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COMMUNITY INVOLVEMENT PLAN, NAS JACKSONVILLE FL
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TETRA TECH

Community Involvement Plan

Naval Air Station Jacksonville Jacksonville, Florida



Naval Facilities Engineering Command Southeast

**Contract Number N62470-08-D-1001
Contract Task Order JM69**

November 2015



FINAL

COMMUNITY INVOLVEMENT PLAN
FOR
NAVAL AIR STATION JACKSONVILLE
JACKSONVILLE, FLORIDA

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

Submitted to:
Naval Facilities Engineering Command Southeast
NAS Jacksonville
Jacksonville, Florida 32212-0300

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ACRONYMS AND ABBREVIATIONS

ABB-ES	ABB Environmental Services, Inc.
AICUZ	Air Installation Compatible Use Zone
APF	Appropriated Fund
ARAR	Applicable or Relevant and Appropriate Requirement
ATSDR	Agency for Toxic Substances and Disease Registry
bgs	Below Ground Surface
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CIP	Community Involvement Plan
CLEAN	Comprehensive Long-Term Environmental Action Navy
CRP	Community Relations Plan
DERP	Defense Environmental Restoration Program
DoD	Department of Defense
DRMO	Defense Reutilization and Marketing Office
ERP	Environmental Restoration Program
ESQD	Explosive Safety Quantity Distance
°F	Degree Fahrenheit
FDEP	Florida Department of Environmental Protection
FFA	Federal Facilities Agreement
FNAI	Florida Natural Areas Inventory
FRC	Fleet Readiness Center
FS	Feasibility Study
FY	Fiscal Year
HSWA	Hazardous and Solid Waste Amendments of 1984
IRP	Installation Restoration Program
LTM	Long-Term Monitoring
MMA	Multi-mission Maritime Aircraft
MRP	Munitions Response Program
NAF	Non-appropriated Fund
NAS	Naval Air Station
NAVFAC	Naval Facilities Engineering Command
Navy	U. S. Department of Navy

ACRONYMS AND ABBREVIATIONS (Continued)

NPL	National Priorities List
NRCS	Natural Resources Conservation Service
NS	Naval Station
OU	Operable Unit
PAH	Polycyclic Aromatic Hydrocarbon
PAO	Public Affairs Officer
PCA	Petroleum Contamination Area
PHA	Public Health Assessment
PHAP	Public Health Action Plan
PRAP	Proposed Remedial Action Plan
PSC	Potential Source of Contamination
RA	Remedial Action
RAB	Restoration Advisory Board
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
ROD	Record of Decision
RPM	Remedial Project Manager
SARA	Superfund Amendments and Reauthorization Act
SE	Southeast
SEIS	Supplemental Environmental Impact Statement
TAPP	Technical Assistance for Public Participation
TRC	Technical Review Committee
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
UST	Underground Storage Tank
UXO	Unexploded Ordnance
WWI	World War I
WWII	World War II

1.0 OVERVIEW

This Community Involvement Plan (CIP) documents the ongoing process for community participation in environmental investigation and cleanup programs at Naval Air Station (NAS) Jacksonville in Jacksonville, Florida. These programs include the Installation Restoration Program (IRP) and Munitions Response Program (MRP), which are collectively referred to as the Navy's Environmental Restoration Program (ERP). The purpose of this program is to identify and address contamination resulting from past practices at Navy installations through the step-wise process outlined in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), which is more commonly known as the federal Superfund law. Decisions regarding the NAS Jacksonville ERP sites are made with concurrence among the U.S. Department of Navy (Navy), the Florida Department of Environmental Protection (FDEP), and the U.S. Environmental Protection Agency (USEPA), and with input from the community as outlined in this CIP.

1.1 INTRODUCTION

This CIP has been prepared in accordance with Superfund Community Involvement Handbook (USEPA, 2005) and the Department of the Navy Environmental Restoration Program Manual (Navy, 2006). It represents an update to the former Community Relations Plan (CRP), which was originally issued in 1991, and later updated in 1998 (ABB-ES, 1998). This update summarizes the investigation and cleanup activities undertaken at NAS Jacksonville ERP sites to date, indicates the current status of each site, and outlines the strategy for maintaining community involvement in the decision-making process necessary to guide future activities. Additional updates to the CIP may be issued in the future if significant changes occur in the community's level of involvement and interest, or to reflect advances in the overall status of environmental restoration activities.

Tetra Tech has prepared this CIP on behalf of Naval Facilities Engineering Command (NAVFAC) Southeast (SE) under the Comprehensive Long-Term Environmental Action Navy (CLEAN) Contract No. N62470-08-D-1001, Contract Task Order JM69.

1.2 PURPOSE AND OBJECTIVES

The purpose of this CIP is to outline the strategy for informing the community of planned and ongoing environmental restoration activities at NAS Jacksonville and to identify opportunities for involving the public in the decision-making process for each site. This CIP addresses the issues of community concern, and allows the Navy to use that information to target its community involvement resources where they will be most effective.

In keeping with the Navy's objective to maintain a high level of community understanding and support for NAS Jacksonville environmental programs, this CIP is tailored to meet the needs of the Duval and Clay County communities most affected by NAS Jacksonville operations and ongoing ERP activities. The overall objective of this CIP is to provide the basis for effective two-way communication and timely information exchange among the Navy, regulatory agencies (FDEP and USEPA), installation personnel, and the interested public by building upon previously established communication channels and making adjustments where necessary to enhance the level of community interaction.

1.3 COMMUNITY INVOLVEMENT APPROACH

Federal and state laws, as well as U.S. Department of Defense (DoD) guidelines, require public participation throughout the cleanup process at military Superfund sites. The Navy, in partnership with USEPA and FDEP, is responsible for meeting those requirements at NAS Jacksonville and implementing the community outreach activities outlined in this plan. One key element of public involvement in the Navy's environmental restoration programs is the Restoration Advisory Board (RAB), which is comprised of community members and representatives of the Navy, USEPA, and FDEP (see Appendix A for points of contact). The RAB and its predecessor, the Technical Review Committee (TRC), have worked with the Navy since 1989 in tracking progress on the IRP and, more recently, the MRP by reviewing documents and providing input on proposed activities to ensure that community concerns are adequately addressed. Annual RAB meetings are held at locations in close proximity to NAS Jacksonville, and the public is invited and encouraged to attend these meetings. The most recent RAB meeting was held on November 5, 2014 at the Holiday Inn in Orange Park, Florida.

In addition, NAS Jacksonville historically obtained a comprehensive community mailing list of approximately 4,100 addresses to ensure that all interested parties received pertinent information about environmental restoration activities. Other outreach methods include a quarterly environmental newsletter, fact sheets and public meetings on specific project milestones, periodic Town Meetings to highlight innovative and cost-saving projects and technologies, and maintenance of an Information Repository. The Information Repository contains environmental program documents and related material that are available for public review at the following public library location:

Webb Wesconnett Branch Library
6887 103rd Street
Jacksonville, FL 32210
(904) 778-7305

Sources of community input used in developing past versions of this plan included personal and telephone interviews with RAB members, NAS Jacksonville personnel (including base housing residents), and local residents. Interview subjects were selected to approximate a cross-section of the greater Jacksonville

community. Thirty such interviews were conducted in January 1998, and the results were used to prepare the previous update of this plan.

The current CIP update relied on the use of an online survey to solicit input from the community. The survey consisted of 18 questions designed to characterize local resident perspectives and concerns regarding NAS Jacksonville's mission and ongoing environmental programs. The survey, which is presented in Appendix B, was advertised directly to RAB members via e-mail notifications and to others in the community using the *Jax Air News* newspaper that serves the NAS Jacksonville base. The survey was available online from February 19 to April 20, 2015. The survey was completed by five individuals and an additional five responses were incomplete, generally with only one question answered in each submittal. A summary of feedback received from the survey respondents is provided in Appendix C. Results of the survey provided the basis for the community involvement program update described in Section 4.

1.4 PLAN OUTLINE

This CIP includes a description and brief history of NAS Jacksonville, a summary of environmental conditions at the base, an outline of current community concerns, and the plan for addressing these concerns. The CIP is organized as follows:

- *Section 1.0, Overview* – Provides an overview of the background, purpose, and approach to developing this CIP.
- *Section 2.0, Facility Background* – Describes the location, history, use, and environmental setting of NAS Jacksonville, and identifies sites that have been or are being addressed under the ERP.
- *Section 3.0, Community Background* – Presents a community profile, history of community involvement, summary of community concerns, and environmental justice considerations.
- *Section 4.0, Community Involvement Program* – Outlines the planned strategy for ensuring community involvement in the decision-making process for the ERP sites.
- *Appendices* – Appendices to this plan provide points of contact for NAS Jacksonville and facility contractors, Navy, USEPA, FDEP, local and state government elected officials, media outlets, and community RAB members; a copy of the 2015 online community survey; a summary of the 2015 online survey results; details of the environmental setting at NAS Jacksonville; and descriptions and current statuses of the ERP sites.

2.0 FACILITY BACKGROUND

This section presents the general background of NAS Jacksonville, including its location, history, land use, and environmental setting. This information has been summarized from several reference sources, including the Preliminary Assessment (Malcolm Pirnie, 2007), the Master Plan (EDAW, 2009), the current Site Management Plan (Navy, 2015a), and the NAS Jacksonville internet website (Navy, 2015b). Information regarding the existing environment at NAS Jacksonville was updated in a Supplemental Environmental Impact Statement (SEIS) (Navy, 2014) written in support of the transitioning of P-3C aircraft to P-8A aircraft, which is referenced in this CIP and uses the year 2014 as the baseline year for analysis. A copy of Section 3 of the SEIS is provided in Appendix D. Also discussed in this section are the history and current status of NAS Jacksonville sites that are currently being addressed under the ERP.

2.1 LOCATION

NAS Jacksonville is located in southwestern Duval County, Florida, approximately 8 miles southwest of downtown Jacksonville, Florida, and 22 miles west of the Atlantic Ocean (Figure 2-1). The Station covers approximately 3,800 acres on the west bank of the St. Johns River and is located 24 miles upstream of the confluence of the St. Johns River and the Atlantic Ocean.

