc., 2002). The surficial aquifer is easily infiltrated by precipitation because of the unconsolidated sandy units that underlie the facility. Three groundwater flow zones are part of the surficial aquifer: shallow (ground surface to 20 feet below ground surface [bgs]), intermediate (20 to 60 feet bgs), and deep (60 to 100 feet bgs) (SpecPro Environmental Services, LLC [SES], 2012). The recharge rate has been estimated based on isotropic studies of groundwater, and is between 4 and 12

inches per year (SES, 2012). The surficial sands and Floridan aquifer are separated by an intermediate aquifer, which is a confining layer at the base of the surficial aquifer comprising sands, silts, and clays (Schreuder, Inc., 2002). The Floridan aquifer system is approximately 1,900 feet thick, with two permeable zones (Upper and Lower Floridan aquifers) separated by a middle confining unit (Connect Connecting, Inc., 2009; Merritt, 2001). The top of the Upper Floridan aquifer is typically about 200 feet bgs (Merritt, 2001). Recharge of the Floridan aquifer occurs at rates of 0 to 12 inches per year through vertical leakage from the surficial aquifer and breaches in the surface above (e.g., sinkholes) (Schreuder, Inc., 2002).

The majority of the water underlying CBJTC moves laterally within the system before discharging into a surface waterbody; however, some water does percolate downward into the Floridan aquifer in some areas. At CBJTC, groundwater discharges into Kingsley Lake, which produces some outward surficial flow northeast as the headwaters for the North Fork Black Creek (SES, 2014). Within Clay County, groundwater flows to the east toward the Atlantic Ocean.

Sampling of domestic water sources at CBJTC for PFAS was conducted by the ARNG in April 2017. Estimated detections of Perfluorododecanoic acid (0.505 ng/L), Perfluorotetradecanoic acid (1.00 ng/L), and Perfluorotridecanoic Acid (0.633 ng/L) were reported for a composite sample collected from eyewash stations at pump houses for CBJTC Wells Two, Five, Six and Eleven/Twelve. An estimated detection of Perfluorotetradecanoic acid (0.392 ng/L) was reported in a domestic water sample collected from domestic CBJTC Well Two. No other PFAS detections were reported in the sample results. All PFAS detections reported are orders of magnitude under the USEPA Lifetime Health Advisory of 70 ng/L. The tabulated sampling results are included in **Appendix A**, and sampling locations are shown on Figure 1-2.

1.5.3 Hydrology

Surface water pathways at CBJTC drain into three watersheds: North Fork Black Creek Watershed, South Fork Black Creek Watershed, and Levys Prairie (Lowry Lake) Watershed (**Figure 1-2**). North Fork Black Creek Watershed drains the northern portion of CBJTC; it dissects the northern portion of the facility with its headwaters fed by springs and seeps at the Kingsley Lake shoreline, a groundwater-fed water body. Kingsley Lake is located in the west-central part of CBJTC, and is the largest lake on the facility, encompassing approximately 1,620 acres. Kingsley Lake serves as the headwaters for the North Fork Black Creek, and produces some outward flow in surface water to the northeast. As a karstic lake, Kingsley Lake may also receive water by inflow from nearby streams and lose water to groundwater seepage. The lake readily conveys excess flood waters from the lake to the North Fork Black Creek, which prevents extremely high lake stages. A number of borrow ponds in the west-central portion of the facility were formed from the construction of back berms for the small arms ranges (USACE, 2014). No drainage was observed flowing from the ponded areas during the Periodic Review/Revised Phase I (USACE, 2014). North Fork Black Creek drains into the St. Johns River approximately 25 miles downstream from the CBJTC property.

South Fork Black Creek Watershed drains the central and northern portions of CBJTC into South Fork Black Creek, which flows eastward within the boundaries of the facility (USACE, 2014). South Fork Black Creek has been observed to have steady perennial flow at its exit from CBJTC at Blanding Boulevard (State Road 21). Also in the South Fork Black Creek Watershed, a tributary of Ates Creek flows eastward from CBJTC, and upon reaching its confluence with Ates Creek, continues northward until joining South Fork Black Creek. South Fork Black Creek flows north until it reaches its confluence with North Fork Black Creek west of the city of Middleburg, approximately 12 miles downstream (Florida Department of Environmental Protection [FDEP], 2014).

The southern portion of CBJTC is drained by the Levys Prairie (Lowry Lake) Watershed, which includes a number of surface water bodies that connect to Alligator Creek. Alligator Creek's headwaters are north of Blue Pond in a ravine fed by groundwater seepage (Merritt, 2001; Schreuder, Inc., 2002). The creek flows from Blue Pond into Lowry Lake then into Magnolia Lake. Lowry Lake receives water from Alligator Creek and another stream with three tributaries that extend as far as 1.3 miles north to ravines 30 to 40 feet deep. These tributaries receive water from the surficial aquifer via three springs (Merritt, 2001). Lowry Lake also receives water from the surficial aquifer directly via seepage (Schreuder, Inc., 2002). Alligator Creek flows off CBJTC into Lake Brooklyn, Keystone Lake, and Lake Geneva. The lakes on and near the facility were formed by sinkholes due to karst terrain and may interact with the Floridan aquifer system.

There are actively used wells within the groundwater receptor zones for CBJTC. Groundwater is used downgradient of CBJTC operational areas as potable water. Four Florida Department of Health and Rehabilitative Services private potable water wells are in the groundwater receptor zone of the facility. Three of these wells are in the surficial aquifer ranging in depth from 63 to 91 feet bgs, and one is in the intermediate aquifer with a depth of 145 feet bgs (FDEP, 2014). As summarized in the Periodic Review/Revised Phase I (USACE, 2014), five FDEP State Underground Petroleum Environmental Response Act private potable water wells are in the groundwater receptor zone of the facility. There are four active wells and one backup well serving up to 2,500 people in the cantonment area of CBJTC (FDEP, 2013; USACE, 2014). These wells range in depth from 581 to 719 feet bgs and tap into the Floridan aquifer system.

1.5.4 Climate

Data from nearby Starke, Florida, indicate that the mean annual temperature between 1970 and 2010 in was 67.9 degrees Fahrenheit (ºF) (National Oceanic and Atmospheric Administration [NOAA], 2018). The warmest months are July and August, with normal daily mean temperatures of 80.6ºF and 79.9ºF, respectively. January is the coldest month, with a mean temperature of 53.3ºF. Average annual precipitation measured from 1970 to 2010 in Starke, Florida was 53.3 inches. Rainfall is heaviest during the months of June through September, averaging between 5 and 7 inches per month; October and November are the driest months. Average monthly precipitation ranges from 2.25 inches in October to 6.8 inches in August. Afternoon and evening thunderstorms in the summer account for about 40 percent of annual rainfall. Summer thunderstorms can produce heavy rainfall of 2 to 3 inches in a few hours (FLARNG, 2014). The remaining precipitation is evenly distributed throughout the year. Tropical storms are possible between June and November but typically do not generate hurricane-force winds at CBJTC due to its inland location (Weatherspoon et al., 1989).

1.5.5 Current and Future Land Use

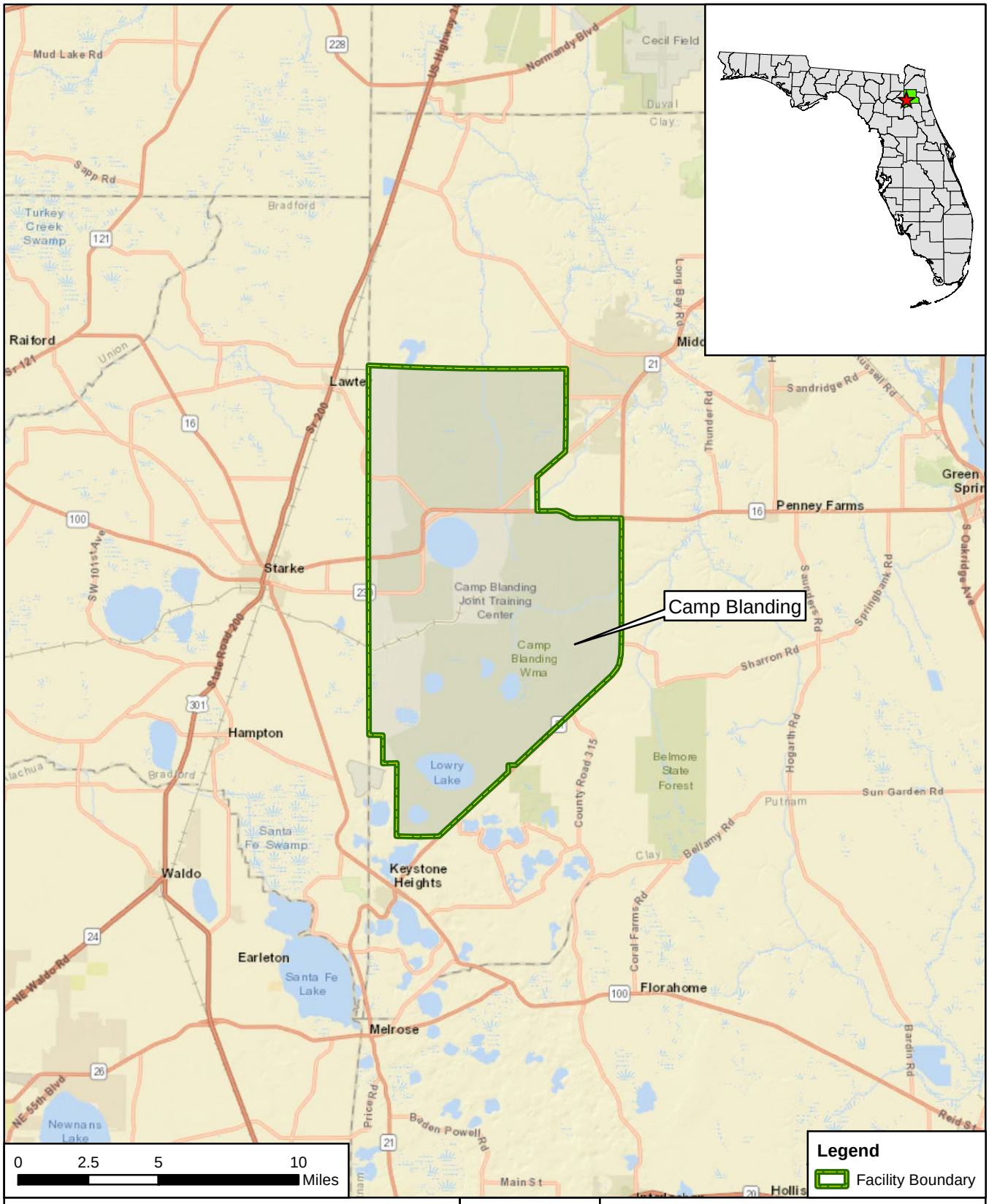
CBJTC is the major training area for the Florida National Guard and home to ARNG and Air National Guard units as well as the Florida Youth Challenge Academy, the 211th Regiment Florida Regional Training Institute, and other military and civilian operations. The facility has been used for more than 50 years for a variety of military training activities. CBJTC provides personnel, training, logistical and administrative support, and serves as a training base for improving individual solider skills, collective training, overall unit readiness, and other essential needs to valued customers.

Training lands on CBJTC are defined using the following land use categories: improved, semi-improved, and unimproved grounds. Improved grounds are developed areas that have either an impervious surface (e.g., sidewalks, buildings) or landscape plantings that require intensive maintenance and upkeep. Semi-improved grounds are where periodic grading or maintenance

is performed for operational reasons (e.g., landing zones [LZs], wildlife food plots). Unimproved grounds receive little to no grounds maintenance (e.g., streams, wetlands, forests). Improved grounds include the developed portions of CBJTC, which are primarily located within the central Cantonment Area. However, a few scattered areas of development are found outside this area, which are associated with transportation and utility corridors and the range complex. Improved grounds make up less than 5 percent of the facility. Semi-improved lands on CBJTC (or 29 percent of the land) include areas that require periodic management or maintenance; they include tree plantations, agricultural lands, previously mined lands, and trails. The remainder of CBJTC (or 66 percent of the land) is classified as unimproved grounds that are used for military training, forestry, wildlife management, and recreation. Unimproved grounds include forests, shrubland, streams, lakes, and wetlands (FLARNG, 2014).

Private parcels (off-facility) surround the northern and western sides of Kingsley Lake. Additionally, imported mining materials from multiple locations are processed at a DuPont-owned facility along the western boundary of the facility (CBJTC Environmental Specialist, pers. comm.). Land use adjacent to CBJTC includes woodlands, residential areas, and Mike Roess Gold Head Branch State Park (USACHPPM, 2009). Keystone Heights Airport is a public use airport located adjacent to CBJTC on the southwestern border.

CBJTC is partnered with ARNG-ILE and the State of Florida through the Florida Forever program to establish a three-mile compatible use buffer around the facility to manage encroachment. CBJTC is bordered to the southeast by Mike Roess Gold Head Branch State Park, to the north by Jennings State Forest Wildlife Management Area (WMA) and to the east by private timberlands. Additionally, the Santa Fe Swamp Wildlife and Environmental Area (WEA), Belmore State Forest WMA, and Raiford WMA occur within approximately 4 miles of the facility. CBJTC contributes directly to regional conservation since approximately 56,197 acres, or 77 percent, of CBJTC is managed by Florida Fish and Wildlife Conservation Commission as a WMA.



CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Camp Blanding, FL			
REVISED	7/9/2018	GIS BY	MS	7/9/2018
SCALE	1:316,800	CHK BY	JW	7/9/2018
Base Map: Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI,		PM	RG	7/9/2018

Camp Blanding Facility Location

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Figure 1-1

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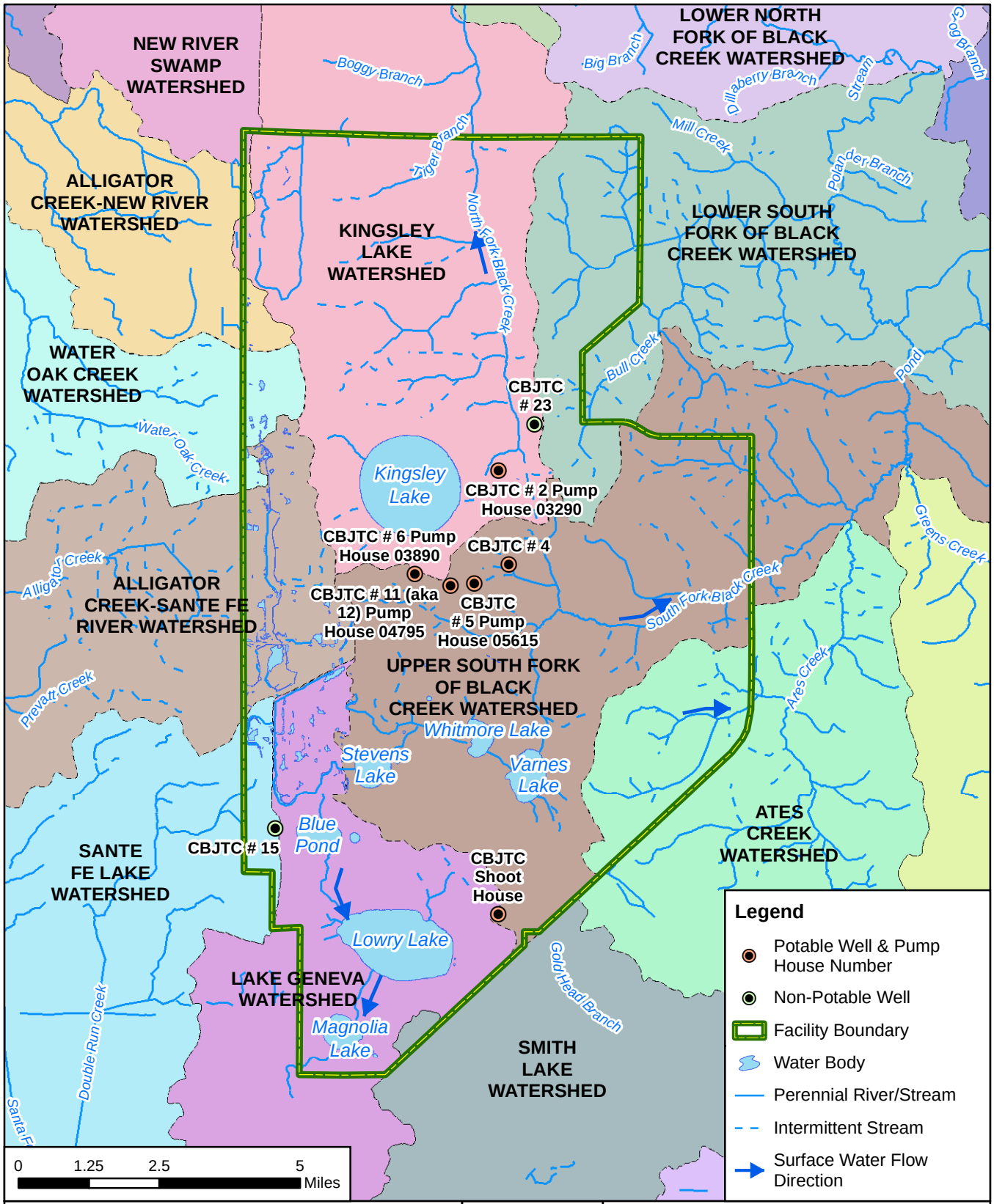

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REVISED	9/28/2018	GIS BY	MS	9/28/2018
SCALE	1:158,400	CHK BY	JW	9/28/2018
		PM	RG	9/28/2018

Camp Blanding
Surface Water Hydrology

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Figure 1-2

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2. Fire Training Areas

No FTAs were identified at CBJTC during the PA. CBJTC personnel confirmed that there are no FTAs at CBJTC during interviews and a review of Range Facility Management Support System data did not indicate that fire training takes place on any range at CBJTC. As a mobilization site during World War II, CBJTC did not establish FTAs. Additionally, CBJTC relied upon a volunteer fire department staff most likely comprised of FLARNG staff and/or civilian staff at the facility. CBJTC transitioned to a training site in 1994. Clay County Fire Department assumed responsibility for fire rescue and emergency response at CBJTC after an incident at the facility in the early 1990s raised concern about emergency response time.

The CBJTC Integrated Natural Resources Management Plan establishes a goal to implement a wildfire program that minimizes safety concerns and wildfire risk. The CBJTC Environmental Division pursues that goal by using prescribed fires across wildlands at CBJTC. Approximately 64,000 acres of CBJTC require prescribed fire at varying intervals (FLARNG, 2014). The CBJTC Forestry Program also maintains a regular prescribed burning schedule to maintain production of slash pine and longleaf pine plantations. Wildland fire training occurs as needed under the CBJTC Environmental division to maintain a sufficient crew of trained personnel. Water and Class A foams (which do not contain PFAS) are used for suppression during wildland fire training and prescribed burns at CBJTC. AFFF is not used during wildland fire operations.

3. Non-Fire Training Areas

Non-fire training areas were investigated during the PA, but no known releases of AFFF occurred at these areas. A description of each non-FTA is presented below, and the non-FTAs are shown on **Figure 3-1** with photographs appearing in **Appendix C**.

3.1 Airfields and Landing Zones

3.1.1 Camp Blanding Airfield

Camp Blanding Airfield is located in the cantonment area at CBJTC southeast of Kingsley Lake. The airfield was considered a potential PFAS release site because airfields can be a common location of crashes or refueling accidents. The airfield is currently used only for unmanned aerial systems (UAS). The airfield is bordered on the north by Belle Glade Street, on the east by Avenue C, on the west by Avenue B, and on the south by Hollywood Street. The geographic coordinates are 29°57'8.81"N and 81°58'46.19"W.

The hangar area consists of a motor pool with a fenced compound, two storage buildings (Conex-1 and Conex-2) and an aviation building containing offices. Conex-1 contains one corrosive locker, one flammable locker, and a red bag spill kit. The site does not currently have any refueling equipment. Associated Building 3284 does not have a fire suppression system. ABC fire extinguishers are stored at Camp Blanding Airfield and Building 3284 for fire suppression. Airfield usage records for Camp Blanding Airfield (included in **Appendix A**) from March 2016 to March 2018 indicate that the airfield is currently used for equipment staging, UAS ground operations, slingload training, as a UAS LZ, and as a forward area refueling point (FARP). There have been no known releases of AFFF at the airfield.

3.1.2 Skid Strip

The Skid Strip is located north of Florida State Road 16 within a portion of CBJTC referred to as North Post, approximately 0.8 miles northwest of Kingsley Lake. The Skid Strip was considered a potential PFAS release site because airfields can be a common location of crashes or refueling accidents. An urban warfare training area borders the Skid Strip to the east, and a prisoner of war training area borders the Skid Strip to the west. Forested land borders the Skid Strip to the north and south. The geographic coordinates are 29°59'24.44"N and 82°0'43.25"W.

The Skid Strip has historically been used as an airfield by FLARNG and Jacksonville NAS JAX. NAS JAX brought their own crash/fire rescue (CFR) truck and provided their own fire and rescue response during NAS JAX operations at the Skid Strip. . After training was completed, all personnel, material, and vehicles were returned to NAS JAX. NAS JAX no longer uses the Skid Strip for any operations. Airfield usage records for the Skid Strip (included in **Appendix A)** from March 2016 to March 2018 indicate that the airfield is currently used for flight operations by FLARNG. The Skid Strip has no fire suppression system and there is no evidence of AFFF use during FLARNG operations at the airfield. NAS JAX may have provided AFFF in fire and rescue trucks used during NAS JAX operations, but there are no documented crashes or releases of AFFF at the Skid Strip. NAS JAX was unable to provide any information regarding training events at the Skid Strip.

3.1.3 Anderson Bartlett Airfield

The Anderson Bartlett Airfield is located on North Post. The airfield was selected as a potential PFAS release site based on its historic use to land C-130 aircrafts and a suspected navy

helicopter crash. The airfield is bordered on all sides by forested land. The geographic coordinates are 30°1'39.44"N and 82°1'52.41"W.

Similar to the Skid Strip, Anderson Bartlett Airfield has been historically used by FLARNG and NAS JAX for training events. In addition to FLARNG and NAS JAX usage, however; Anderson Bartlett Airfield has historically been used as an airfield by out-of-state ARNG units for C-130 dirt strip landing training. NAS JAX provided their own fire and rescue response during NAS operations. Out-of-state ARNG units would also coordinate with NAS JAX to have NAS JAX provide CFR trucks and personnel during training events. All personnel, materials, and vehicles provided by NAS JAX or out-of-state ARNG units were mobilized off-facility to their respective stations. NAS JAX no longer uses the airfield for training events. Airfield usage records for the Anderson Bartlett Airfield (included in **Appendix A)** from March 2016 to March 2018 indicate that the airfield is currently used for slingload training, UAS ground operations, and as a staging area. Anderson Bartlett Airfield has no fire suppression system and there is no evidence of AFFF use during FLARNG operations at the airfield. NAS JAX may have provided AFFF in fire and rescue trucks used during NAS JAX operations, but there are no documented crashes or releases of AFFF at the Anderson Bartlett Airfield. NAS JAX was unable to provide any information regarding training events at the Anderson Bartlett Airfield.

3.1.4 North Forward Area Refueling Point (FARP)

The North Forward Area Refueling Point (FARP) is an airfield on North Post east of Cross Creek Road and north of its intersection with South Bay Road. The area was identified during the site visit as a potential PFAS release site due to its use as an airfield and fueling area. The North FARP is bordered by forested land on all sides. The geographic coordinates are 30°1'14.72"N and 82°0'30.14"W.

North FARP has been historically used as a refueling point for North Post aircraft. There is no fuel storage or fire suppression system at North FARP nor any documented storage or releases of AFFF.

3.1.5 Landing Zone 125

CBJTC has 62 LZs that support aviation and airborne operations (FLARNG, 2014). LZ 125 is located approximately 0.1 miles southwest of the intersection of Avenue B and Duval Road adjacent to the southwest end of the CBJTC cantonment area. LZ 125 was considered a potential PFAS release site based on its frequent use for air operations. The geographic coordinates are 29°56'39.91"N and 82°0'8.84"W.

LZ 125 does not have stored fuel or fire suppression on site. The Clay County Fire Department BC stated that all training of this nature does not use nor release AFFF. There are no documented crashes or releases of AFFF at LZ 125.

3.2 Former Fire Station - Building 3010

Building 3010 is a historic World War II era structure built in 1940 located adjacent to the Post Exchange on Avenue B in the cantonment area at CBJTC (FLARNG, 2012). The building was used as a fire station when CBJTC had a volunteer fire department. Building 3010 was considered a potential PFAS release site based on its former use as a fire station and its known storage of two crash and rescue trucks. The geographic coordinates for Building 3010 are 29°58'48.10"N and 81°59'14.43"W.

Interviews with the Clay County Fire Department BC, Environmental Manager /Forestry Program Administrator, former head of the Department of Public Works, and a former facility

safety officer confirmed that Building 3010 operated as the facility Fire Station and stored two crash and rescue trucks, one of which contained AFFF. The Environmental Manager/Forestry Program Administrator stated that the trucks were regularly serviced by the Maneuver Area Training Equipment Site (MATES) staff. According to site interviews, Clay County Fire Department began operating as the CBJTC fire department in 1996. The two crash and rescue trucks stored at Building 3010 were soon after transported off-facility, potentially to NAS JAX, and Building 2239 was constructed for use as the facility Fire Station. Building 3010 no longer operates as the facility Fire Station nor does it store crash and rescue trucks. There are no known documented uses or releases of the AFFF contained in the truck stored at Building 3010.

3.3 Fire Station – Building 2239

Building 2239, the current facility Fire Station operated by the Clay County Fire Department, is located northwest of the intersection of Avenue B and Ft. Myers Street in the cantonment area at CBJTC. The Fire Station was considered a potential PFAS release site based on its potential storage of AFFF. The geographic coordinates for the Fire Station are 29°58'31.20"N and 81°58'57.21"W.

Prior to the construction of Building 2239, the Clay County Fire Department began operating as the facility fire department out of a trailer in the cantonment area on the facility in 1996. The current Clay County Fire Department BC has held the position since the operations started at CBJTC. According to interviews with the county fire department staff, Building 2239 was completed in 2002.

Clay County Fire Department has never used or stored AFFF at CBJTC. Only water, Class A foam, and ox-blood foam has been used by the Clay County Fire Department on facility. Additionally, Clay County Fire Department has no known responses to crashes at CBJTC, nor do they perform fire training operations at CBJTC. All Clay County Fire Department equipment is tested and washed off facility. Wildland firefighting equipment used by the CBJTC Environmental Division is washed at the Wash Rack, but wildland firefighting equipment does not use AFFF. There is no fire suppression system at Building 2239. According to interviews with Clay County Fire Department staff, all fire suppression systems in buildings at CBJTC use water or dry chemical suppression agents, such as Purple K. There are no known documented uses or releases of AFFF at Building 2239, or anywhere on facility by Clay County Fire Department since their operation at CBJTC began in 1996.

3.4 Dining Facility (DFAC)

The Dining Facility (DFAC) is located east of the intersection of Avenue C and Cocoa St in the cantonment area at CBJTC. The DFAC was identified during the site visit as a potential PFAS release site based on its potential to have an AFFF fire suppression system. The geographic coordinates for the DFAC are 29°57'44.63"N and 81°58'21.89"W.

Interviews with facility Fire Department staff indicated that a fire suppression system using dry chemicals is used at the DFAC. During the site visit Purple K was confirmed as the dry chemical fire suppression agent used in the fire suppression system at the DFAC. ABC fire extinguishers are also present at the DFAC. There are no known or documented releases of AFFF at the DFAC.

3.5 Waste Water Treatment Plant

The Waste Water Treatment Plant (WWTP) is located on Polk Road east of the cantonment area at CBJTC. The geographic coordinates are 29°56'58.88"N and 81°57'40.07"W.

The facility accepts and treats waste water from various facilities at CBJTC prior to discharge to the South Fork of Black Creek. Effluent from the WWTP is treated in a chlorine contact chamber before it is sent by clay pipe for discharge to the South Fork of Black Creek. Biosolids generated by the waste water treatment process are transferred to a FDEP permitted treatment facility for future treatment and final disposal, or can be disposed of in a Class 1 solid waste landfill.