2.2 HISTORY

NAS Jacksonville was officially commissioned on October 15, 1940. Prior to its establishment, portions of the installation were used as the Black Point Militia Target Range, a state militia training facility. During World War I (WWI), the U.S. Army assumed control of the Black Point Militia Target Range and established Camp Joseph E. Johnson as an infantry training station. After WWI, the facility was turned back over to the state militia and operated as Camp Clifford R. Foster from 1928 until 1939. The Black Point Militia Target Range and Camp Joseph E. Johnson were located in the east central portion of NAS Jacksonville in the area currently referred to as Black Point.

NAS Jacksonville became the first component of the Jacksonville Navy Complex, which would eventually include NAS Cecil Field and Naval Station (NS) Mayport. NAS Jacksonville's mission was to train pilots for the Navy. More than 11,000 pilots earned their wings at the air station during World War II (WWII). NAS Jacksonville also provided the war effort with more than 10,000 highly trained air crewmen and 30,000 gunners. Although air field support and ordnance storage for air-to-ground bombing training was provided by NAS Jacksonville, the bombing ranges were located remotely from the installation.

Following WWII, the Navy's Flight Demonstration Team, the Blue Angels, was formed and stationed at NAS Jacksonville until it was reassigned to the aircraft carrier USS Princeton (CV-37) in 1950. The station's

mission was changed to include support for patrol squadrons that arrived after the war and are still on duty today. By 1973, helicopter squadrons arrived at NAS Jacksonville, and in 1977, reserve jet squadrons transferred to nearby NAS Cecil Field. Under Base Realignment and Closure (BRAC) operations, NAS Cecil Field closed in 1999 and the last of the S-3 squadrons were transferred to NAS Jacksonville, where they were eventually decommissioned in January 2009. The final deployment of a P-3C Orion from NAS Jacksonville occurred on January 22, 2015.

Currently, there are more than 110 tenant commands based at NAS Jacksonville (Navy, 2014). The Station supports the U.S. Customs and Border Patrol aviation command, and is also a key logistics node for the Federal Emergency Management Agency support and a safe haven for DoD aircraft during regional natural disasters. NAVFAC SE is one of the tenant commands residing at the Station. The Fleet Readiness Center Southeast, also a tenant at NAS Jacksonville, performs maintenance, repair, and overhaul of Navy aircraft, and is the largest industrial employer in northeast Florida.

NAS Jacksonville provides global support to the Navy fleet through both Air and Port Operations. The Air Operations division conducted more than 75,000 flight operations in 2012. They supported 60 visiting detachments representing all services, which consisted of 5,000 people and 255 aircraft during 322 detachment days. The Port Operations Division conducted 135 day/night boat operations in 2011 in support of 815 search and rescue swimmer qualifications for the Navy's Search and Rescue School and 10 helicopter squadrons. They also provided oil spill response while supporting fleet training requirements.

NAS Jacksonville is the largest Navy base in the Southeast Region, and the third largest in the nation. The population includes approximately 10,200 active duty personnel, 1,000 family members, 6,000 DoD civilians, 890 non-appropriated fund (NAF) employees, and 2,500 contract employees.

2.3 LAND USE

NAS Jacksonville occupies approximately 3,896 acres in the southeastern portion of Duval County, Florida, along the west bank of the St. Johns River and on the east and west sides of U.S. Highway 17. The station is 15 miles inland of the Atlantic Ocean and lies 3 miles north of the Duval and Clay County line. Approximately 3,312 acres (85 percent) of the station has been developed.

NAS Jacksonville's master plan was prepared in 2009 to be a guiding document for future land use and development on NAS Jacksonville over a 20-year planning period (EDAW, 2009). The master plan integrates multiple earlier installation plans.

The master plan describes how the station is organized into four major nodes, or activity centers: Administration/Industrial; Bachelor Housing/Support Services; Navy Exchange/Community Support; and

Hospital/Health Services. These areas are defined by a half-mile walking radius around a predominant land use and are connected to each other by green space or various modes of transportation. Within each node, the master plan seeks to minimize major land use changes, co-locate similar land uses, increase green space, improve connectivity, and increase transportation alternatives.

Aircraft operations areas include approximately 1,600 acres in the northern part of the station and consist of two intersecting runways, parking aprons, taxiways, and clear zones. Administrative and industrial facilities encompass approximately 350 acres immediately south of the aircraft operations area. The portion of the station west of U.S. Highway 17 and adjacent to the Ortega River is leased to the city of Jacksonville and is a public use area designated as the Tillie K. Fowler Regional Park. Part of the land was acquired by the federal government in 1976 to control development to be compatible with the NAS Jacksonville Air Installation Compatible Use Zones (AICUZ) guidelines. The Defense Reutilization Marketing Office (DRMO) is located west of U.S. Highway 17.

The southern part of NAS Jacksonville is more sparsely developed, with a mixture of land uses: administrative, residential, and community facilities; ordnance storage; recreation; open space; and natural areas. Residential and community facilities include bachelor housing; family housing; and commercial, medical, and utility facilities. Ordnance storage is located near the southern boundary of the station to ensure compliance with all Explosive Safety Quantity Distance (ESQD) requirements. The approximately 584 acres of undeveloped land on the station are primarily natural forestlands and open space areas (Navy, 2014). The Navy plans to continue using NAS Jacksonville to support its mission for the foreseeable future.

NAS Jacksonville is located in the suburban area of the city of Jacksonville. The central business district of Jacksonville is located approximately 8 miles north of the station. Predominant land uses in the vicinity of NAS Jacksonville include:

- Residential development along the station's southern boundary. South of these residential uses, in northern Clay County, are a mix of residential, commercial/community, and light industrial land uses.
- Undeveloped land and a mixture of recreation, open space, light industrial, and commercial/community uses west of the station in the Yukon and Ortega Hills communities.
- Recreation and open space uses immediately northwest of the station. North and west of these land uses is a mixture of commercial and residential land.
- Residential development along the eastern shore of the St. Johns River.

2.4 ENVIRONMENTAL SETTING

NAS Jacksonville is located in northeastern Florida, in the Coastal Plain physiographic province. The topography is generally flat, with marshy areas of various sizes scattered among areas of slightly elevated high ground. The Station is situated on a gentle rise between the St. Johns River and Ortega River. The climate is humid and semitropical, with an average annual temperature of 70 degrees Fahrenheit (°F) and an average annual rainfall of 54 inches. The geology consists of unconsolidated surficial sands and silty sands overlying thick deposits of less permeable carbonate sediments and deeper limestone and dolomite formations that make up the Floridan aquifer system. Additional details regarding the physical and environmental characteristics of NAS Jacksonville, including its natural and cultural resources, are provided in Appendix D.

2.5 ENVIRONMENTAL RESTORATION ACTIVITIES

In 1980, Congress passed CERCLA, also known as “Superfund,” which required the nationwide cleanup of hazardous waste sites (such as landfills) and made USEPA responsible for monitoring the process. When first implemented, its requirements did not apply to federal facilities. Therefore, DoD established its own cleanup program, the IRP, which paralleled the CERCLA requirements. The Navy has been actively restoring NAS Jacksonville under the IRP since 1980, investigating and cleaning up potential contamination that may have resulted from former practices.

In 1986, Congress amended CERCLA with the Superfund Amendments and Reauthorization Act (SARA). This Act required DoD and other federal facilities to meet CERCLA requirements and also set the stage for the creation of the Defense Environmental Restoration Program (DERP), which provides funds for the cleanup of hazardous waste at DoD facilities. The DERP complies with the environmental regulations established under both CERCLA and SARA.

USEPA issued a Hazardous and Solid Waste Amendments of 1984 (HSWA) permit to NAS Jacksonville in June 1987, and a Resource Conservation and Recovery Act (RCRA) Facility Assessment was included in the permit. NAS Jacksonville was placed on the National Priorities List (NPL) on November 21, 1989. Subsequently, a Federal Facilities Agreement (FFA) was signed on October 23, 1990, which identified 42 individual potential sources of contamination (PSCs) and decreed that the cleanup of these PSCs would be conducted under CERCLA, with RCRA being referenced as an applicable or relevant and appropriate requirement (ARAR). Additional sites have been discovered since that time, bringing the current total to 58 PSC sites.

Six former PSC sites are being addressed under the Navy’s Munitions Response Program (MRP). Six small arms ranges were associated with the Former Machine Gun Range Complex and were originally

designated as PSC sites under the IRP. When elevated levels of munitions constituents including polycyclic aromatic hydrocarbons (PAHs) from skeet targets and lead and other metals associated with small arms ammunition were detected at these sites, they were transferred into the MRP and subsequently re-designated as unexploded ordnance (UXO) sites.

In addition to performing environmental restoration activities under CERCLA, the Station is subject to other active regulatory programs. For example, FDEP has issued a RCRA permit to NAS Jacksonville for the management of hazardous wastes. In addition, tank sites are being managed under the Underground Storage Tank (UST) Program, as provided for by the Florida Administrative Code Chapter 62-780 (formerly 62-770). A total of 26 Petroleum Contamination Areas (PCAs) have been, or continue to be, addressed under the FDEP UST Program.

As a result of ERP activities at NAS Jacksonville, a total of 58 PSC sites and 6 UXO sites have been identified for investigation and cleanup under the CERCLA process. Some of these sites have been grouped into operable units (OUs) according to either geographic proximity or administrative similarities in CERCLA activities. The specific sites that comprise each OU and a summary of the known or suspected contaminants, completed actions, current status, and next steps at each site are identified in Appendix E. Figures 2-2 and 2-3 identify the locations of PSC and PCA sites, respectively, where activities are currently in progress or have been completed.

2.6 ENVIRONMENTAL MANAGEMENT

A variety of hazardous materials are used at NAS Jacksonville, including petroleum, oils, and lubricants; solvents and thinners; caustic cleaning compounds and surfactants; cooling fluids (antifreeze); adhesives; acids and corrosives; paints; and herbicides, pesticides, and fungicides. Hazardous materials are used for aircraft and vehicle repair and maintenance activities at NAS Jacksonville. Activities at NAS Jacksonville that generate hazardous waste include painting, using solvents for cleaning and degreasing, mechanical and chemical paint and rust removal, fluids change-out, electroplating, metal casting, machining, and welding or soldering. If not consumed during use, these materials and possibly their containers eventually may be disposed of as a solid or hazardous waste.

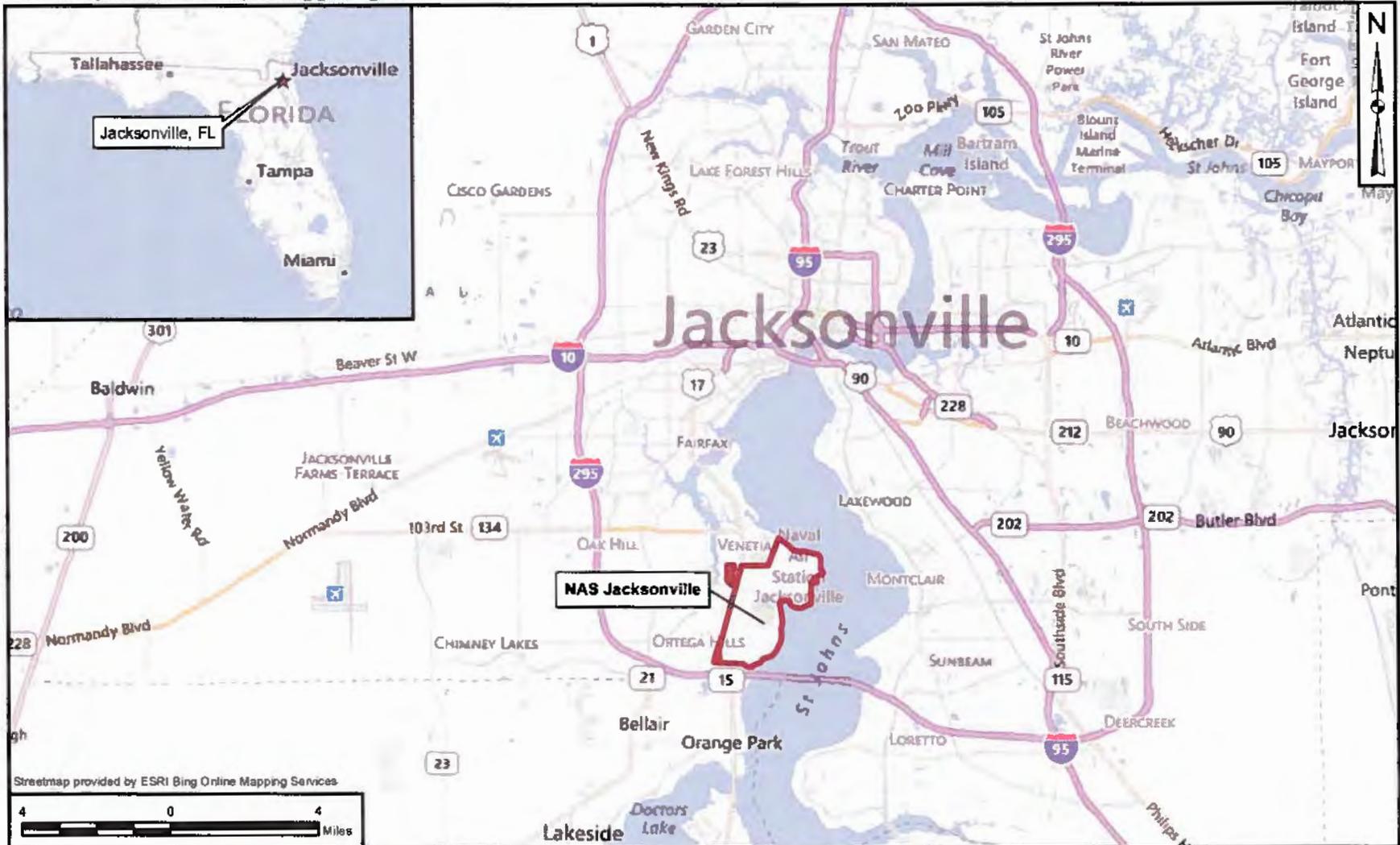
The DoD collects annual hazardous- and solid-waste generation data for each Navy, Marine Corps, Army, and Air Force installation in order to track its progress in meeting its goals for waste reduction. Waste categories in the Pollution Prevention Annual Data Summary are defined by the source of waste, such as the plating shop (electroplating and circuit-board manufacturing processes), fluids change (i.e., used solvents, hydraulic fluids, lubricants), facility operations (i.e., cleaning and maintenance, pest-management applications, used batteries), chemical paint stripping, painting operations, and rust and coating removal.

NAS Jacksonville is classified as a large-quantity hazardous waste generator, as defined by RCRA, because it has the potential to generate 2,200 pounds (1,000 kilograms) or more of hazardous waste every month. NAS Jacksonville generates hazardous waste, which is managed in compliance with their RCRA Part B operating permit issued by the state of Florida.

Hazardous wastes are accumulated at less-than-90-day satellite accumulation points throughout the station before being transferred to permitted storage facilities and are collected and stored on-site in accordance with NAS Jacksonville's RCRA Part B operating permit. The Defense Logistics Agency Disposition Services (formerly DRMO) is responsible for contracting off-site disposal of most hazardous waste.

Hazardous waste disposal sites at NAS Jacksonville have been investigated under the DoD's IRP, in compliance with the requirements of CERCLA for former waste sites and with RCRA for sites associated with continuing operations. Restoration processes have been in place at NAS Jacksonville since 1983, when preliminary assessments were initiated.

Sites designated as PSCs at NAS Jacksonville are in various stages of investigation and remediation under either the IRP or have been transferred to the Petroleum Program (Navy, 2014).



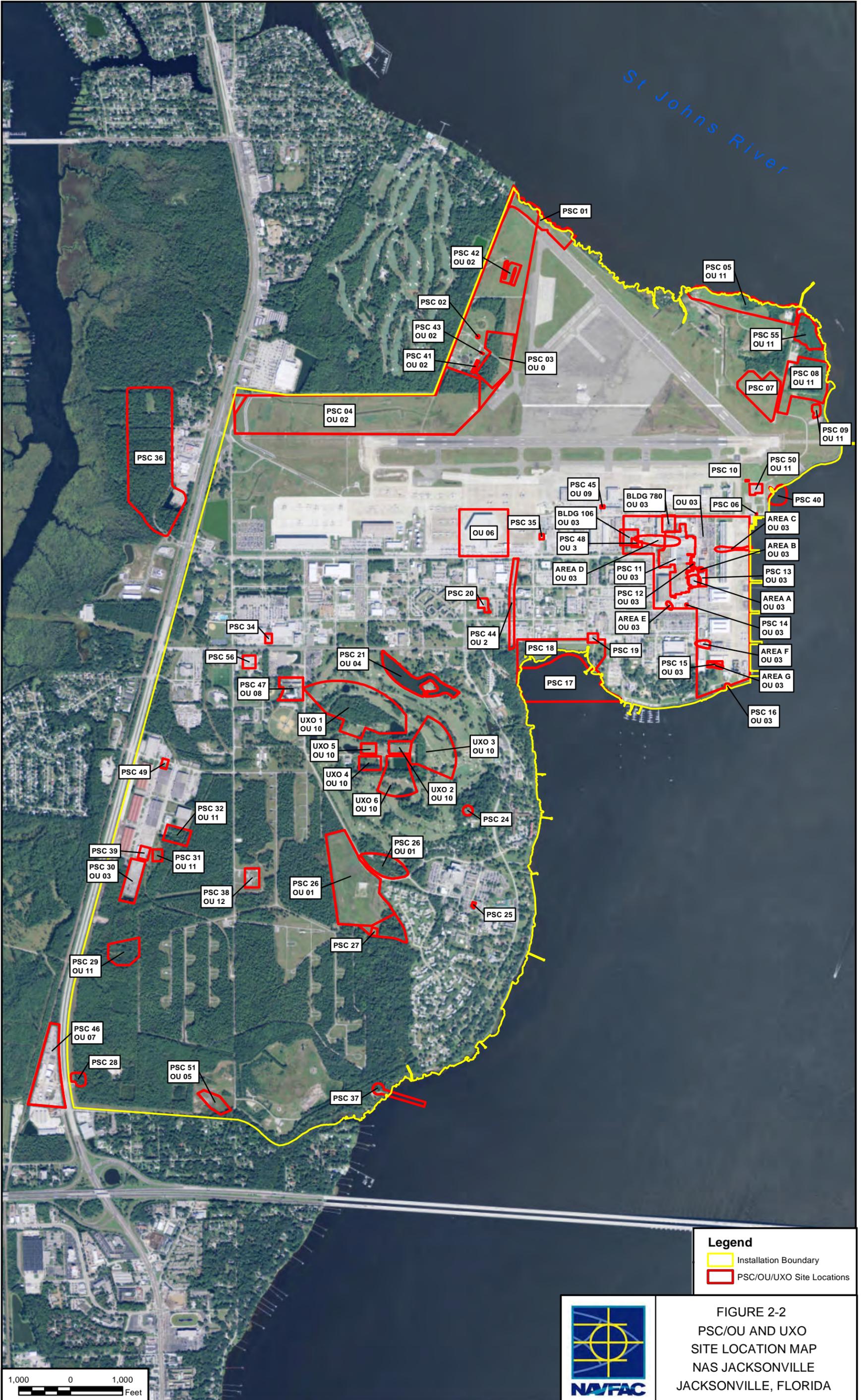
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B. BECKER	04/11/13
REVISED BY	DATE