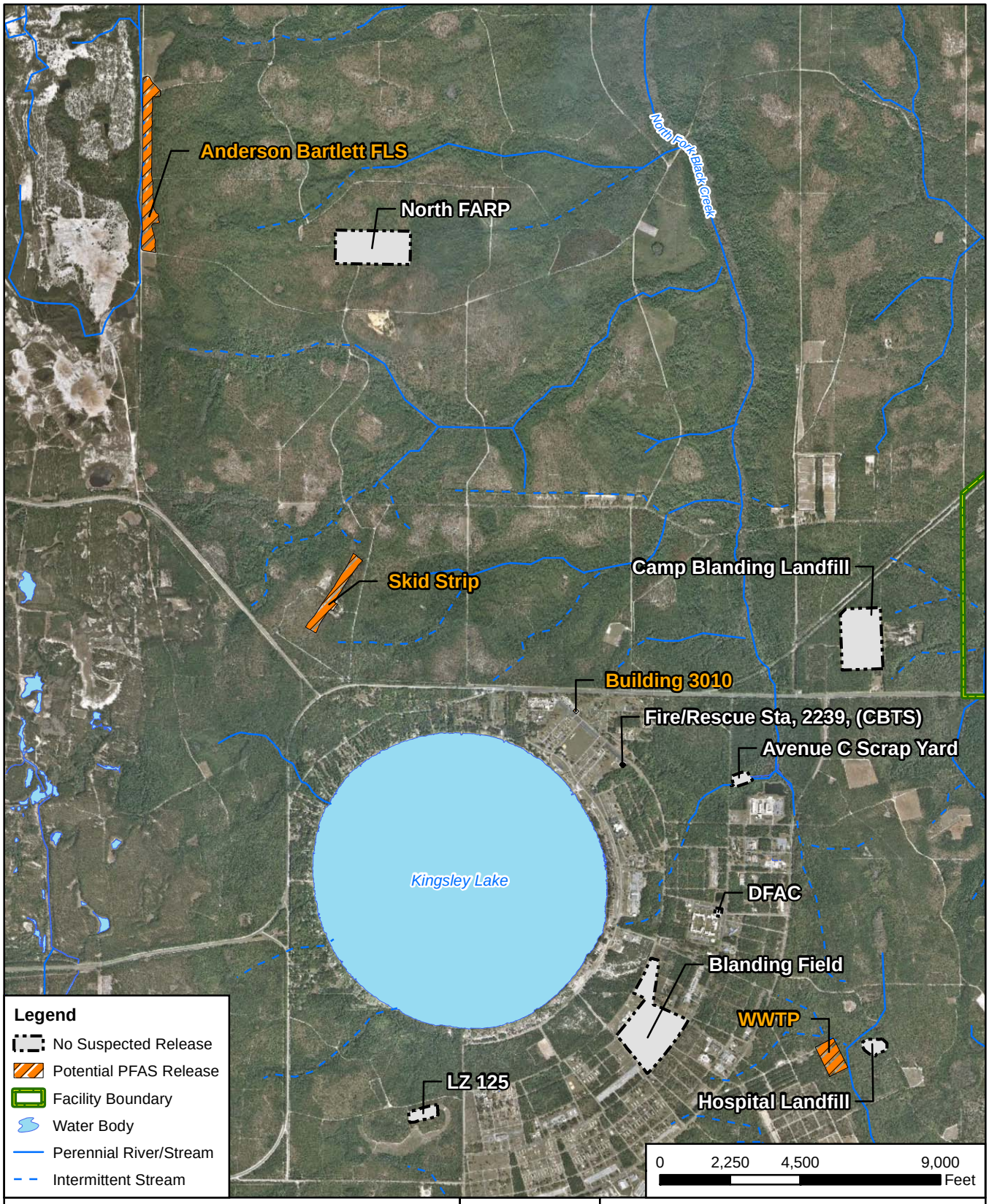
The original facility was constructed in the 1930s. The entire system was upgraded in 2004 to a liquid chlorination system. The facility consists of the control building (Building 5467), four treatment basins, the sodium hypochlorate/sodium bisulfate room (Building 5468), and the Diesel Generator Building (Building 5456) with a 2,000-gallon aboveground storage tank. Ten additional buildings are also present at the site. The WWTP operates under FDEP permit number FL0022853 (FDEP, 2017). Biosolids generated by the WWTP are transferred to East Star Biosolids Management Facility (FLA182532) or to a FDEP-permitted WWTP for further treatment and final disposal, or disposed of in a Class 1 solid waste landfill (FDEP, 2017).

There is no documented use or release of AFFF at the WWTP or at locations within CBJTC that would flow to the WWTP; however, the floor drains at Building 3010 used to connect to the WWTP. If an unknown release occurred at Building 3010, it is possible the effluent could have been transported to the WWTP and into the surface water where the WWTP discharges.

3.6 Landfills

There are three known landfills at CBJTC: the Camp Blanding Landfill, the Hospital Landfill, and the Avenue C Scrap Yard. Camp Blanding Landfill is located on North Post (29°59'11.739"N and 81°57'30.451"W). The Hospital Landfill and Avenue C Scrap Yard are located east of Kingsley Lake near the cantonment area at CBJTC (29°57'2.490"N and 29°57'2.490"W, and 29°58'27.003"N and 81°58'13.929"W, respectively). Landfill locations are shown on **Figure 3-1**.

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



CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Camp Blanding, FL			
REVISED	7/9/2018	GIS BY	MS	7/9/2018
SCALE	1:54,000	CHK BY	JW	7/9/2018
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,		PM	RG	7/9/2018

N

Non-fire Training Areas

AECOM
12420 Milestone Center Drive
Germantown, MD 20876

Figure 3-1

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4. Emergency Response Areas

Six emergency response locations, all crash sites, were identified by the Environmental Manager/Forestry Program Administrator and the former head of the Department of Public Works (DPW). Emergency response locations include military and civilian crashes at CBJTC. The emergency response areas are shown on **Figure 4-1**. Emergency response records were not made available for the purposes of this investigation, but the Environmental Manager/Forestry Program Administrator and the former head of DPW have knowledge of the crashes from having held positions at CBJTC during the time of the crashes discussed in this section, with the exception of the Pinner range crash.

Details of each crash site at CBJTC identified during the site visit are discussed below. Crash locations were approximated by the Environmental Manager/Forestry Program Administrator and the former head of DPW during site visit interviews.

4.1 LZ 102 (North Bivouac) Area Crash Sites

The Environmental Manager/Forestry Program Administrator and the former head of DPW stated during interviews that two military crashes occurred near the LZ 102 (North Bivouac) area. The approximate geographic coordinates are 30°2' 39.90"N and 82°1'13.81"W and 30°2'9.44"N and 82°1'32.87" W, respectively. No fire is known to have occurred during the crashes, and thus no AFFF is known to have been used during crash responses.

4.2 LZ 101 Area Crash Site

The Environmental Manager/Forestry Program Administrator and the former head of DPW stated during interviews that a civilian crash occurred east of the LZ 101 area. The approximate geographic coordinates are 30°2'58.71"N and 81° 58'32.04"W. No fire is known to have occurred during the crash, and no AFFF is known to have been used during crash response.

4.3 LZ 118 Area Crash Site

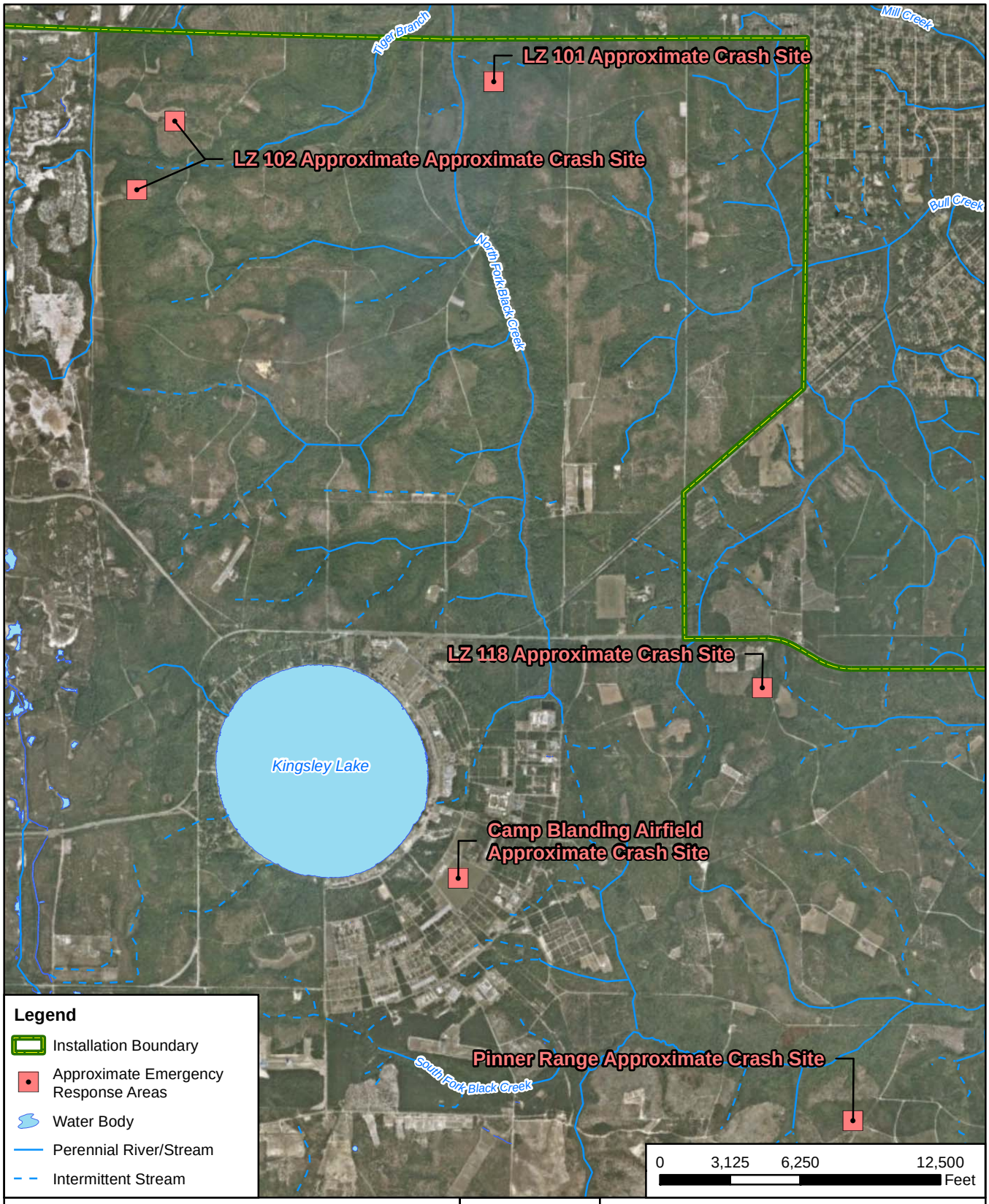
The Environmental Manager/Forestry Program Administrator and the former head of DPW stated during interviews that a civilian crash occurred east of the cantonment area and west of the LZ 118 area. The crash location was not reachable by vehicle, and so response personnel traveled on foot through woods to reach the crash site. No evidence of fire existed at the crash site by the time emergency response personnel arrived, and thus no AFFF was used at the site. The approximate geographic coordinates are 29° 58'32.42"N and 81°56'13.52"W.

4.4 Pinner Range Crash Site

Prior to the PA site visit, ARNG reported a helicopter crash on the Pinner Range in a wooded area inaccessible by truck approximately 15 years ago. The Environmental Manager/Forestry Program Administrator and the former head of DPW did not express any knowledge of this crash during interviews, and stated that if there was a crash at the Pinner Range it must have occurred before 1985. The Environmental Manager/Forestry Program Administrator and the former head of DPW stated that there have been no fires associated with crashes at CBJTC. It is unlikely that crash and rescue trucks containing AFFF would have responded to the crash at the Pinner Range.

4.5 Camp Blanding Airfield Crash Site

The Environmental Manager/Forestry Program Administrator and the former head of DPW stated during interviews that a civilian crash occurred at the Camp Blanding Airfield in the cantonment area. The approximate geographic coordinates are 29°57'7.47"N and 81°58'46.79"W. No fire is known to have occurred during the crash, and no AFFF is known to have been used during crash response.



CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Camp Blanding, FL			
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SCALE	1:75,000	CHK BY	JW	7/17/2018
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,		PM	RG	7/17/2018

Emergency Response Areas

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Figure 4-1

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5. Adjacent Sources

No off-site PFAS sources adjacent to the CBJTC facility were identified during the PA.

Keystone Airpark, also known as Keystone Heights Airport, is a public use airport located on the southwest perimeter of CBJTC. Clay County Fire Department operates as the fire department for the Keystone Airpark airfield areas adjacent to CBJTC. Clay County Fire Department does not use AFFF. Bradford County Fire Department services the western areas of the Keystone Airpark. The Keystone Airport manager indicated during an interview that AFFF is not stored or used at the Keystone Airport.

Two metal fabrication companies, AAT Omega, LLC and G&A Manufacturing, Inc., exist adjacent to the southeastern border of CBJTC. Neither company performs chrome plating, a potential PFAS release source activity, at their facilities adjacent to CBJTC.

6. Conceptual Site Model

Based on the PA findings, potential release areas were identified as four AOIs: AOI 1 Skid Strip; AOI 2 Anderson Bartlett Airfield; AOI 3 Building 3010; and AOI 4 the WWTP. The AOI locations are shown on **Figure 6-1**. The following sections describe the CSM components and the specific CSM 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. Receptors at CBJTC include site workers, construction workers, residents, and recreational users/trespassers.

In general, the potential PFAS exposure pathways are ingestion and inhalation. Dermal contact is not considered to be a potential exposure pathway as studies have shown very limited absorption of PFAS through the skin (National Ground Water Association 2018).

6.1 AOI 1 Skid Strip

AOI 1 is the Skid Strip. Potential AFFF releases to soil by NAS JAX or other state ARNG units may have occurred during historical training activities at AOI 1.

Freshwater forested/shrub wetlands lie less than 0.1 miles north and south of the Skid Strip. PFAS are water soluble and can migrate readily from soil to groundwater or surface water via leaching and run-off. Because potential AFFF releases to surface soil have may occurred at AOI 1, it is possible that potential PFAS contamination has migrated from the soil at AOI 1 to these surface water bodies. At CBJTC, infiltrating precipitation typically enters the shallow groundwater system and discharges to adjacent surface water bodies. As such, potential AFFF releases may migrate from shallow groundwater into Kingsley Lake, located approximately 0.8 miles southeast of the Skid Strip, and other nearby surface water bodies. All receptors may be exposed to PFAS contaminated surface water due to run-off and infiltration at the Skid Strip.

Groundwater at CBJTC predominantly flows laterally until discharging into a surface water body. At CBJTC, shallow groundwater discharges into Kingsley Lake. Drinking water supply wells are also present on-facility at CBJTC. Due to residential and recreational use of Kingsley Lake, and on-facility residential/site and construction worker use of potable wells, there is potential exposure of PFAS contamination in groundwater to all receptors.

Ground-disturbing activities to surface soil at AOI 1 could result in site and construction worker exposure to potential PFAS contamination via inhalation of dust particles or ingestion of surface soil. Ground-disturbing activities to subsurface soil could result in site and construction worker exposure via ingestion of subsurface soil. Therefore, the exposure pathways for these receptors are potentially complete. The CSM for AOI 1 is shown on **Figure 6-2.**

6.2 AOI 2 Anderson Bartlett Airfield

AOI 2 is Anderson Bartlett Airfield. Potential AFFF releases to soil by NAS JAX or other state ARNG units may have occurred during historical training activities at AOI 2.

A riverine wetland flows adjacent to the Anderson Bartlett Airfield west of the AOI. Additionally, a freshwater forested/shrub wetland lies less than 0.1 miles west of the southern end of the airstrip, and similar water bodies exist elsewhere near the airstrip. Because potential AFFF releases to surface soil may have occurred at AOI 2, it is possible that potential PFAS contamination has migrated from the soil at AOI 2 to these surface water bodies. As such, potential AFFF releases may migrate from shallow groundwater into surface water bodies near the airfield, but migration to Kingsley Lake, located approximately 3.5 miles southeast, is

unlikely. All receptors, except for residential receptors, may be exposed to PFAS contaminated surface water near the Anderson Bartlett Airfield.

Groundwater at CBJTC predominantly flows laterally until discharging into a surface water body. Kingsley Lake is approximately 3.5 miles southeast of Anderson Bartlett Airfield, and shallow groundwater is unlikely to migrate that far before surfacing in another water body. No drinking water supply wells are present on North Post near the Anderson Bartlett Airfield. There is potential exposure of PFAS contamination in groundwater at Anderson Bartlett Airfield only to site and construction workers, and trespassers/recreational users.

Ground-disturbing activities to surface soil at AOI 2 could result in site and construction worker exposure to potential PFAS contamination via inhalation of dust particles or ingestion of surface soil. Ground-disturbing activities to subsurface soil could result in site and construction worker exposure via ingestion of subsurface soil. Therefore, the exposure pathways for these receptors are potentially complete. The CSM for AOI 2 is shown on **Figure 6-3.**

6.3 AOI 3 Building 3010

AOI 3 is Building 3010, the former Fire Station at CBJTC. Potential AFFF releases to soil by FLARNG units may have occurred during storage and maintenance of a CFR truck at AOI 3.

AOI 3 run-off used to combine with stormwater flow to the WWTP until the WWTP was redesigned in 2004. Additionally, run-off not captured by drains at Building 3010 drained to Kingsley Lake, approximately 0.3 miles southeast. At CBJTC, infiltrating precipitation typically enters the shallow groundwater system and discharges to Kingsley Lake. Because potential AFFF releases to surface soil may have occurred at AOI 3, it is possible that potential PFAS contamination has migrated from the soil at AOI 3 to Kingsley Lake and the WWTP. The potential for PFAS contamination in media at the WWTP is discussed in Section 6.4. All receptors may be exposed to PFAS contaminated surface water at Kingsley Lake due to surface water run-off from Building 3010.

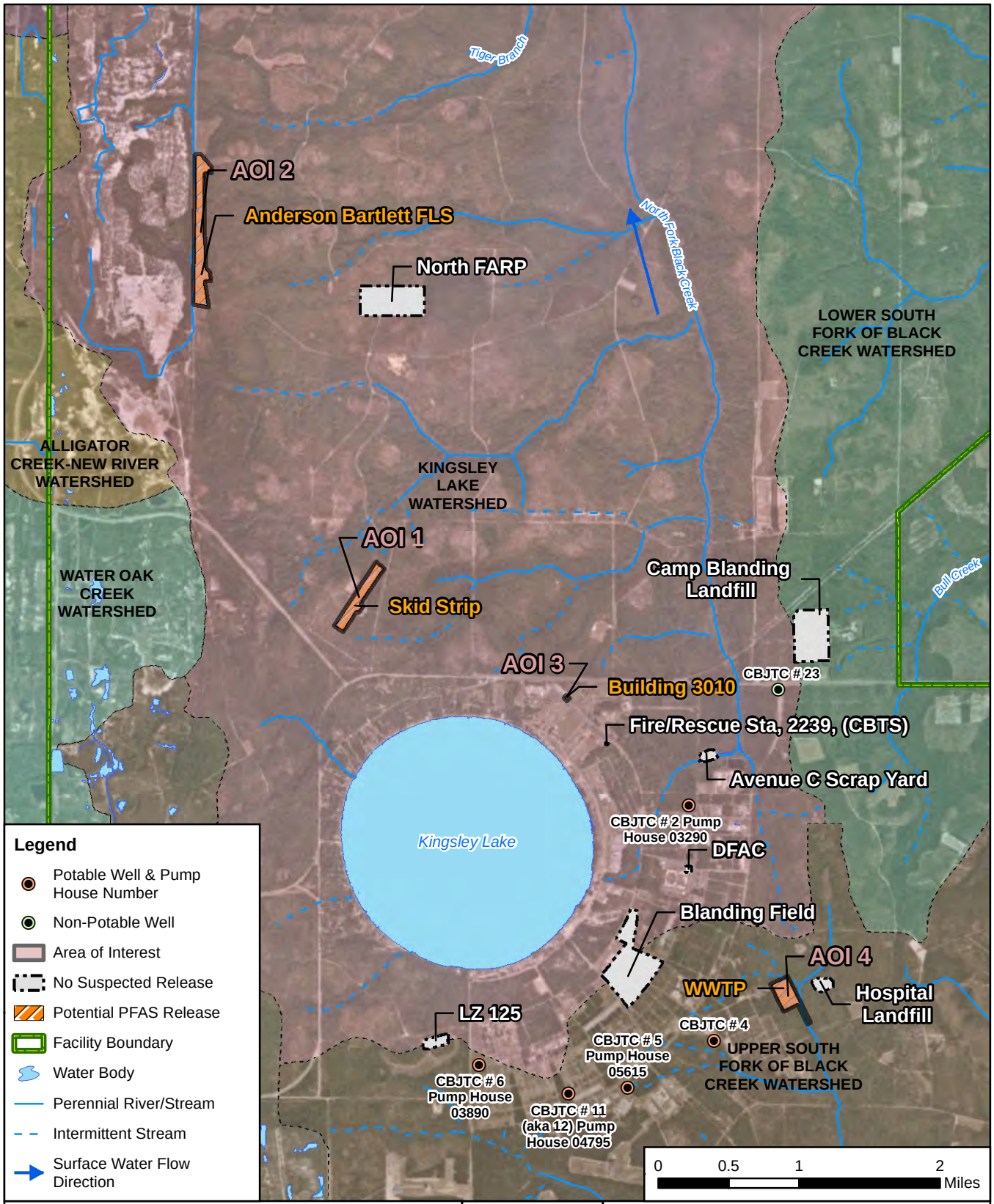
Drinking water supply wells are also present on-facility at CBJTC. Due to residential and recreational use of Kingsley Lake, and on-facility residential/site and construction worker use of potable wells, there is potential exposure of PFAS contamination in groundwater to all receptors.

Ground-disturbing activities to surface soil at AOI 3 could result in site and construction worker exposure to potential PFAS contamination via inhalation of dust particles or ingestion of surface soil. Ground-disturbing activities to subsurface soil could result in site and construction worker exposure via ingestion of subsurface soil. Therefore, the exposure pathways for these receptors are potentially complete. The CSM for AOI 3 is shown on **Figure 6-4.**

6.4 AOI 4 WWTP

AOI 4 is the WWTP, a potential secondary PFAS source if an AFFF release occurred at Building 3010. Subsequent discharge of WWTP effluent to surface water may also have occurred. Waste water from various locations at CBJTC collect at the WWTP to be treated and discharged to the South Fork of Black Creek. A freshwater forested/shrub wetland and riverine wetland flows from the WWTP to the South Fork of Black Creek. If AFFF releases occurred at Building 3010, which formerly drained to the WWTP, it is possible that potential PFAS contamination has migrated from the WWTP to nearby surface water. Potential AFFF releases may migrate from surface water into shallow groundwater. All receptors, except for residential receptors, may be exposed to PFAS contaminated surface water and groundwater near the WWTP.

Potential PFAS contaminated media at the WWTP is limited to surface water and groundwater due to the controlled release of potentially contaminated waters directly into surface water. Therefore, no surface soil or subsurface soil is anticipated to be contaminated with PFAS at AOI 4. The CSM for AOI 4 is shown on **Figure 6-5.**



CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Camp Blanding, FL			
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SCALE	1:63,360	CHK BY	JW	9/28/2018
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,		PM	RG	9/28/2018

N

Areas of Interest

AECOM
12420 Milestone Center Drive
Germantown, MD 20876

Figure 6-1

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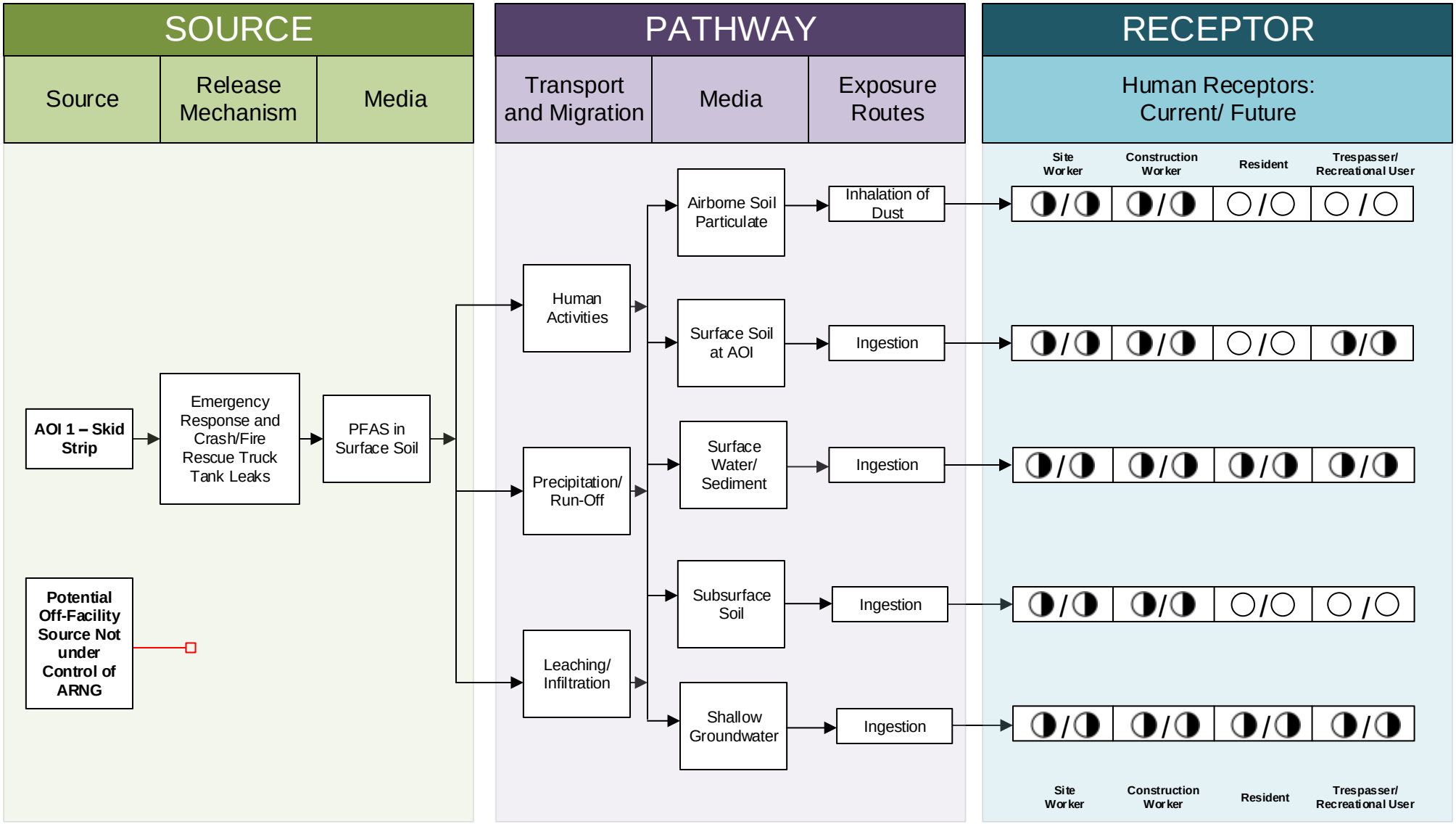
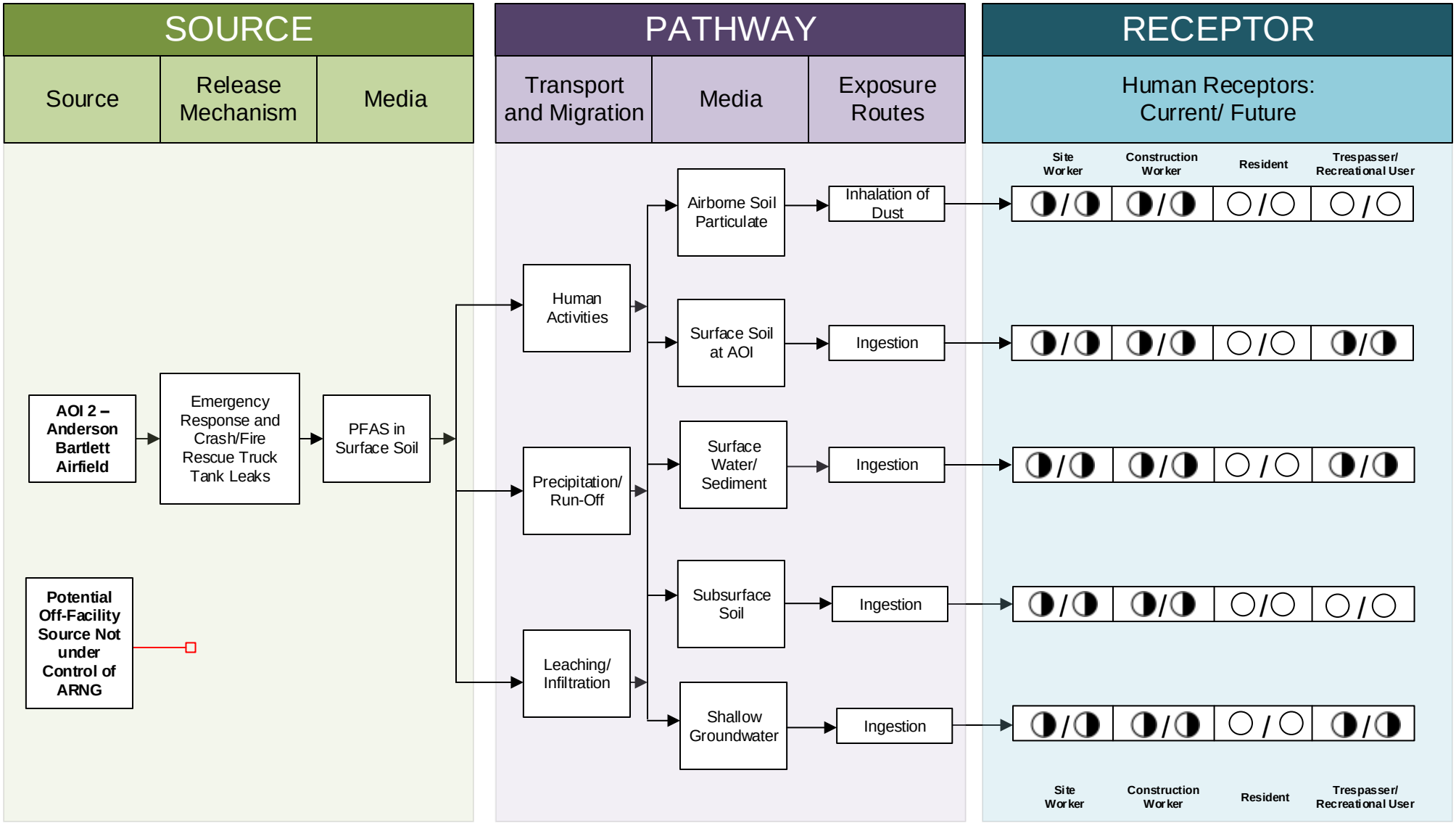