SCALE
AS NOTED

FACILITY LOCATION MAP
NAS JACKSONVILLE
JACKSONVILLE, FLORIDA

CONTRACT NUMBER CTO JM69	
APPROVED BY	DATE
APPROVED BY	DATE
FIGURE NO.	REV
FIGURE 2-1	0



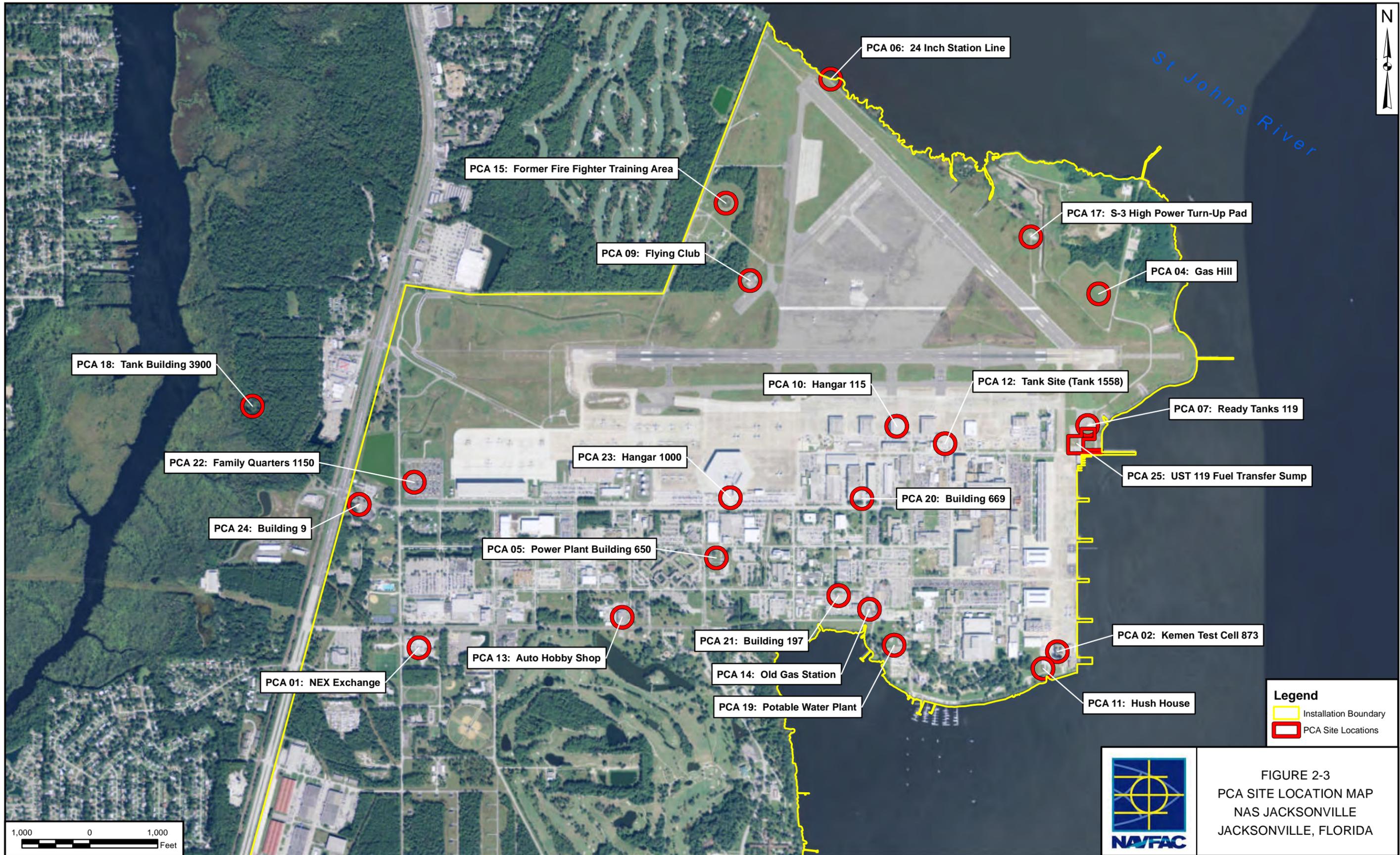


FIGURE 2-3
 PCA SITE LOCATION MAP
 NAS JACKSONVILLE
 JACKSONVILLE, FLORIDA

3.0 COMMUNITY BACKGROUND

This section describes the background of the community surrounding NAS Jacksonville, and includes a community profile, history of previous community involvement, and summary of specific community concerns.

3.1 COMMUNITY PROFILE

A brief profile of the NAS Jacksonville vicinity is provided in this section. This includes Duval County, which houses NAS Jacksonville, and Clay County, which lies less than one mile south of the base's southern border. Community background and demographic information is presented, along with information on public attitudes concerning environmental issues. Additional socioeconomic details are provided in Section 3.5 of the SEIS (Navy, 2014; see Appendix D).

3.1.1 Setting

NAS Jacksonville is bordered on three sides by moderately populated and demographically diverse communities. To the north is an established community with a country club as its focal point. Some retired military personnel reside in this area. The Timuquana Country Club, which borders directly on the north side of the station, serves as a social center for many residents in this area. The Yukon and Ortega Hills communities are to the west of the station and across U.S. Highway 17, and several residential streets are located between the base's southern boundary and Interstate 295.

3.1.2 Population

Jacksonville is the largest city in land area in the continental United States, covering more than 840 square miles. According to the U.S. Census Bureau, the city of Jacksonville had a population of 821,784 in 2010. The number of personnel at NAS Jacksonville has varied over the years as the result of mission changes, base realignment and closure activities, and fluctuations in the number and type aircraft stationed at the base. The Navy provides housing to eligible military personnel stationed at NAS Jacksonville in either bachelor (officer and enlisted) quarters or family housing units. Military personnel stationed at NAS Jacksonville may be housed either in military-controlled bachelor/family housing units or in private housing within the local community. According to the SEIS, a total of 19,288 active duty, civilian, and contractor personnel lived and/or worked at NAS Jacksonville in 2012 (Navy, 2014).

3.1.3 Income and Economy

In 2011, the city of Jacksonville had an estimated median household income level of \$44,802 and a per capita income of \$24,510. These household and family income levels were slightly higher than the average

levels for the state of Florida as a whole, but the per capita income level was slightly lower than the statewide level.

The Navy has a strong presence in the Jacksonville area and an equally strong regional economic impact. The military installations in the Jacksonville area, which include NS Mayport, Naval Submarine Base Kings Bay (Georgia), Camp Blanding Joint Training Center, and Marine Corps Blount Island Command in addition to NAS Jacksonville, provide employment for over 50,000 active and reserve military personnel and civilians.

The Navy, and NAS Jacksonville in particular, is a major contributor to the economy of the city of Jacksonville and the surrounding region. In fiscal year (FY) 2008, defense spending in Duval County amounted to almost \$2.4 billion. In 2012, NAS Jacksonville had a payroll of approximately \$1.28 billion and employed 9,995 active duty personnel, 2,553 reserve personnel, 6,153 appropriated fund (APF) civilians, 917 non-APF civilians, and 2,223 contractors. In 2011, the military accounted for 2.8 percent of total employment in Duval County.

Over the past decade, the importance of military employment in the county has declined as the number of military personnel assigned to NAS Jacksonville and other installations has declined and the regional economy has expanded and diversified.

The military personnel, civilians, and contractors employed at NAS Jacksonville live in the community, spend money in the local economy, and use local amenities and resources, and the station also spends money on goods and services purchased in the local community. Thus, the payroll and expenditures of NAS Jacksonville have a compounding, or multiplier, impact in the local economy.

The *2013 Florida Defense Industry Economic Impact Analysis*, conducted by the University of West Florida on behalf of the Florida Defense Alliance, estimated that the DoD contributed \$2.9 billion in expenditures in Duval County in 2011 through salaries (\$827.6 million), the purchase of goods and services (\$791.8 million), and \$1,242.2 million in transfer payments including entitlement payments for military and civilian retirees and veterans. The DoD's direct expenditures were compounded or multiplied in Duval County's economy as the money expended circulated and created further economic activity. Taking this further economic impact into account, the DoD's expenditures directly and indirectly contributed \$11.9 billion to the county's gross regional product (i.e., the final value of all goods and services produced in the county in 2011), which is equivalent to 19.2 percent of the county's gross regional product. The analysis predicted that DoD's contribution to the county's gross regional product would fall to \$11.1 billion by 2015.

The importance of the Navy to the regional economy, as well as the civilian economy's emphasis on health-service-related industries, can also be seen in Table 3-15 of the 2014 SEIS (see Appendix D), which lists the top ten private and government employers in the city of Jacksonville. NAS Jacksonville is the city's top employer (Navy, 2014).

3.1.4 Education

The Duval County Public School System is the 22nd-largest school district in the nation and the sixth largest school district in Florida. The system has 195 schools throughout the Jacksonville metropolitan area, serving a projected total student population of approximately 126,000 in the 2014-15 school year. The system includes 103 elementary schools, two grade K-8 schools, 24 middle schools, two grade 6-12 schools, and 19 high schools. In addition, the school system administers five ESE (exceptional student education) schools, seven special schools (inclusive of a virtual school and seven alternative schools), and 34 charter schools (Duval County Public Schools website, 2015).

In 2014, the system employed 8,284 teachers among a total of 13,113 school district employees. During the 2012-2013 school year, 275 children (69 officers' children and 206 enlisted personnel's children) resided in on-base family housing at NAS Jacksonville and attended Duval County Public Schools. Students living near NAS Jacksonville would most likely attend Venetia Elementary School, John Stockton Elementary School, or Timucuan Elementary School; J.E.B Stuart Middle School; and Robert E. Lee High School or Westside High School (Navy, 2014).

3.2 COMMUNITY INVOLVEMENT HISTORY

NAS Jacksonville has made a serious effort to measure public awareness and attitudes on environmental issues in general, and on the IRP and MRP programs at the station in particular. These efforts have been undertaken to identify issues of community interest and concern, and to help focus NAS Jacksonville's community relations resources on addressing them. For over 25 years, the community has worked with the Navy to address cleanup activities and contamination issues at NAS Jacksonville. In 1989, a TRC was formed of community members and representatives of the Navy, FDEP, USEPA, and the city of Jacksonville to review site documents, provide input on proposed cleanup activities, identify community concerns, and track IRP progress. Today, the public continues to work with the Navy to address site-related issues through NAS Jacksonville's RAB, the successor to TRC as of 1994. The RAB currently meets annually. In addition, since 1991 the Navy has implemented a CRP (which has evolved into this current CIP) outlining methods to address surrounding communities' concerns and means to distribute information to these communities regarding cleanup activities at NAS Jacksonville. The Agency for Toxic Substances and Disease Registry (ATSDR) also addressed early community health concerns and formed a public health action plan (PHAP) as documented in a 2005 Public Health Assessment (PHA) (ATSDR, 2005).

The major community surveys conducted for the CRP/CIP are described below.

3.2.1 1995 Community Assessment Survey

A telephone survey was conducted in May 1995 to determine public perceptions on water quality in North Florida, as well as perceptions on the various organizations involved in environmental management and cleanup in the Jacksonville area. Four hundred adult residents of Duval and Clay counties were interviewed at the time. The main findings are presented in the 1998 CRP.

3.2.2 1998 Community Interviews

Community interviews were conducted in January 1998 to reassess community awareness and perceptions on the ERP at NAS Jacksonville. The interviews were conducted in person and by telephone. Thirty people were interviewed during this process, including civilian and base employees; area residents; local civic, religious, and business leaders, elected officials, and media representatives. A range of demographic characteristics (i.e., age, sex, race) was represented in the surveys, which typically lasted 10 minutes. The main findings are presented in the 1998 CRP.

The survey indicated relatively high awareness of the ERP, as evidenced by the number of people aware of the RAB and other outreach efforts. The responses also reflected a low level of active participants in the program, in terms of public meeting attendance and use of the local information repository. A large majority of the respondents felt that NAS Jacksonville was doing a good job of protecting and restoring the environment, and could be counted on to continue doing so. This favorable impression was consistent with the findings from the 1995 survey and with community feedback received at RAB and public town meetings and through other public contacts with base personnel.

3.2.3 2015 Online Community Survey

A community survey was conducted between February 19 and April 20, 2015 via an online survey to again assess community awareness and perceptions on the ERP at NAS Jacksonville. The survey was advertised in the *JAX Air News* for two months and responses were encouraged from the community. Five people completed the survey. The survey content is provided in Appendix B and the responses are summarized in Appendix C.

The survey indicated relatively high awareness of the ERP, as evidenced by the number of people aware of the RAB and other outreach efforts. The responses also reflected a low level of concern in the community regarding the program, given the timeframe allowed for responses and the significant efforts to inform the community of the survey, which resulted in just a few completed responses.

3.2.4 Other Community Involvement

The ATSDR prepares a PHA for all sites listed on USEPA's NPL. Through the PHA process, the ATSDR evaluates whether the public could be exposed to contaminants from the site through contact with groundwater/ drinking water, soil, surface water/sediment, or fish and shellfish.

To begin the PHA process at NAS Jacksonville, the ATSDR conducted an initial site visit in June 1991. At this time, the ATSDR documented concerns about children trespassing over the 7-foot high fence that separated the station housing area from Operable Unit (OU) 1, and entering into the former station landfill area. As a result, the Navy constructed an 8-foot high fence in 1991, which continues to prevent children from accessing OU 1. The Navy also educated the parents of children living at the station during that time about hazards in the area. To continue its efforts in the PHA process, the ATSDR conducted another site visit June 29 – July 2, 1992. In 1995 the ATSDR returned to NAS Jacksonville to collect additional information for the PHA. Since 1995 more environmental data have become available, and the Navy has identified additional PSCs at NAS Jacksonville. From January 12–14, 2004, the ATSDR returned to NAS Jacksonville to obtain recent sampling data for all 54 PSCs and to conduct a thorough evaluation of the public's potential exposures to site-related contaminants. During the site visit, the ATSDR met with NAS Jacksonville and Navy representatives, toured the 54 PSCs at the facility, and requested site-related files. Though the ATSDR did not identify any exposure situations that posed an imminent public health hazard, some exposure pathways required further evaluation—groundwater/drinking water, surface soil, surface water/sediment, and fish and shellfish.

To identify community health concerns, the ATSDR reviewed the most recent CRP (1998) as well as past site-related documents. The ATSDR presented the summarized health concerns and responses in the 2005 PHA (ATSDR, 2005). Community concerns included potential on-site and off-site impacts of environmental contamination for residents; protecting natural resources, particularly the St. Johns River; specific wastes – arsenic and lead; and specific disposal sites – OU 1 and OU 5 (PSC 51).

The PHA included a PHAP for NAS Jacksonville that described completed, ongoing, and future public health actions for the station. The ATSDR prepares a PHAP to make certain that this public health assessment, in addition to identifying potential public health hazards, outlines a plan of action to reduce and prevent harmful health effects as a result of exposure to site-related contaminants in the environment. The completed, ongoing, and planned public health actions identified in 2005 are listed in the 2005 PHA.

3.3 SUMMARY OF CURRENT COMMUNITY CONCERNS

When asked in the 2015 Online Community Survey “Do you currently or have you ever had concerns about past or present operations at NAS Jacksonville (including base construction, traffic, etc.) negatively

impacting the landscape, natural habitat, or wildlife?”, two respondents said “Yes” and provided the following specific comments: 1) Ongoing environmental concerns about impact of new construction, habitat loss, etc.; and 2) Just general – birds, wildlife.

When asked “Which of the following media formats/communications methods do you utilize regularly (i.e., more than once per month) to stay informed about local community news and issues?”, the following local sources were specifically identified: radio AM station 690 and FM station 104.5; WJCT (Jacksonville’s Public Broadcasting System radio and television station); a “local Riverside paper”; and newspapers the *Florida Times Union* and the *JAX Air News* (identified as the preferred method of receiving news and information regarding local issues).

Three respondents provided additional comments at the end of the survey, as follows:

1. I think the Navy is doing a great job with caring for the environment (to include noise) and surrounding area. In fact, I could argue the Navy is doing too much. Keep up the GREAT WORK!!! I see the results.
2. Thanks for asking.
3. The environmental efforts at NAS Jacksonville are amazing. I have never had concerns because they are very proactive in publishing policies and establishing preventive measures to ensure the footprint left is minimal. I very much appreciate all that is done to preserve the wildlife and environment as much as possible while still meeting the mission and supporting the community.

3.4 ENVIRONMENTAL JUSTICE

Consistent with Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (February 11, 1994), the Navy’s policy is to identify and address any disproportionately high and adverse human health or environmental effects of its actions on minority and low-income populations. In addition, Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, enacted in 1997, directed federal agencies to identify and assess environmental health and safety risks to children, coordinate research priorities on children’s health, and ensure that their standards take into account special risks to children (Navy, 2014).

In the 2014 SEIS, an environmental justice analysis was performed. This analysis focuses on the potential for a disproportionate and adverse exposure of these specific off-base population groups to the projected aircraft noise under the alternatives at each base where the “greater than 65 DNL noise exposure” would be the greatest. The results of the analyses of these scenarios are similar, whether using the alternative with the most squadrons allocated to that base or the least number, the only exception being alternatives

where no P-8A multi-mission maritime aircraft (MMA) squadrons are proposed. In this analysis, minority and low-income populations and children were defined as follows:

- **Minority.** Individuals who are Black/African-American, Asian, Pacific Islander, American Indian, Eskimo, Aleut, or other non-white persons (a separate distinction has been made for people of Hispanic origin).
- **Low-Income.** Individuals living below the poverty line as defined by the U.S. Census Bureau.
- **Children.** Individuals under the age of 18.

Environmental justice statistics pertinent to the study area surrounding NAS Jacksonville are summarized in Tables 3-18 and 3-19 of the 2014 SEIS (see Appendix D for the tables and a discussion of the findings).

4.0 COMMUNITY INVOLVEMENT PROGRAM

This section describes the community involvement program at NAS Jacksonville and outlines opportunities for interested stakeholders to participate in the cleanup process.

As stated in Section 1, the goal of the NAS Jacksonville CIP is to provide an effective and operational mechanism for communication and the exchange of information among: U.S. Navy staff; NAS Jacksonville's military/civilian work force and residents; various federal, state, and local community agencies; business people; and local citizens and the public. In meeting this goal, this CIP has been designed to fulfill requirements of the following federal regulations and guidelines:

1. CERCLA, 1980 (Public Law 96-510), as amended, including Section 117 of the SARA of 1986 (Public Law 99-499, October 17, 1986).
2. Navy/Marine Corps Installation Restoration Manual, (U.S., Navy, 2000).
3. USEPA guidance and publications, including:
 - Superfund Community Involvement Handbook (USEPA, 2005);
 - Superfund Community Involvement Toolkit (USEPA, 2002); and
 - Restoration Advisory Board Resource Book (USEPA, 1996).

4.1 COMMUNICATIONS ACTIVITIES AND MECHANISMS

The primary elements to ensure success in a CIP are development of an information network with relevant communities and a constructive mechanism for public participation in the program. This CIP presents an active approach to develop, maintain, and enhance community involvement by identifying and addressing public concerns about environmental issues at NAS Jacksonville, with emphasis placed on investigations and remedial actions.

Establishing a two-way communication system is essential to building and maintaining public trust. Through such a system, relevant and accurate information is made available in a timely and responsible manner, and local concerns are considered in the decision-making process. In addition, the Navy should be responsive to input from local citizens, NAS Jacksonville civilian personnel, state and federal regulators, and the media.

Sections 4.1.1 through 4.1.4 present the community involvement methods and mechanisms for the ERP at NAS Jacksonville. These mechanisms may be used as appropriate for specific milestones in the ERP. Community involvement activities that may be used at project milestones are presented in Section 4.2.

Programs available to assist communities with obtaining the resources needed to review and evaluate environmental restoration activities are presented in Section 4.3.

4.1.1 Points of Contact

One of the main objectives of this CIP is to provide a Point of Contact for dissemination of information regarding the environmental restoration work at NAS Jacksonville. The primary Point of Contact for the Jacksonville Site CIP is in the Public Affairs Office at NAS Jacksonville. The Public Affairs Office is responsible for ensuring that inquiries regarding the progress of the investigation status, remedial actions, and other decisions regarding NAS Jacksonville are responded to in a timely and accurate manner. The current name, address, and phone number of the primary Point of Contact for the Public Affairs Office (Public Affairs Liaison) is provided in Appendix A.

4.1.2 Regulatory Agency Participation

Effective interagency communication is essential for addressing community concerns. This CIP is designed to provide effective communication and information exchange between the U.S. Navy, USEPA, FDEP, local officials, the general public, and the media. Agency interaction and communication mechanisms will include:

1. Partnering Team Meetings - The NAS Jacksonville Partnering Team was formed in 1993 to foster a cooperative cleanup approach to those sites identified in the FFA that was signed on October 23, 1990. Representatives from the Navy, USEPA Region 4, FDEP, and the Navy's contractors make up the NAS Jacksonville Partnering Team, as identified in Appendix A.
2. Fact Sheets and News Releases - Whenever possible, prior to issuance, copies of public and/or media news releases, fact sheets, and other pertinent information related to the NAS Jacksonville ERP investigations and remedial actions will be distributed to the USEPA Region 4, FDEP, and local officials. Such releases provide information and enable the agencies to respond to media or public inquiries.
3. Community Meetings - Community meetings provide an opportunity for NAS Jacksonville to present technical information to the public and to respond to community inquiries and concerns. These meetings will be closely coordinated with and supported by the agencies participating on the RAB. By including other agencies, NAS Jacksonville provides the public with an opportunity to question independent authorities that are closely involved with investigation activities.