LEGEND

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

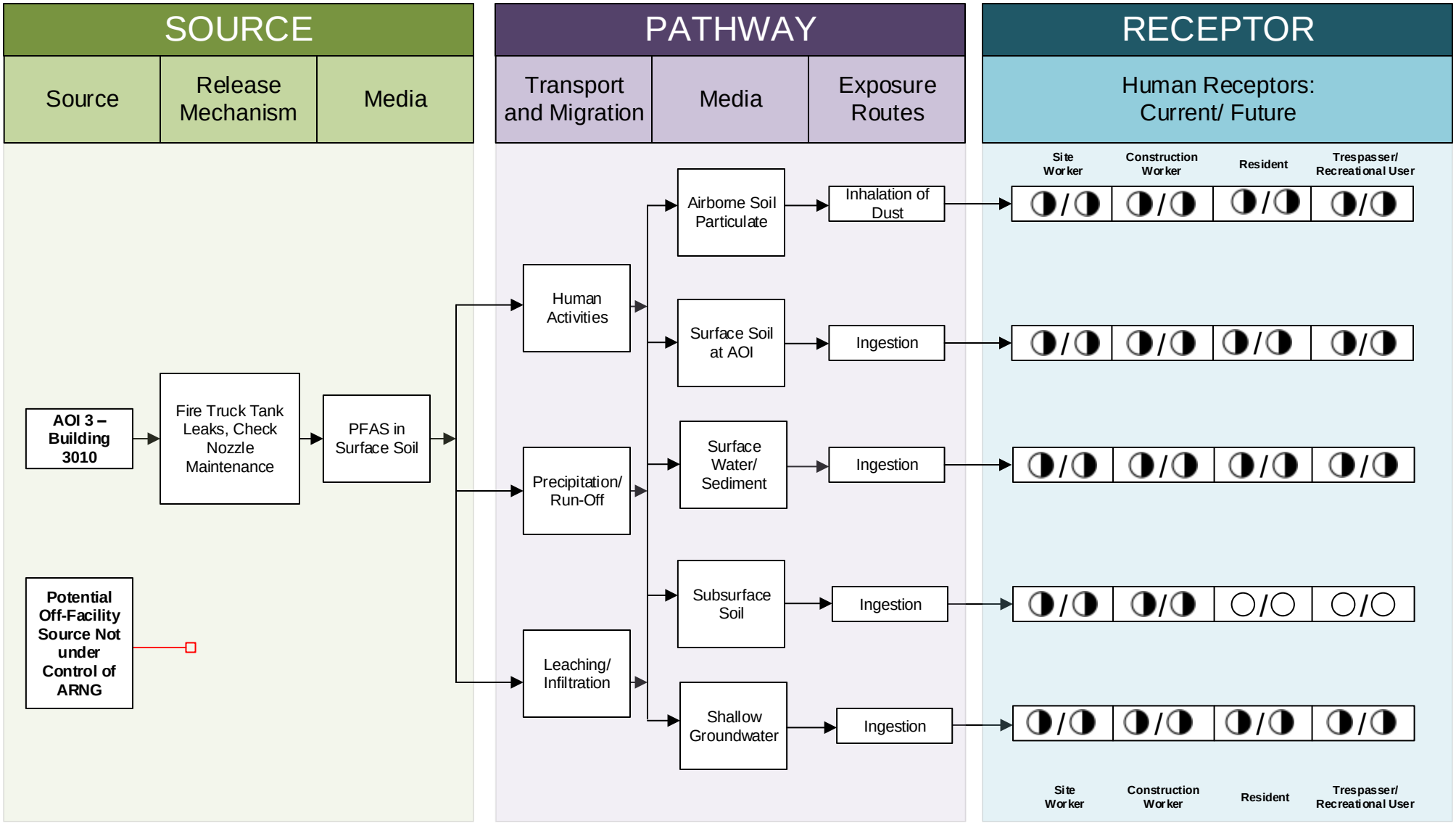
Figure 6-2
Conceptual Site Model
AOI 1 Skid Strip



LEGEND

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

Figure 6-3
Conceptual Site Model
AOI 2 Anderson Bartlett Airfield



LEGEND

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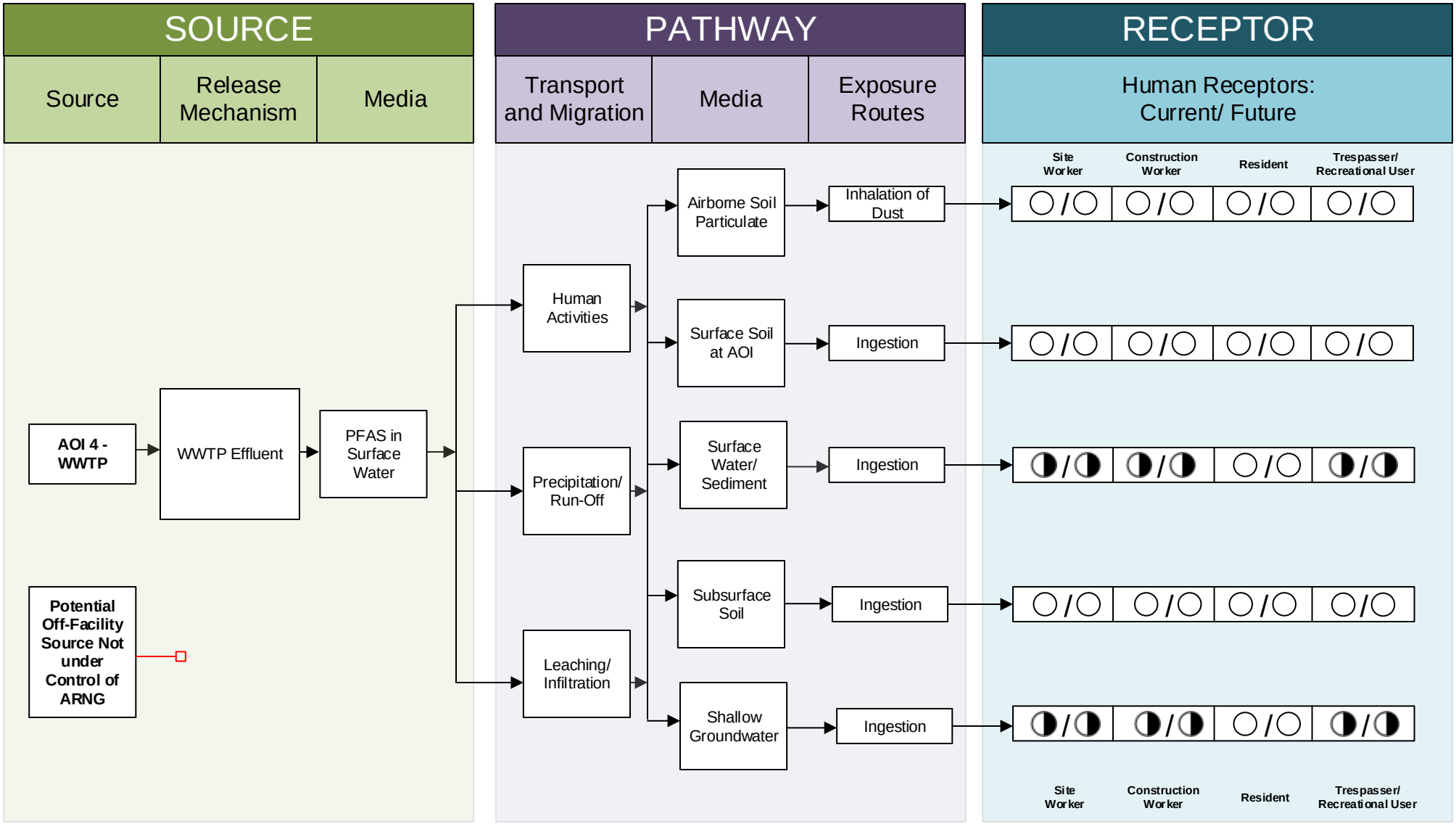
- Partial / Possible Flow
- Incomplete Pathway
- Potentially Complete Pathway
- Complete Pathway

Figure 6-4
Conceptual Site Model
AOI 3 Building 3010



LEGEND

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

Figure 6-5
Conceptual Site Model
AOI 4 - WWTP

7. Conclusions

This report presents a summary of available information gathered during PA efforts on the use and storage of AFFF at CBJTC. The PA findings are based on personnel interviews, environmental investigations and reports, historical documents, and the visual site inspection.

7.1 Findings

Four AOIs related to potential PFAS release were identified at CBJTC based on PA data (**Figure 7-1**):

Area of Interest	Name	Used by	Release Dates
AOI 1	Skid Strip	FLARNG, NAS JAX, Other State ARNG Units	None known
AOI 2	Anderson Bartlett Airfield	FLARNG, NAS JAX, Other State ARNG Units	None known
AOI 3	Building 3010	FLARNG	None known
AOI 4	WWTP	FLARNG	None known

Based on the potential for AFFF releases at these AOIs due to known or suspected AFFF storage, there is potential for exposure to PFAS contamination in surface soils to site and construction workers, residents, and recreational users/trespassers, and in subsurface soils to site and construction workers via inhalation and ingestion. There is also the potential for exposure to PFAS contamination in surface water and sediment for all receptors via ingestion, and in shallow groundwater for all receptors due to the comingling of surface water (including Kingsley Lake) and shallow groundwater at the facility and due to the presence of facility drinking water supply wells. No sources of PFAS were identified in the local area surrounding CBJTC.

7.2 Uncertainty

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 CBJTC. Historically, documentation of PFAS use was not required because PFAS were considered benign. Records were not typically kept by the facility or available during the PA on the use of PFAS in emergency response or by non-FLARNG units during training events at CBJTC.

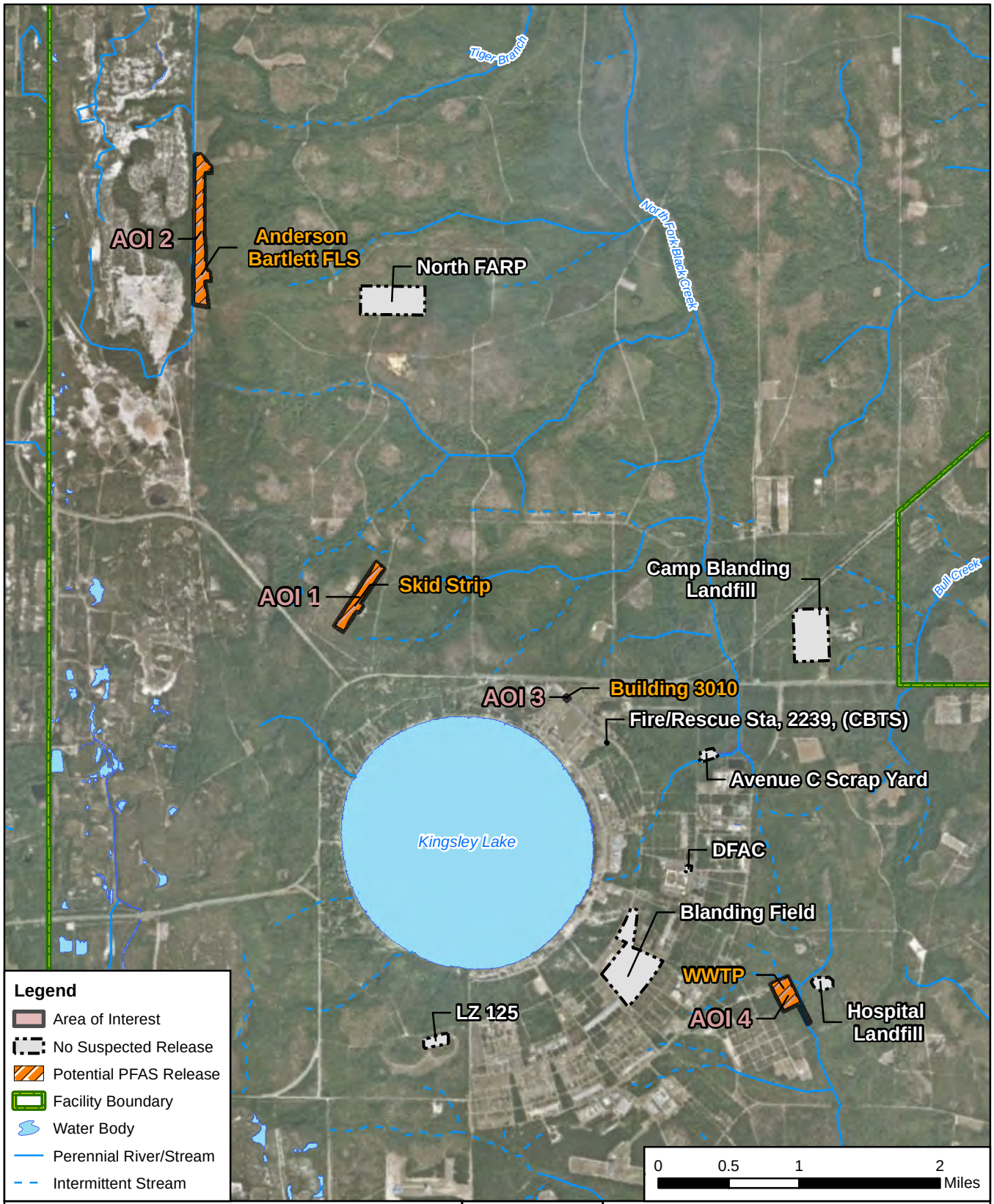
The conclusions of this PA are predominantly based on the information provided during interviews with personnel who had direct knowledge of PFAS use at the facility. Sometimes the provided information was vague. Gathered information has a degree of uncertainty due to the absence of written documentation, 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. 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, multiple persons were interviewed for the same potential source area, and potential source areas were visually inspected.

The following table summarizes the uncertainties associated with the PA:

The visual site inspection and interview process included inquiries and requests into the existence and availability of documentation that supports the identification of the potential PFAS source areas. All known potential source areas were visually inspected during the visual site inspection to the fullest extent possible. During interviews, potential AFFF release areas were identified however, no records or documentation confirming such a release could be found.

Area of Interest	Source of Uncertainty
All AOIs	No information was available on the type, amount, and concentration of AFFF stored at each AOI by FLARNG or non-FLARNG units.
AOI 1 Skid Strip	Use by out-of-state guard units and NAS JAX for training purposes is not documented. NAS JAX canvassed their firefighting staff on behalf of ARNG for information regarding training events at CBJTC, but was unable to identify personnel with knowledge of training events.
AOI 2 Anderson Bartlett Airfield	Use by out-of-state guard units and NAS JAX for training purposes is not documented. NAS JAX canvassed their firefighting staff on behalf of ARNG for information regarding training events at CBJTC, but was unable to identify personnel with knowledge of training events.
AOI 3 Building 3010	The type, amount, and concentration of AFFF stored on trucks at the AOI was not documented and/or available. Maintenance records were not kept for the trucks containing AFFF.
AOI 4 WWTP	Due to the lack of information available describing the type, amount, and concentration of AFFF stored on trucks at Building 3010 and the maintenance records/practices for those trucks, it is unclear if a PFAS release ever occurred at Building 3010. If it did, AFFF would likely have migrated through floor drains to the WWTP via drainage piping.



CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Camp Blanding, FL			
REVISED	8/10/2018	GIS BY	MS	8/10/2018
SCALE	1:63,360	CHK BY	JW	8/10/2018
Base Map: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,		PM	RG	8/10/2018

N

Summary of Findings

AECOM
12420 Milestone Center Drive
Germantown, MD 20876

Figure 7-1

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Appendix A
Data Resources

Data resources will be provided separately on CD. Data resources for Camp Blanding Joint Training Center include:

CBJTC Permits and Lease Information

- 2006 St. Johns River Water Management District MSSW Permit Number 40-019-64064-2 for Camp Blanding Regional Training Institute Stormwater
- 2006 St. Johns River Water Management District MSSW Permit Number 40-019-64064-3 for Camp Blanding Regional Training Institute Stormwater
- 2007 St. Johns River Water Management District MSSW Permit Number 40-019-64064-4 for Camp Blanding Regional Training Institute Stormwater
- 2017 Florida Department of Environmental Protection Permit Number FL0022853 to operate the Camp Blanding JTC Wastewater Treatment Facility
- 2018 Camp Blanding Contract/MOA Listings

CBJTC Airfield Usage Documentation

- 2016 to 2018 Airfield Usage Record

Previous Investigations Completed at CBJTC

- 1988 Environmental Assessment for Camp Blanding Master Plan
- 2001 Florida Geological Survey Geologic Map of the State of Florida
- 2001 FDEP Open-File Report 80 Text to Accompany the Geologic Map of Florida, Florida Geological Survey
- 2004 Remedial Action Status Report for the Former Camp Blanding Military Reservation , Camp Blanding, Florida
- 2005 US Army Center for Health Promotion and Preventative Medicine Figure Displaying Wells within 4-Miles of Camp Blanding
- 2011 Integrated Wildland Fire Management Plan for Camp Blanding Joint Training Center
- 2012-2017 Integrated Cultural Resources Management Plan for the Installations of the Florida Army National Guard
- 2014 Draft Final Remedial Investigation Report / Feasibility Study (RI/FS), Former Camp Blanding, Clay and Bradford Counties, Florida
- 2014 Final Integrated Natural Resources Management Plan, Camp Blanding Joint Training Center, Clay County Florida
- 2014 Best Management Practices Report for Army National Guard Operational Range Assessment Revised Phase I – Camp Blanding Joint Training Center, Florida
- 2016 Final Operational Range Assessment Phase II Report, Camp Blanding Joint Training Center, Florida
- 2017 ARNG Domestic Well Sampling PFAS Analytical Results

CBJTC Spill Prevention, Control, and Countermeasure Plan

- 2014 Spill Prevention, Control and Countermeasure Plan

Appendix B
Preliminary Assessment Documentation

Appendix B.1
Interview Records

Preliminary Assessment – Pre-Interview Form

1. Installation Name: Camp Blanding, FL

2. Primary Points of Contact:(Name/Title/Telephone Number/Email Address):

ARNG:	[redacted]
USACE:	[redacted]
Installation:	[redacted]

3. Suggested Personnel to Interview (Name/Title/Number of Years at Installation/Retired):

To be communicated from FLARNG to AECOM during the Site visit.

4. Is the ARNG property an enclave of a larger facility? What command or authority controls that facility? DoD or non-DoD? Does the facility have other DoD enclaves?

Camp Blanding is a state owned facility

5. Installation History (dates of operation, types of activity, active airfield, firefighting training):

To be obtained from environmental study documents

6. Potential Sites to Investigate (hangars, airstrips, FTAs, TAs, paint shops and kitchen AFFF, plating areas): LZ101, LZ104, LZ117, LZ118, LZ125, LZ136, Anderson Bartlett airfield, Camp Blanding Airfield, skid strip, Camp Blanding firehouse

7. Have we requested the following information from ARNG?

Lease Information	YES (NO)	Comment: At site visit
Material Purchase Information	YES (NO)	Comment: At site visit
Permit/Transfer Documents	YES (NO)	Comment: At site visit
Disposition Records for AFFF	YES (NO)	Comment: At site visit

(Attach to the front of the Interview Form)

Preliminary Assessment – Pre-Interview Form

8. Does the Installation have an Administrative Record or a Document Repository? If so, does the installation have the following types of documents? Circle all that apply.

Historical Records Review

Preliminary Assessment

Site Inspections

Remedial Investigation

Remedial Action Documentation

Cultural Resources Management Plan

Natural Resources Management Plan

Annual TAG Reports

Firefighting Training Records (if documented)

As Built Drawings for Buildings with AFFF Systems

Fire Suppression in Dining Facilities

Responded to an Aircraft Crash

Responded to Forest Fires

Federal Facility Agreement

State Permit

RCRA Permit

NPDES Permit

Environmental Baseline Study

Groundwater Flow Information

Groundwater Studies

Groundwater Treatment Units

Groundwater Monitoring Well Location Map

Surface Water Flow Information

Historical Aerials

9. What GIS data do we have (e.g., HQANG GIS)? Do we need (e.g., State GIS)? Will aerial photographs be needed? (These files will be asked for during the interview)

Roads, structures, monitoring wells, surface water, stormwater, topography, range boundaries, installation boundaries

(Attach to the front of the Interview Form)

PA Interview Questionnaire - Other

Facility: Camp Blanding
Interviewer: [redacted]
Date/Time: 0915 2-21-2018

Interviewee: [redacted] **Title:** Contractor / Former Safety Officer **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]

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

Former Safety officer to current Contractor:
March 1988 - 2018

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?

- Anderson Bartlett Airfield was used by JAX NAS who would support the use with their own crash rescue trucks. No known fires.
- 125th Air Guard in Jacksonville has/had AFFF.
- No chrome plating at Camp Blanding.
- Building 3010 stored fire trucks that carried AFFF around 1996.
- No known use of AFFF on base.
- Clay County FD is paid for onsite response to fires.
- Clay County FD may have the capability to produce AFFF.
- JAX NAS used the Skid Strip and provided their own crash rescue.
- [redacted] (retired) was the formes FD section leader.
- Skid Strip has support structores that used to support crash rescue.
- [redacted] has no knowledge of portable AFFF used/stored onsite.

Known Uses	
Use	NA
Procurement	NA
Disposition	NA
Storage (Mixed)	NA
Storage (Solution)	NA
Inventory, Off-Spec	NA
Containment	NA
SOP on Filling	NA
Leaking Vehicles	NA
Nozzle and Suppression System Testing	NA
Dining Facilities	NA
Vehicle Washing	NA
Ramp Washing	NA
Fuel Spill Washing and Fueling Stations	NA
Chrome Plating or Waterproofing	NA

PA Interview Questionnaire - Other

Facility: Camp Blanding
Interviewer: [redacted]
Date/Time: 2-21-2018

Interviewee: CC FD Ltc. [redacted] **Title:** Ltc. **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 Batallion Chief [redacted]

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

Member of the Clay County FD on base.
Lieutenant Colonel (LTC)

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?

- AFFF may have been used before Clay County FD became the on-post FD.
- CC FD only uses Class A foam
- CCFD began acting FD on base in 1998. Began operation out of a trailer. FD building (2239) was not finished until 2002.
- Hazmat response uses alcohol as well as Class A foam.
- In 3 years working on base Ltc. [redacted] has has not heard of any big fires on Camp Blanding.
- CCFD does not use Camp Blanding for training.
- Ltc. [redacted] has been with CCFD for 25 years. No known use of AFFF.

Known Uses	
Use	NA
Procurement	NA
Disposition	NA
Storage (Mixed)	NA
Storage (Solution)	NA
Inventory, Off-Spec	NA
Containment	NA
SOP on Filling	NA
Leaking Vehicles	NA
Nozzle and Suppression System Testing	NA
Dining Facilities	NA
Vehicle Washing	NA
Ramp Washing	NA
Fuel Spill Washing and Fueling Stations	NA
Chrome Plating or Waterproofing	NA

PA Interview Questionnaire - Other

Facility: Camp Blanding
Interviewer: [redacted]
Date/Time: 2-21-2018

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

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

Camp Blanding Joint Training Center
Florida Army National Guard
Sargeant (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
• CCFD has used soap and water foams since 2005 at least.	Use
	Procurement
• FLARNG took over Camp Blanding in 1950.	Disposition
• Bldg. 2239 is the fire station on base	Storage (Mixed)
• There is a FARP area at Blanding Airfield	Storage (Solution)
• Forestry Service deals with wildfire mitigation & small, unintentional fires.	Inventory, Off-Spec
	Containment
• There is a UAV hangar at Blanding Airfield	SOP on Filling
	Leaking Vehicles
• No known AFFF uses on base	Nozzle and Suppression System Testing
	Dining Facilities
	Vehicle Washing
	Ramp Washing
	Fuel Spill Washing and Fueling Stations
	Chrome Plating or Waterproofing

PA Interview Questionnaire – ~~Fire Station~~ Forestry Division

Facility: Camp Blanding
Interviewer: [redacted]
Date/Time: 2-21-18

Interviewee: [redacted] **Title:** Forestry Program Administrator **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]

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

   Environmental Program Manager

   1994 - Present

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) NA
   Fire Training Areas NA
   Firefighting (Active Fire) Formerly used in 1 truck kept at bldg. 3010
   Crash NA
   Fire Suppression Systems (Hangers/Dining Facilities) NA
   Fire Protection at Fueling Stations NA
   Non-Technical/Recreational/ Pest Management NA

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?

   None.
   No buildings.
   No testing.

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

   No they are not.

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

   AFFF is not procured.

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)?

No known use of AFFF.

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

No.

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? AFFF was once stored in a fire truck kept at Bldg. 3010 and maintenanced by MATES.

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? AFFF is not used on base.

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

1 fire truck stored at bldg. 3010 used to carry AFFF. The truck was returned to NAS JAX or used overseas when it left Camp Blanding.

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 history of AFFF leaks.

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? No active or former FTAs on base.

13. What types of fuels/flammables were used at the FTAs? Only soap and water is used by FD on base.

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? No AFFF releases or responses.

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? Clay County FD became the FD on base in the late 1990s.

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? JAX NAS used to use the skid strip / Andersson Bartlett air fields, and provided their own fire & rescue response units.

PA Interview Questionnaire – Fire Station

Facility:_____
Interviewer:_____
Date/Time:_____

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

No.

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

Contact [redacted]

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 known records of fuel spills.
AFFF never used for spill response.

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

AFFF never used for forest fire management.

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)?

Besides storage at Bldg 3010, AFFF may have been used by NAVY at Skid strip & Anderson Bartlett air fields.

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?