4.1.3 Local Community and Media Communication Mechanisms

The history of NAS Jacksonville environmental restoration public involvement and community outreach conducted to date is summarized below:

- Early TRC meetings were held from 1989 to 1994 prior to establishment of the RAB in 1994.
- RAB meetings have continued from 1994 to the present (originally meetings were held monthly, now they are held annually).
- Fact Sheets to summarize ERP activities were published and distributed on base and during RAB meetings (1992-2014).
- An Information Repository located at Webb Wesconnett Library was established for public access to ERP documents (see Page 1-2 for the address).
- An Administrative Record was established and maintained as a permanent collection of ERP documents, available to the public at the Information Repository.
- Community interviews were conducted in 1995 with 400 responses and in 1998 with 30 responses.
- Public Meetings were held to present Proposed Remedial Action Plans (PRAPs) and to answer questions about the proposed plans.
- Announcements of milestones in the ERP are published in local newspaper(s) (currently, the *Florida Times Union* and the *JAX Air News*).

To continue communication and ensure effective interactions between the Navy, NAS Jacksonville civilian employees, and the local community, NAS Jacksonville plans to undertake or continue the following community involvement activities:

1. Restoration Advisory Board Meetings. The RAB was created in October 1994. The RAB provides a forum for discussion and information exchange between community members and the Navy. The RAB also provides an opportunity for people who might be affected by the environmental cleanup at NAS Jacksonville to provide input. The RAB is not a decision-making body, but is intended to provide diversity of perspective by including citizen participation. RAB meetings are open to the public, and are held in easily accessed public locations in the evening, so people will find it convenient to attend.

As the ERP matured and the Jacksonville community evolved, attendance at RAB meetings declined. At the time this plan was prepared, the former RAB membership list was being supplemented with a list of community members interested in attending future RAB or public meetings. This list of interested parties was identified based on input from the 2015 online survey. For future RAB meetings, former RAB members, and interested parties will be contacted directly via email.

In the past, RAB meetings were typically announced in the *Florida Times Union*, at least two weeks in advance. Participants in the 2015 online survey also indicated they would like future RAB meeting announcements to be advertised in the NAS Jacksonville online newspaper, *JAX Air News*. Therefore, RAB meeting announcements will be advertised in the *JAX Air News*. RAB leadership is provided jointly by a Community Co-Chair and a Navy Co-Chair. A listing of RAB members, as well as other key contacts, is presented in Appendix A.

2. News Releases. Newspapers are an important medium for providing information to local communities, including the NAS Jacksonville and its employees. During the 2015 online survey, both the *Florida Times Union* and the *JAX Air News* were reported as the newspapers relied on by the public.

Future public announcements pertaining to the ERP and providing notice of meetings, technical document availability, or other pertinent information will be published in the *JAX Air News*.

In addition to newspaper announcements, future NAS Jacksonville ERP announcements or other environmental news will be distributed electronically to the list of interested parties in Appendix A, and in the NAS Jacksonville electronic newspaper, *JAX Air News*.

3. Community Meetings. As previously discussed, community meetings provide an open forum for the exchange of information between NAS Jacksonville, agencies, the media, and the public. Community RAB meetings are held annually and as required for milestones in the ERP cleanup process.

RAB meetings or public meetings to discuss the ERP's progress and PRAPs may be held at the Holiday Inn Hotel & Suites, 620 Wells Road, Orange Park, Florida, where the 2014 RAB meeting took place, or another venue based on availability.

4. Mailing List. A mailing list has been established and is maintained by the NAS Jacksonville Public Affairs Office. The list identifies persons interested in the ERP, including 2015 online survey respondents, members of the RAB, and local officials. Additional names may be added to the list throughout the implementation of ERP activities. Those who wish to be added to the mailing list

should submit their name, title, address, and phone number to the Point of Contact (IRP Manager) listed in Appendix A. Individuals on the ERP mailing list will receive general information such as fact sheets outlining the status of the investigation, or notices of any community meetings. Participants in the 2015 community interview process indicated that email was the preferred method of communication. Therefore, as part of this CIP update, email addresses were added to Appendix A.

5. **Fact Sheets.** Fact sheets were utilized in the developmental stages of the ERP (1994 to 2002) to update the public on the status of studies and remedial actions, major project milestones, and special interest items. In the future, fact sheets will be issued as needed, but are expected to be replaced with electronic communications including the Public Web Site described on the next page.
6. **Information Repository.** An Information Repository contains current information, final technical reports, and reference documents for NAS Jacksonville. The location for the Information Repository is the Webb Wesconnett Library. The Navy has created Public Web Sites on the internet as a more efficient alternative to local libraries for searching public records for naval facilities, including for NAS Jacksonville. The link to the NAS Jacksonville ERP Public Web Site is: <http://go.usa.gov/3vE2m>.

Examples of items currently contained in the repository include:

- Copies of the Federal Register with notice of NAS Jacksonville being proposed for the NPL and the final listing on the NPL;
 - The Administrative Record for NAS Jacksonville initially issued in July 1992 with a searchable index and continually updated with paper and/or electronic copies of site-related documents; and
 - Copies of Remedial Investigation and Feasibility Study (RI/FS) reports, PRAPs, and Records of Decision (RODs) issued after the initial 1992 Administrative Record index.
7. **Administrative Record.** An Administrative Record established by the Navy includes all the documents leading to the selection of any response actions at NAS Jacksonville. In 1998, the Navy began utilizing electronic format to replace the paper copies of the documents contained in the Administrative Record. The Administrative Record was first placed on a collection of CD-ROM disks. Beginning in 2010, the Administrative Record for NAS Jacksonville was converted to a searchable, indexed document library on DVDs. This format enables the public to access the records easily by performing a search on the database and viewing the

documents on a computer screen. The Administrative Record on DVD is found at the Information Repository. Administrative Record files are also available on the internet.

Documents are maintained for public viewing at the Webb Wesconnett Library and are available on the internet under the Public Web Site for NAS Jacksonville. Additions to the Administrative Record will be announced by NAS Jacksonville during RAB meetings or other public meetings.

8. Special Briefings. When appropriate, special project briefings may be held with local officials to review project goals and accomplishments. Meetings will be held at a local hotel or public meeting place, at a time mutually acceptable to the Navy and local officials. Briefings would provide an information pool for local officials to utilize when answering constituents' inquiries concerning NAS Jacksonville investigations. When appropriate, local town meetings may be arranged to provide briefings.
9. Online media. Those surveyed in 2015 expressed an interest in receiving updates about NAS Jacksonville environmental information via email or through online media.

The NAS Jacksonville official website is available to the public. The web address for NAS Jacksonville is <http://www.cnic.navy.mil/Jacksonville> (Navy, 2015b). The Navy has recently added a new link to the NAVFAC ERP Public Web Site, which is: <http://go.usa.gov/3vE2m>.

The NAVFAC ERP Public Web Site is dedicated to providing information about the ERP initiative. The objective of this program is to identify, investigate, and remediate former waste disposal sites on Navy and Marine Corps property to reduce the risk to human health and the environment. Under the main NAVFAC website, the ERP has established public websites for the installations in its jurisdiction. These websites support the Navy's active efforts to provide accurate, timely and comprehensive information about the ERP, including IRP, petroleum, and MRP initiatives. The websites provide access to installation and site-specific information to inform the public about ongoing ERP activities and provide a forum for public comments with regard to cleanup activities.

Each installation website has a standard format consisting of five content headings or tabs: Home, Site Descriptions, Community Outreach, Administrative Records, and Links. The level of information contained within each heading is at the discretion of the Remedial Project Manager (RPM) for that installation.

Home

The Home screen is the default page that appears after navigating to a specific installation. This area provides a general overview of the installation and a summary of ongoing and/or current IRP or MRP activities. Other suggested content in this section include a brief history of the installation, site location and general geography, and other pertinent background information.

Site Descriptions

The Site Descriptions screen provides a list of ERP sites at the installation. This page can include sites currently under investigation and sites where no further action is required. Each site name may have corresponding text that describes an overview of the site, previous investigations, risk factors, and/or ongoing remedial action.

Community Outreach

The Community Outreach screen provides information related to public events, meetings, agendas, and related content. The contents can specify meeting locations, recurring dates, and details of items to be discussed for RAB meetings, hearings, and other public events related to ERP activity. Meeting agendas from previously held events can be posted. The installation's Public Affairs Officer (PAO) contact information can also be included.

Administrative Records

The Administrative Records screen provides access to records that have been tagged as publicly available. It contains a link to the searchable database providing access to an official Administrative Record.

Links

The Links screen provides links to additional information and resources that may not fit the framework or specific content of the other website pages. Links can be established to provide the public quick access to a variety of content.

4.1.4 NAS Jacksonville Employee Communication Mechanisms

To ensure that NAS Jacksonville employees and on-base residents are kept informed of the environmental studies conducted, past interviewees suggested issuing a bulletin from the installation commander and publishing notices in the on-base Navy newspaper. The 2015 online survey respondents from within the base community indicated the NAS Jacksonville online base newspaper was a preferred and readily-available format for receiving news and updates concerning the ERP.

4.2 COMMUNITY INVOLVEMENT ACTIVITIES AND SCHEDULE

This section provides an overview of the community involvement activities to be conducted at each major milestone in the environmental cleanup process. These activities have been identified to meet the goals of this CIP. If a major change occurs in the level of public interest or in cleanup activities, it may result in a need to revise the CIP and the community involvement milestones.

To achieve the objectives of informing the public and providing a means of two-way communication, many community involvement activities are performed on an on-going basis. These activities serve to inform the public of ERP cleanup activities not included in specific cleanup stages and are presented in Table 4-1.