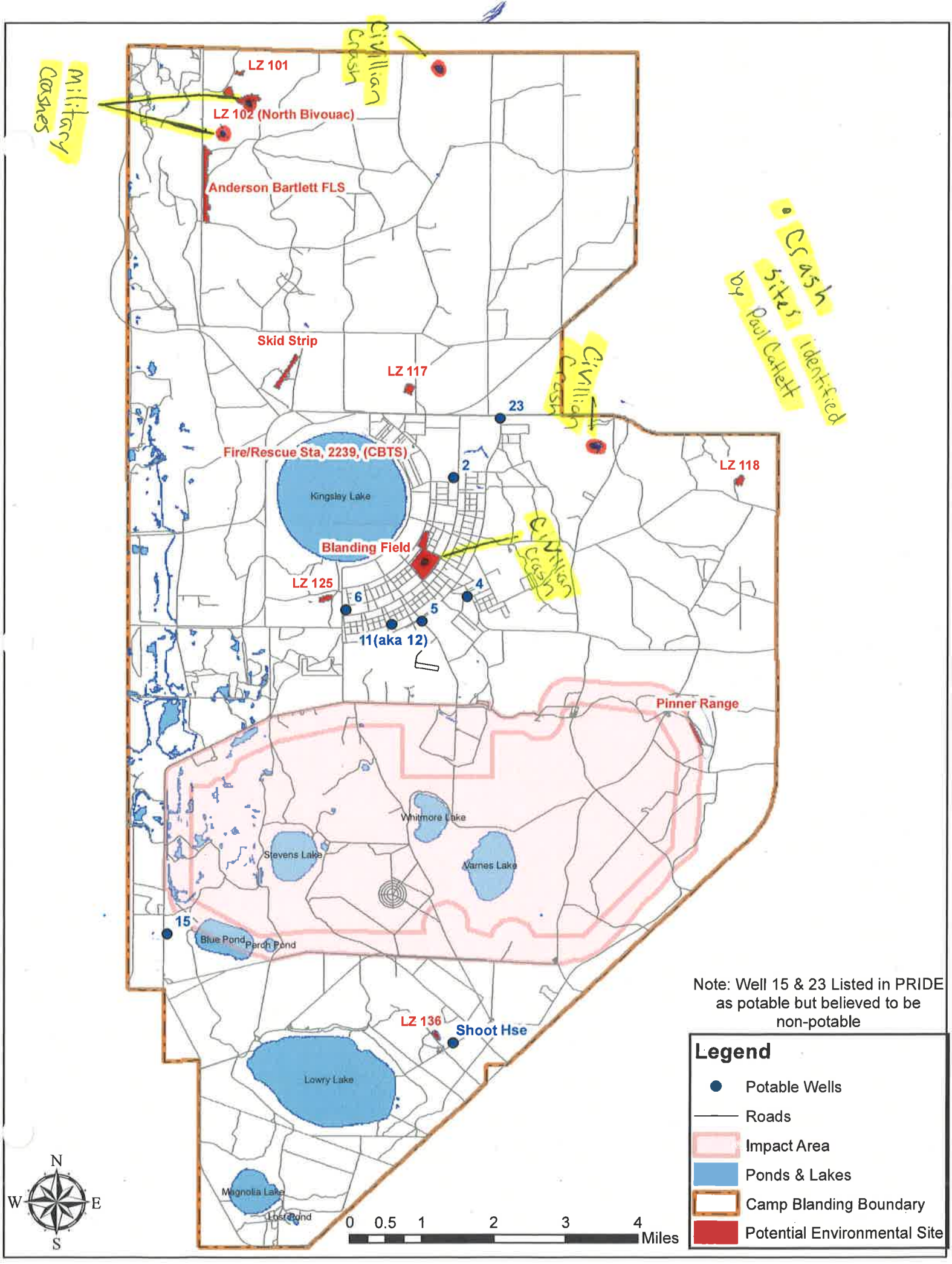
No "creative" uses known

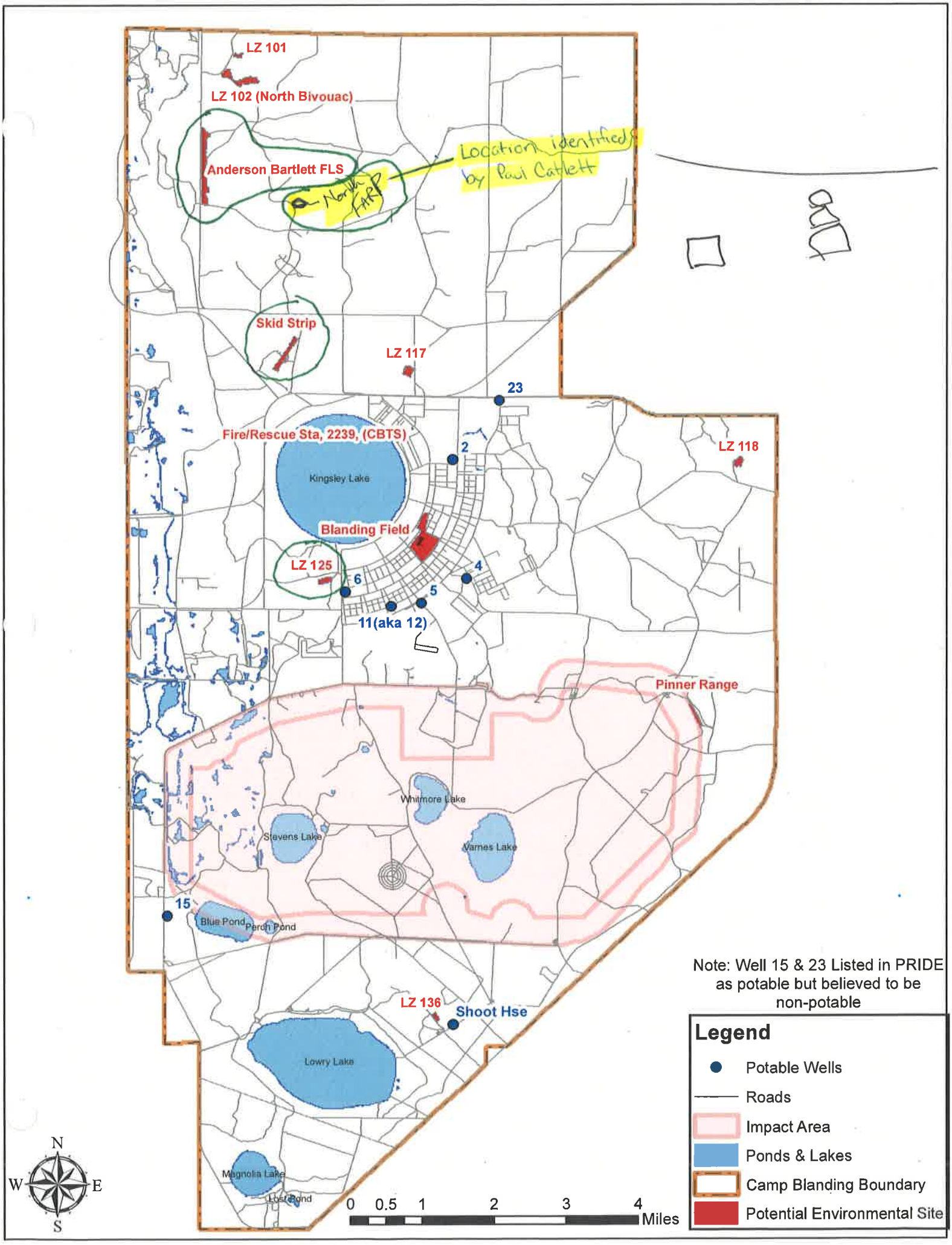
23. How is off-spec AFFF disposed (used for training, turned in, or given to a local Fire Station)? If applicable, do you know the name of the vendor that removes off-spec AFFF? Do you have copies of the manifest or B/L?

No off-spec AFFF used / disposed of.

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

[redacted] for emergency response records.


Military Causes
Civilian Crash
LZ 101
LZ 102 (North Bivouac)
Anderson Bartlett FLS
Skid Strip
LZ 117
Civilian Crash
23
Fire/Rescue Sta, 2239, (CBTS)
2
LZ 118
Kingsley Lake
Blanding Field
Civilian Crash
LZ 125
6
4
5
11(aka 12)
Pinner Range
Whitmore Lake
Stevens Lake
Varnes Lake
15
Blue Pond
Perch Pond
LZ 136
Shoot Hse
Lowry Lake
Magnolia Lake
Lost Pond
CC ash sites identified by Paul Catlett
Note: Well 15 & 23 Listed in PRIDE as potable but believed to be non-potable
Legend
Potable Wells
Roads
Impact Area
Ponds & Lakes
Camp Blanding Boundary
Potential Environmental Site
N
W
E
S
0 0.5 1 2 3 4
Miles


LZ 101
LZ 102 (North Bivouac)
Anderson Bartlett FLS
North FARP
Location identified by Paul Catlett
Skid Strip
LZ 117
23
Fire/Rescue Sta, 2239, (CBTS)
2
LZ 118
Kingsley Lake
Blanding Field
LZ 125
6
4
5
11(aka 12)
Pinner Range
Whitmore Lake
Stevens Lake
Varnes Lake
15
Blue Pond
Perch Pond
LZ 136
Shoot Hse
Lowry Lake
Magnolia Lake
Lost Pond
N
W
E
S
0 0.5 1 2 3 4 Miles
Note: Well 15 & 23 Listed in PRIDE as potable but believed to be non-potable
Legend
Potable Wells
Roads
Impact Area
Ponds & Lakes
Camp Blanding Boundary
Potential Environmental Site

PA Interview Questionnaire - Environmental Manager

Facility: Camp Blanding
Interviewer: [redacted]
Date/Time: 2-28-2018

Interviewee: [redacted] **Title:** **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 [redacted]

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

   - Former head of DPW
   - 1985 – Present

2. Where can I find previous facility ownership information?

   - Land management office
   - [redacted]
   - Camp Blanding is state-owned
   - Air Force has a 99-year lease for land near CSMS.

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 used
   Fire Training Areas – Not used
   Firefighting (Active Fire) – Stored in a truck kept at bldg 3010, but never used
   Crash – Not used
   Fire Suppression Systems (Hangers/Dining Facilities) – Not used
   Fire Protection at Fueling Stations – Not used
   Non-Technical/Recreational/ Pest Management – Not used
   Metals Plating Facility – Not used
   Waterproofing Uniforms (Laundry Facilities) – Not used
   Other – Not used

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

5. Are any current buildings constructed with AFFF dispensing systems or fire suppression systems? None
   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?

   No AFFF suppression systems on base

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?

NA

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

No AFFF procured. Last known use was AFFF stored in fire truck kept at Bldg. 3010. No known use of that AFFF. NAS JAx provided that AFFF.

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)?

NA

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? None currently stored. For last known storage, see question #7 response.

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 fire training areas on base. No known use of AFFF at FTAs on base.

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 known releases of AFFF on base.

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?

Clay County FD operate as the Camp Blanding FD. Previous to that, the base had a volunteer FD.

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

No known knowledge of off-post fire training.

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?

Navy used to use the Skid Strip / Andersen Bartlett airstrip. When they did, they provided their own crash rescue/AFFF. NAS JAX provided AFFF and crash rescue.

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?

Military crashes occurred at LZ 102 and Andersen Bartlett. No fires at either crash. Civillian crashes at Blanding Airfield and near LZ118. No fires. Contact [redacted] for emergency response reports.

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?

No knowledge of fuel spills. AFFF was never used in response to fuel spills.

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

AFFF was not used for forest fires or fire management off-post.

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?

Clay County FD is the FD on base. CCFD began on base in the late 1990's.

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)?

Camp Blanding transitioned from a Mobilization station to a training station mission and hasn't stored/used AFFF since 1994. AFFF used to be stored in one truck at Bldg. 3010, the former Fire station. AFFF may have been used/stored at Skid Strip & Anderson Bartlett by Navy.

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

No known uses.

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?

Information like this can be obtained through land management office.

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

Contact [redacted] for emergency response records.

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?

No known chrome plating operations.

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.?

No known foam suppression systems.

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?

No known AFFF disposal.

Other - WWTP Info: WWTP includes a .900 MGD sequencing batch reactor (SBR) plant and constitutes authorization to discharge to waters of the state under a NPDES. All the potable water supply lines and waste water collection systems were replaced during 1996-1998. Seven lift stations associated on base.

- Treatment unit consists of 1 Parkson Aquaguard mechanical grit removal screen, a manual bar rack with 1-inch opens and a flow splitter box directing flow to 4 treatment basins. Effluent is treated in a Chlorine contact chamber for disinfection by sodium hypochlorite and dechlorination by sodium bisulfite solution. Treatment is ed effluent is sent by clay pipe to discharge at the South Fork of Black Creek.

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?

[redacted] contact info can be found through Land Management office.

PA Interview Questionnaire – Fire Station

Facility: _____
Interviewer: _____
Date/Time: _____

Interviewee: [redacted] **Title:** CC FD Batallion Chief **Phone Number:** **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) NA

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

   CCFD Batallion Chief

   1996 - Present

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) MATES maintenanced the truck
   Fire Training Areas NA
   Firefighting (Active Fire) 1 truck stored at Bldg. 3010
   Crash NA
   Fire Suppression Systems (Hangers/Dining Facilities) NA
   Fire Protection at Fueling Stations NA
   Non-Technical/Recreational/ Pest Management NA

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?

   No. All suppression systems use water or Purple K chemical. Purple K used in cafeteria.

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

   No

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

   AFFF is not procured.

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)?

   No AFFF ever used on base by CCFD. Ox-blood foam was once used. Only soap & water used by CCFD.

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

   NO.

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? AFFF is not stored by CCFD.

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? AFFF is not transferred to response vehicles.

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

    1 truck operated by Army Reserve unit used to have AFFF.
    No known use of AFFF ever.

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 known AFFF leaks.

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? No CCFD FTAs on base.

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

NA

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?

NA

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?

CCFD began opecations on base in a trailor in 1996. The fire station was constructed soon after. CCFD does not train on post.

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? NAS JAX provided their own AFFF when using air strips on north post.

PA Interview Questionnaire – Fire Station

Facility:_____
Interviewer:_____
Date/Time:_____

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

No.

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

No known fire response for crashes on base.

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 record of fuelspill logs known.

20. Was AFFF used for forest fires or fire management on-post/off-post? If so, please describe what happened and who was involved? AFFF has not been used for forest fires. Forestry division responds to fires on forest land.

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)?

AFFF use is possible at air strips used by Navy

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?

None Known

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?

No off-spec AFFF use

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

[redacted]

PA Interview Questionnaire - Other

Facility: Keystone Airport
Interviewer: [redacted]
Date/Time: 8-2-2018

Interviewee: [redacted] **Title:** Keystone Airport 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 Bradford County Fire Marshall - [redacted]

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

Keystone Airport Manager for the previous 8 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?

- No AFFF is stored or used by airport staff
- There is no firehouse at the Keystone Airport
- Keystone Airport relies on the Bradford County Fire Department for emergency response
- In the early 1990's, two planes crashed at the airport
  - ↳ Bradford County FD responded to the crash and may have used AFFF to suppress the crash fire
- No other known crashes/emergencies which required emergency response.
- Fire training does not occur at Keystone Airport.
- The Bradford County Fire Marshall is [redacted], and he may have knowledge of the crash response in the early 1990s
  - ↳ Phone number: [redacted]

Known Uses
Use
Procurement
Disposition
Storage (Mixed)
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: Feb 22, 2018

Method of visit (walking, driving, adjacent): Walking

Source/Release Information

Site Name / Area Name / Unique ID: Anderson Bartlett Airfield

Site / Area Acreage:

Historic Site Use (Brief Description): Used as an airstrip. C-130's used airfield. Navy used airfield as well as FLARNG.

Current Site Use (Brief Description): Airfield

Physical barriers or access restrictions: Installation fence. Airstrip is located in heavily wooded area.

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):

PFAS may have been brought onsite by Navy during Navy use.

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

None

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

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

FLARNG Camp Blanding. Irregular use by NAS JAX.

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:

NA

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

NA

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

NA

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

NA

Transport / Pathway Information

Migration Potential:

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

1a. If so, note observation and location:

NA

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

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

A stream runs parallel to the airstrip west of the site

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

3a. If so, please note the location:

NA

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

4a. If so, please note the location:

Stream west of the airfield, and wetlands north, east, south, and west

5. Can wind dispersion information be obtained? Y (N)

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

NA

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

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

NA

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):

NA

2. Is the site/area vegetated? Y (N)

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

Surrounding areas are vegetated. Airstrip has short grass.

3. Does the site or area exhibit evidence of erosion? Y (N)

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

NA

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:

Surrounding ~~waters~~ areas have surface water features

Receptor Information

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

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

Installation fence, surrounded by forested areas

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:

Only Camp Blanding personnel and ecological receptors can access the site

3. Are residential areas located near the site? Y (N)

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

NA

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

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

NA

5. Are any wetlands located near the site? (Y) N

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

Riverine wetland adjacent west, Freshwater/forested/shrub wetlands ~~and~~ north, south, east and west of site, emergent wetland west of site, freshwater ponds northwest and southwest of site.

Visual Survey Inspection Log

Additional Notes

No evidence of AFFF use at Anderson Bartlett airfield.

Photographic Log

Photo ID/Name	Date & Location	Photograph Description

Visual Site Inspection Checklist

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

Recorded by: [redacted]

ARNG Contact: [redacted]

Date and Time: Feb 21, 2018

Method of visit (walking, driving, adjacent): Walking

Source/Release Information

Site Name / Area Name / Unique ID: Blanding Airfield

Site / Area Acreage:

Historic Site Use (Brief Description): Used as an airfield for Camp Blanding

Current Site Use (Brief Description): UAV flight

Physical barriers or access restrictions: Camp Blanding installation fence

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

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

2. Has usage been documented? Y (N)

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

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

3a. Indicate what businesses are located near the site

Only Camp Blanding internal structures exist near the site

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

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

The site is an airfield

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:

ABC Fire extinguishers located at fueling area on SW corner of site

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

NA

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

NA

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

NA

Transport / Pathway Information

Migration Potential:

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

1a. If so, note observation and location:

Stormwater inlets, stream on west side of site

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

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

Stream on west side of site

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

3a. If so, please note the location:

NA

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

4a. If so, please note the location:

Stream on west side of site

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

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

NA

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

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

NA

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):

NA

2. Is the site/area vegetated? (Y) / N

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

Grasses

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

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

NA

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:

NA

Receptor Information

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

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

Camp Blanding installation fence

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:

Camp Blanding personnel and ecological receptors

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

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

Only Camp Blanding residents. 7 exist.

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

Riverine wetland stream west of site, freshwater forested/shrub wetland SE, Lake west of site.

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

Visual Survey Inspection Log

Additional Notes

No evidence of AFFF use at Blanding Airfield

Photographic Log

Photo ID/Name	Date & Location	Photograph Description

Visual Site Inspection Checklist

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

Recorded by: [redacted]

ARNG Contact: [redacted]

Date and Time: Feb 21, 2018

Method of visit (walking, driving, adjacent): Walking

Source/Release Information

Site Name / Area Name / Unique ID: Building 3010

Site / Area Acreage:

Historic Site Use (Brief Description): Firehouse, stored two trucks - one of which contained AFFF.