In addition to ongoing community involvement, some activities are associated with project milestones. To meet the informational needs of the public, the Navy may explain the milestone, announce its completion, or discuss milestone status or results. Project milestones correspond to the CERCLA Cleanup Program stages and NAS Jacksonville's ERP. Project milestones and related community involvement activities are presented in Table 4-2.

4.3 COMMUNITY GRANT OPPORTUNITIES

Two programs are available to assist communities in obtaining the technical resources needed to effectively review and evaluate environmental restoration activities. These two programs are summarized below.

The DoD established the Technical Assistance for Public Participation (TAPP) program to assist community members of Restoration Advisory Boards and Technical Review Committees in participating more fully in the cleanup process affecting DoD installations and former defense sites. The TAPP program allows community members to obtain objective, independent scientific and engineering support concerning the restoration process through the issuance of government purchase orders to small businesses.

The Technical Outreach Services for Communities program guides communities through the environmental cleanup and site re-use process. This program uses the resources of researchers and professionals in the environmental science and engineering fields from more than 30 major research universities to provide communities with the independent technical information needed to actively participate in solving environmental problems.

TABLE 4-1

**ONGOING COMMUNITY INVOLVEMENT ACTIVITIES
NAVAL AIR STATION JACKSONVILLE
JACKSONVILLE, FLORIDA**

Activity	Frequency
Hold RAB Meetings (Open to the public)	Once a year
Updates to the Information Repository and Administrative Record (accessible to the public)	Continuous
Updates to the CIP	Ongoing
Contact with the community through RAB Small-group meetings or Special Briefings Community meetings	Ongoing, as required for progress updates

TABLE 4-2

**PROJECT MILESTONE COMMUNITY INVOLVEMENT ACTIVITIES
NAVAL AIR STATION JACKSONVILLE
JACKSONVILLE, FLORIDA**

CERCLA Cleanup Program Stage	Activities
Remedial Investigation (RI)	<ul style="list-style-type: none"> • Maintain the Information Repository, Administrative Record, and mailing list. • Distribute fact sheets for milestone events. • Issue news releases to local newspapers for general information.
Feasibility Study (FS) and Proposed Remedial Action Plan (PRAP)	<ul style="list-style-type: none"> • Publish public notice in local newspapers announcing: <ul style="list-style-type: none"> - Availability of RI/FS and proposed plan - 30-day public comment period - Opportunity for a public meeting • Prepare and distribute fact sheet describing proposed plan. • Hold public meeting during comment period. • Prepare public meeting transcript and place in the ROD.
Record of Decision (ROD)	<ul style="list-style-type: none"> • Prepare Responsiveness Summary of pertinent public comments as part of the ROD. • Issue fact sheet or newsletter when the ROD is signed and the final plan is available.
Remedial Design (RD) and Remedial Action (RA)	<ul style="list-style-type: none"> • Prepare fact sheet to explain final engineering design. • Announce the design's availability. • Continue community outreach to the public.
Long-Term Monitoring (LTM)	<ul style="list-style-type: none"> • Publish public notice in local newspapers announcing: <ul style="list-style-type: none"> - The commencement of the Five-Year Review - Availability of Five-Year Review Report • Conduct community interviews.

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APPENDIX A
POINTS OF CONTACT

POINTS OF CONTACT

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Aaron.Cohen@dep.state.fl.us

OTHER POINTS OF CONTACT

LOCAL AND STATE ELECTED OFFICIALS

Mr. Jim Love, City Council Member for District 14

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JimLove@coj.net

Mr. Lenny Curry, Mayor

City of Jacksonville
Mayor's Office
City Hall at St. James Building
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Jacksonville, FL 32202
Phone: (904) 630-1776
mayorcurry@coj.net

Mr. Rick Scott, Governor

Office of Governor Rick Scott
State of Florida
The Capitol
400 S. Monroe St.
Tallahassee, FL 32399-0001
Phone: (850) 488-7146

For additional elected official contact information, go to the Elected Officials webpage on the official website for the city of Jacksonville at <http://www.coj.net/about-jacksonville/elected-officials.aspx>.

LOCAL MEDIA

According to a Wikipedia entry for "Media in Jacksonville, Florida", as of 2009, Jacksonville is ranked as the 47th largest media market, with nearly 680,000 homes. *The Florida Times-Union* is the major daily newspaper in Jacksonville. Jacksonville.com is its official website. It is owned by Morris Communications, which also publishes the *Georgia Times-Union* for southeast Georgia residents. Jacksonville.com is a primary online news site, under the umbrella of the Florida Times-Union. *JAX Air News*, an online newspaper focused on activities and information needs for the base, is part of the Jacksonville.com Network.

Each of the television stations that offer a news program also has a website for news. Most of the area's printed publications also have websites that offer some or all of the current major articles online, but not all offer archival access. The wikipable under *Print Media* specifies their URLs. This Wikipedia webpage is located at https://en.wikipedia.org/wiki/Media_in_Jacksonville,_Florida.

RESTORATION ADVISORY BOARD MEMBERS*

<u>NAME</u>	<u>E-MAIL ADDRESS</u>
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Mr. John Barnard	jbarnard@jbajax.com
Ms. Felicia Boyd	fboyd@fmb-environmental.com
Ms. Aaron Cohen	aaron.cohen@dep.state.fl.us
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Mr. Peter Dao	dao.peter@epa.gov
Mr. John Flowe	jflowe@coj.net
Mr. Norman Foy	drnfoy@gmail.com
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* This list includes past and present RAB members.

APPENDIX B

ONLINE COMMUNITY SURVEY QUESTIONS

 ONLINE COMMUNITY SURVEY

Environmental Restoration Program
At Naval Air Station (NAS) Jacksonville

The Navy investigates and conducts cleanup activities under the Environmental Restoration Program on sites on NAS Jacksonville which contain contamination from historical practices. NAS Jacksonville invites employees and members of the community to complete this brief 18-question survey to express your interests, questions, and concerns regarding the NAS Jacksonville Environmental Restoration Program. The NAS Jacksonville environmental team will evaluate your survey responses confidentially and summarize the general findings for inclusion in its update of the Community Involvement Plan (CIP). Your input is a valuable part of the CIP development process and can help facilitate future measures to improve communications and community interactions (e.g., informational meetings or published updates) about this important environmental program. This survey and related community involvement activities are intended to promote awareness regarding environmental topics and ongoing activities at NAS Jacksonville. If you have not heard of the NAS Jacksonville Environmental Restoration Program but are interested in learning more about this topic, your participation in this survey is the best way to begin getting involved.

Your opinion matters, so please take a few minutes to let us know what you think by responding to the questions below. It should only take you 5 to 10 minutes to complete, and all submitted responses will remain confidential.

Please check only one response unless otherwise indicated.

1) In which area do you currently reside? (Check one)

- City of Jacksonville
- Duval County
- Clay County
- NAS Jacksonville (on base)
- Other, please specify... _____

2) How long have you lived in the area?

- Less than 2 years
- 2 to 5 years
- 5 to 15 years
- 15 or more years

3) Do you work at NAS Jacksonville?

(If Yes, and you think your co-workers or neighbors would be interested in this survey, please let them know so they can participate.)

- Yes
- No

4) If you are employed, but answered "No" to the previous question, does your place of employment provide goods or services to NAS Jacksonville employees or enlisted members of the Jacksonville Naval community?

(If "Yes", and you think your clientele or colleagues would be interested in this survey, please let them know so they can participate.)

- Yes
- No

5) Do you currently or have you ever had concerns about past or present operations at NAS Jacksonville (including base construction, traffic, etc.) negatively impacting the landscape, natural habitat, or wildlife?

- Yes
- No

6) If you answered "Yes" above, are you:

- Currently concerned. What are your concerns? _____
- Concerned in the past. What were your concerns? _____

 7) Do you have significant concerns about the following environmental topics, enough to express your concerns to the public or find others who share similar concerns?

For each topic, select "Yes" only if you would be interested in learning more or discussing the topic in a public forum; otherwise, select "No".

Note: The term "local" below refers to the area immediately surrounding NAS Jacksonville.

 Local natural resource preservation and wildlife protection?

- Yes
- No

 Local outdoor recreation and natural history?

- Yes
- No

 Local environmental pollution, degradation, or habitat loss?

- Yes
- No

 8) Do you currently participate in any types of organized public or local meetings, including school or community organizations?

- Yes
- No

 9) Which of the following media formats/communications methods do you utilize regularly (i.e., more than once per month) to stay informed about local community news and issues?

Check all that apply

- a. Printed newspaper (please list) _____
- b. Online newspaper (please list) _____
- c. Local television news channel (please list) _____
- d. Local radio station (please list) _____
- e. NAS Jacksonville newsletters and publications
- f. Public meetings
- g. Town/local municipality website
- h. Public bulletin boards (town hall or library)
- i. Electronic mailing list (email updates) or blog
- j. None of the above. I do not obtain current information about news or issues affecting my community.
- k. Other, please specify... _____

 10) Please indicate (with a letter) which response from the preceding question represents your preferred method of receiving news and information regarding local issues.

 11) For the preferred media format you indicated in your response to Question 10, would you rely on this mechanism to seek information or obtain updates regarding NAS Jacksonville environmental topics and restoration activities?

- Yes
- No, I would look elsewhere for this information..
- I am not interested in this information at all.

 12) Are you aware that the Navy has made specific commitments to stewardship of the environment, and to being a good neighbor to the community?

- Yes
- No

 13) Are you aware that the Navy encourages the community to participate in its Environmental Restoration Program?

- Yes
- No

 14) Do you think other members of your community are aware of this?

- Yes
- No

 15) Have you ever heard of the NAS Jacksonville Restoration Advisory Board (RAB), which is made up of government, citizen, agency, and interest group representatives who conduct annual public meetings about environmental restoration activities?

- Yes
- No

 16) Have you ever attended a NAS Jacksonville Restoration Advisory Board (RAB) meeting?

- Yes
- No

 17) Would you attend future open (in-person) meetings to obtain information and responses to your questions and concerns related to environmental topics specific to the NAS Jacksonville Environmental Restoration Program?

- Yes, I prefer to participate in a live forum to address these topics.
- No, I prefer to receive published information only.
- No, I am not interested in these environmental topics as they relate to NAS Jacksonville.

 18) Would you be interested in submitting an application to become an official member of the NAS Jacksonville RAB?