Current Site Use (Brief Description):

Physical barriers or access restrictions: Camp Blanding Installation fence

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):

AFFF was not used but was stored in a

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

Camp Blanding Post Exchange, barber

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

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

No

Visual Survey Inspection Log

Other Significant Site Features:

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

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

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

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

NA

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

Besides latrines, all drains are likely sealed (per [redacted] interview)

Transport / Pathway Information

Migration Potential:

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

1a. If so, note observation and location:

NA

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

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

NA

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

3a. If so, please note the location:

NA

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

4a. If so, please note the location:

NA

5. Can wind dispersion information be obtained? Y (N)

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

NA

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

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

NA

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):

Building constructed around 1939 (per [redacted] interview)

2. Is the site/area vegetated? Y (N)

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

Grasses on north and east side of building beyond paved driveways

3. Does the site or area exhibit evidence of erosion? Y (N)

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

NA

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:

NA

Receptor Information

1. Is access to the site restricted? (Y) N

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

Camp Blanding installation fence

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:

Only Camp Blanding personnel can access the site

3. Are residential areas located near the site? (Y) N

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

Camp Blanding residents ~~have~~ stay within 1 mile of Bldg. 3010

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

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

NA

5. Are any wetlands located near the site? (Y) N

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

Kingsley Lake is approx ~0.35 miles southwest

Visual Survey Inspection Log

Additional Notes

AFFF was stored in a truck kept at Bldg. 3010. The truck was an old Navy Surplus truck. AFFF was supplied to the truck by NAS JAX. The truck was not in working condition. The truck was maintenanced once per week.

Photographic Log

Photo ID/Name	Date & Location	Photograph Description

Visual Site Inspection Checklist

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

Recorded by: [redacted]

ARNG Contact: [redacted]

Date and Time: Feb 22, 2018

Method of visit (walking, driving, adjacent): Walking

Source/Release Information

Site Name / Area Name / Unique ID: Cafeteria, DFAC

Site / Area Acreage:

Historic Site Use (Brief Description): Cafeteria

Current Site Use (Brief Description): Cafeteria

Physical barriers or access restrictions: Camp Blanding installation fence. Cafeteria walls.

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):

NA

2. Has usage been documented? Y (N)

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

NA

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

3a. Indicate what businesses are located near the site

Camp Blanding internal structures

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

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

None

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:

AFFF has not been used. The fire suppression system uses Purple K.

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

NA

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

NA

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

NA

Transport / Pathway Information

Migration Potential:

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

1a. If so, note observation and location:

Stormwater inlets are located on all sides of the cafeteria

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

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

NA

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

3a. If so, please note the location:

NA

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

4a. If so, please note the location:

Maintained pond approx. ~0.1 miles north

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

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

NA

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

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

NA

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):

NA

2. Is the site/area vegetated? (Y) N

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

Grass fields on all sides of the cafeteria

3. Does the site or area exhibit evidence of erosion? Y (N)

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

NA

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:

A man-made pond is maintained ~0.1 miles north of the site

Receptor Information

1. Is access to the site restricted? (Y) N

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

Camp Blanding Installation fence

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:

Camp Blanding personnel are the only people permitted into DFAC

3. Are residential areas located near the site? Y (N)

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

NA

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

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

NA

5. Are any wetlands located near the site? (Y) N

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

Pond located north of the cafeteria (~0.1 miles)

Visual Survey Inspection Log

Additional Notes

No evidence of AFFF use at DFAC

Photographic Log

Photo ID/Name	Date & Location	Photograph Description

Visual Site Inspection Checklist

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

Recorded by: [redacted]

ARNG Contact: [redacted]

Date and Time: February 22, 2018

Method of visit (walking, driving, adjacent): Walking

Source/Release Information

Site Name / Area Name / Unique ID: LZ 125

Site / Area Acreage:

Historic Site Use (Brief Description): Landing zone

Current Site Use (Brief Description): Landing zone

Physical barriers or access restrictions: Camp Blanding Installation Fence

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):

NA

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

FLARNG buildings of unknown use 0.2 miles east

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

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

* Landing zone

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:

NA

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

NA

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

NA

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

NA

Transport / Pathway Information

Migration Potential:

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

1a. If so, note observation and location:

NA

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

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

NA

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

3a. If so, please note the location:

~~MW-6~~ Well 6 located 0.2 miles Southeast

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

4a. If so, please note the location:

Freshwater forested/shrub wetland located 0.3 miles South

5. Can wind dispersion information be obtained? Y (N)

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

NA

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

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

NA

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):

NA

2. Is the site/area vegetated? (Y) N

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

Forested area surrounding low grasses

3. Does the site or area exhibit evidence of erosion? Y (N)

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

NA

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:

NA

Receptor Information

1. Is access to the site restricted? (Y) N

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

Camp Blanding installation fence

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:

Only Camp Blanding personnel and ecological receptors.

3. Are residential areas located near the site? Y (N)

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

NA

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

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

NA

5. Are any wetlands located near the site? (Y) N

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

Freshwater forested/shrub wetland located 0.3 miles south

Visual Survey Inspection Log

Additional Notes

No evidence of AFFF use at the site.

Photographic Log

Photo ID/Name	Date & Location	Photograph Description

Visual Site Inspection Checklist

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

Recorded by: [redacted]

ARNG Contact:

Date and Time: Feb 22, 2018

Method of visit (walking, driving, adjacent):

Source/Release Information

Site Name / Area Name / Unique ID: North FARP

Site / Area Acreage:

Historic Site Use (Brief Description): Forward area re-fueling point

Current Site Use (Brief Description): No current use

Physical barriers or access restrictions: Camp Blanding installation fence

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):

NA

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

None

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

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

FLARNG Camp Blanding. Potential irregular use by NAS JAX.

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:

NA

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

NA

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

NA

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

NA

Transport / Pathway Information

Migration Potential:

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

1a. If so, note observation and location:

NA

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

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

NA

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

3a. If so, please note the location:

NA

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

4a. If so, please note the location:

Freshwater forested/shrub wetland on north/east side of site

5. Can wind dispersion information be obtained? Y (N)

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

NA

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

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

NA

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):

NA

2. Is the site/area vegetated? (Y) / N

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

Grass fields & surrounding forested areas

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

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

NA

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:

None on-site. Forested wetland north and east of the site

Receptor Information

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

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

Camp Blanding installation fence

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:

Only Camp Blanding personnel & ecological receptors

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

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

NA

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

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

NA

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

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

Freshwater forested/shrub wetlands north and east of FARP

Visual Survey Inspection Log

Additional Notes

No evidence of AFFF use at the site

Photographic Log

Photo ID/Name	Date & Location	Photograph Description

Visual Site Inspection Checklist

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

Recorded by: [redacted]

ARNG Contact: [redacted]

Date and Time: Feb 22, 2018

Method of visit (walking, driving, adjacent): Walking

Source/Release Information

Site Name / Area Name / Unique ID: Skid Strip

Site / Area Acreage:

Historic Site Use (Brief Description): Airfield, urban warfare training

Current Site Use (Brief Description): Airfield, POW training area adjacent

Physical barriers or access restrictions: Camp Blanding installation fence

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):

Navy provided their own AFFF during irregular use of Skid strip

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

None

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

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

Skid Strip used by Camp Blanding and Navy

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:

NAS JAX provided their own AFFF during use.

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

NA

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

NA

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

NA

Transport / Pathway Information

Migration Potential:

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

1a. If so, note observation and location:

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

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

Streams on east and west sides of the skidstrip

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

3a. If so, please note the location:

NA

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

4a. If so, please note the location:

Freshwater forested/shrub wetlands north, south, east, and west of site

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

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

NA

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

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

NA

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):

NA

2. Is the site/area vegetated? (Y) / N

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

Surrounding areas are vegetated. Low-lying grasses onsite.

3. Does the site or area exhibit evidence of erosion? Y (N)

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

NA

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:

NA

Receptor Information

1. Is access to the site restricted? (Y) N

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

Camp Blanding installation fence

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:

Only Camp Blanding personnel and ecological receptors can access the site

3. Are residential areas located near the site? Y (N)

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

NA

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

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

NA

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

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

Freshwater forested/shrub wetlands north, south, east, and west of the site

Visual Survey Inspection Log

Additional Notes

No FLARNG evidence of AFFF use

Photographic Log

Photo ID/Name	Date & Location	Photograph Description

Appendix B.3
Conceptual Site Model Information

Preliminary Assessment – Conceptual Site Model Information

Site Name: Camp Blanding

Why has this location been identified as a site?

Camp Blanding has multiple potential sources, including runways, airfields, fire stations, and Landing Zones.

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

The Keystone Airpark, located southwest and adjacent to Camp Blanding, has the potential to have stored or used AFFF near Camp Blanding.

Training Events

Have any training events with AFFF occurred at this site? None

If so, how often? NA

How much material was used? Is it documented? None

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? North Installation – North via North Fork Black Creek; South/Center Installation – East and south via South Fork Black Creek and Alligator creek.

Average rainfall? 47 inches

Any flooding during rainy season? No

Direct or indirect pathway to ditches? Yes

Direct or indirect pathway to larger bodies of water? Yes (Kingsley Lake)

Does surface water pond any place on site? Yes, numerous ponds and Kingsley Lake

Any impoundment areas or retention ponds? Yes

Any NPDES location points near the site? Not known. SWPPP and SPCCP's maintained for Blanding.

How does surface water drain on and around the flight line?

Blanding Airfield – No preferential pathways off airfield, stream west of field

Skid Strip – No immediate channelized flow, shrub wetlands N, S, and E of skid strip

Anderson Bartlett – Channelized stream west of airfield runs parallel to the airfield

North FARP – Shrub wetlands north and east of FARP

Cafeteria – Stormwater inlets surround Cafeteria

Building 3010 – Stormwater drains near building

LZ 125 – Forested shrub wetland south of LZ. Stormwater drains at LZ.

Preliminary Assessment – Conceptual Site Model Information

Groundwater:

Groundwater flow direction? East towards the Atlantic Ocean; East/northeast towards the Saint John's River.

Depth to groundwater? 31 to 38 ft bgs (well 3 mi North of CBJTC)

Uses (agricultural, drinking water, irrigation)? Drinking water (4 active wells on CBJTC)

Any groundwater treatment systems? No

Any groundwater monitoring well locations near the site? Yes, near the old CSMS. Some may have been removed.

Is groundwater used for drinking water? Yes

Are there drinking water supply wells on installation? Yes

Do they serve off-post populations? No

Are there off-post drinking water wells downgradient Homes west of Kingsley Lake have their own wells. Groundwater generally flows east in the area however.

Waste Water Treatment Plant:

Has the installation ever had a WWTP, past or present? Yes, built in the 1940s. Completely replaced in 1996-98

If so, do we understand the process and which water is/was treated at the plant? Yes. Details on [redacted] interview form.

Do we understand the fate of sludge waste? Yes, sludge is transferred to a DEP treatment facility.

Is surface water from potential contaminated sites treated? No

Equipment Rinse Water

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

Off-post and at building 2239. AFFF is not used. No washing chemicals are used. Vinegar is used to wash the floors at Bldg. 2239.

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?

Nozzles are tested off-post with the Clay County FD.

3. Other? Wildland firefighting equipment (which uses Class A foam) is washed by the Forestry/Environmental division at the wash rack near the WWTP

Preliminary Assessment – Conceptual Site Model Information

Identify Potential Receptors:

Site Worker No - no known AFFF use

Construction Worker No - no known AFFF use

Recreational User No - no known AFFF use

Residential No - no known AFFF use

Child No - no known AFFF use

Ecological No - no known AFFF use

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

Residences on north/west side of Kingsley Lake.

Documentation

Ask for Engineering drawings (if applicable).

Has there been a reconstruction or changes to the drainage system? When did that occur? None known.

Appendix C
Photographic Log

APPENDIX C – Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Camp Blanding Joint Training Center	Clay County, Florida

Photograph No. 1

Description:

Southwestern area of Anderson Bartlett Airfield facing north.

Photograph No. 2

Description:

Western end of the North FARP area facing east. Berms on southern end of North FARP area visible in photograph.

APPENDIX C – Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Camp Blanding Joint Training Center	Clay County, Florida

Photograph No. 3

Description:

Center of Skid Strip area facing southwest.

Photograph No. 4

Description:

Bunkhouse and supporting structures on the eastern side of the Skid Strip.

APPENDIX C – Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Camp Blanding Joint Training Center	Clay County, Florida

Photograph No. 5

Description:

Camp Blanding Airfield facing northeast. Support vehicles with ABC fire extinguishers visible.

Photograph No. 6

Description:

Building 3010 facing east. This building formerly stored a fire rescue truck that contained AFFF.

APPENDIX C – Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Camp Blanding Joint Training Center	Clay County, Florida

Photograph No. 7

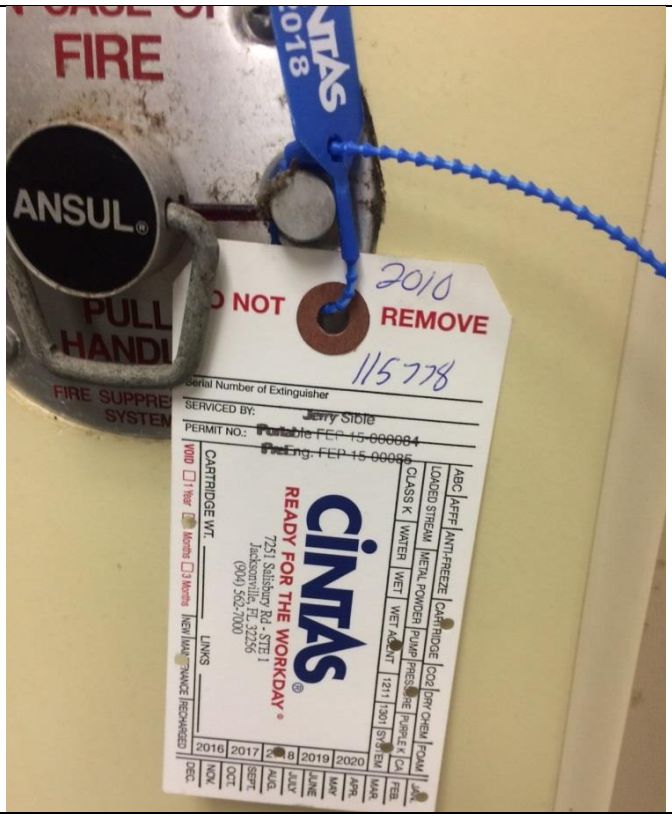
Description:

Fire suppression system in the cafeteria (DFAC). Purple K chemical used in the cafeteria fire suppression system.

Photograph No. 8

Description:

Cafeteria (DFAC) fire suppression system trigger. Purple K chemical used.



APPENDIX C – Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Camp Blanding Joint Training Center	Clay County, Florida

Photograph No. 9

Description:

Landing Zone 125 facing west.

Photograph No. 10

Description:

Old Combined Support Maintenance Shop area facing northeast.