- Yes
- No

 Optional: If you answered "Yes" to questions 18 or 19, feel free to provide your name and email address (or mailing address) below and you will be added to the mailing list to be notified of future meetings. This information will not be shared with anyone other than the Navy environmental representative responsible for arranging the meetings.

Name: _____

Email Address: _____

Street Address: _____

City, State, ZIP code: _____

 THANK YOU for taking the time to complete this survey. We know your time is valuable, and we appreciate you taking a few minutes to engage with us in this important conversation. If you have any other thoughts you would like to share with us on the topic of environmental restoration activities at NAS Jacksonville, please add a note below.

 Additional Comments:

 This community survey will be available online at <http://fluidsurveys.com/jaxcip2015> for a period of 60 days between February 19 and April 20, 2015, so that the public has an opportunity to provide input. Please let your friends, coworkers, and neighbors know about the survey in case they would also like to provide input. The more individuals who respond to our survey, the more complete our understanding will be about the level of public interest in this topic.

APPENDIX C

SUMMARY OF ONLINE SURVEY RESULTS

Complete responses

* Filtered: Completed responses

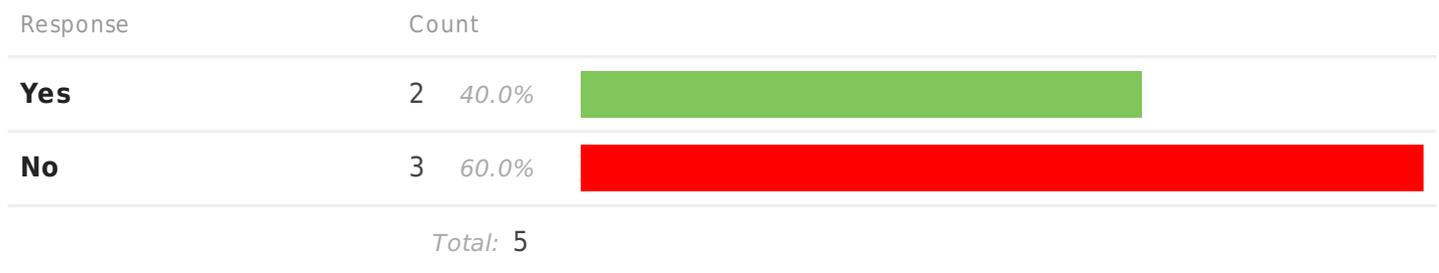
1) In which area do you currently reside? (Check one)



2) How long have you lived in the area?



3) Do you work at NAS Jacksonville?



4) If you are employed, but answered "No" to the previous question, does your place of employment provide goods or services to NAS Jacksonville civilian employees or military members of the Jacksonville Naval community?



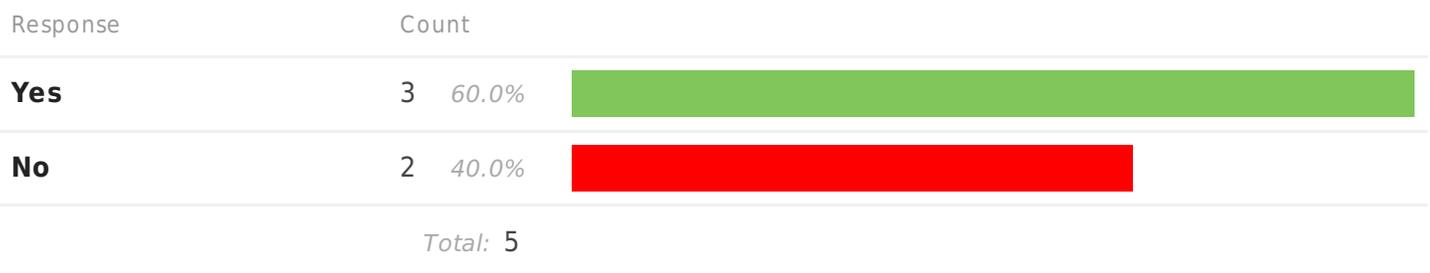
5) Do you currently or have you ever had concerns about past or present operations at NAS Jacksonville (including base construction, traffic, etc.) negatively impacting the landscape, natural habitat, or wildlife?



6) If you answered "Yes" above, are you:



Local natural resource preservation and wildlife protection?



Local outdoor recreation and natural history?



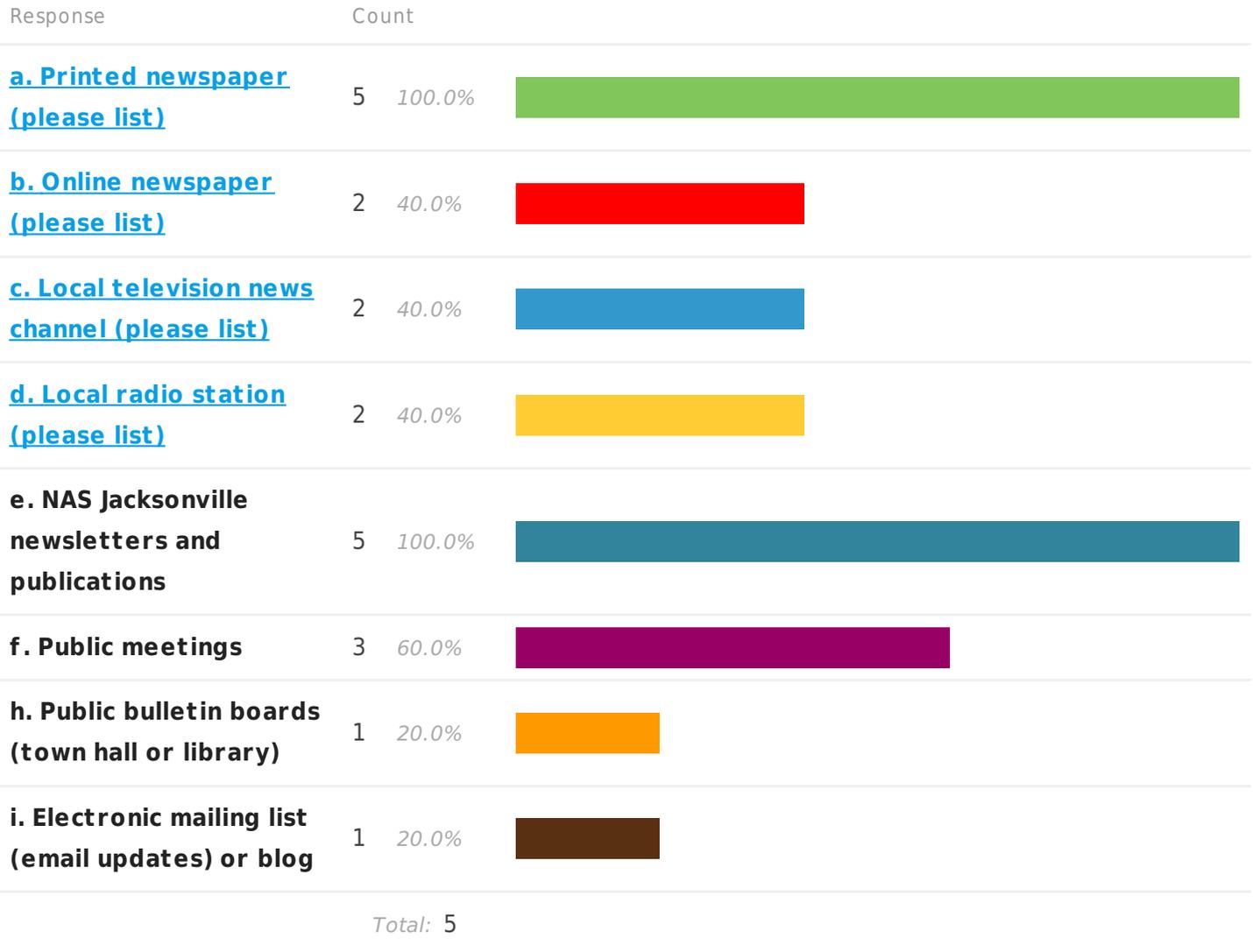
Local environmental pollution, degradation, or habitat loss?



8) Do you currently participate in any types of organized public or local meetings, including school or community organizations?



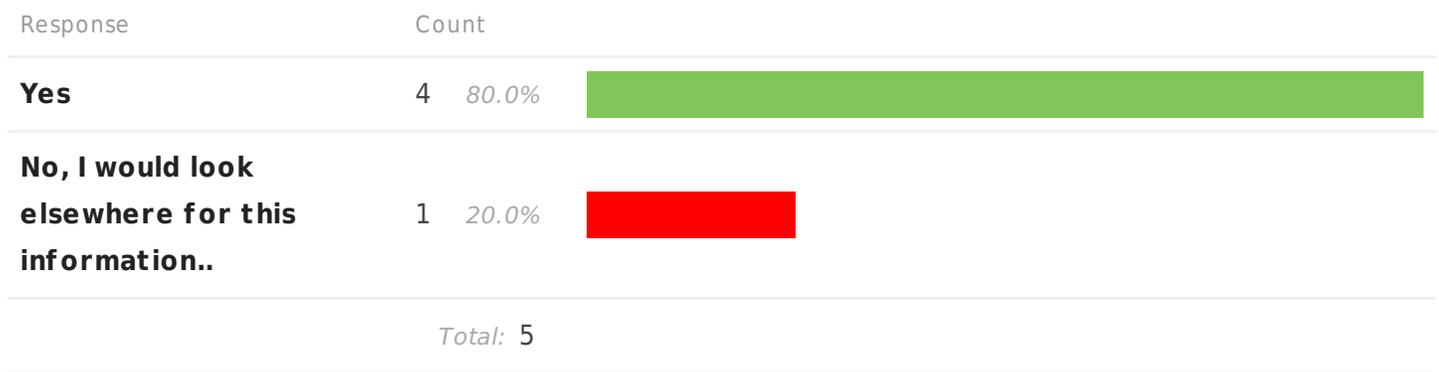
9) Which of the following media formats/communications methods do you utilize regularly (i.e., more than once per month) to stay informed about local community news and issues?



10) Please indicate (with a letter) which response from the preceding question represents your preferred method of receiving news and information regarding local issues.

Response	Count
	5 responses
d	
e	
e	
e	
i.	

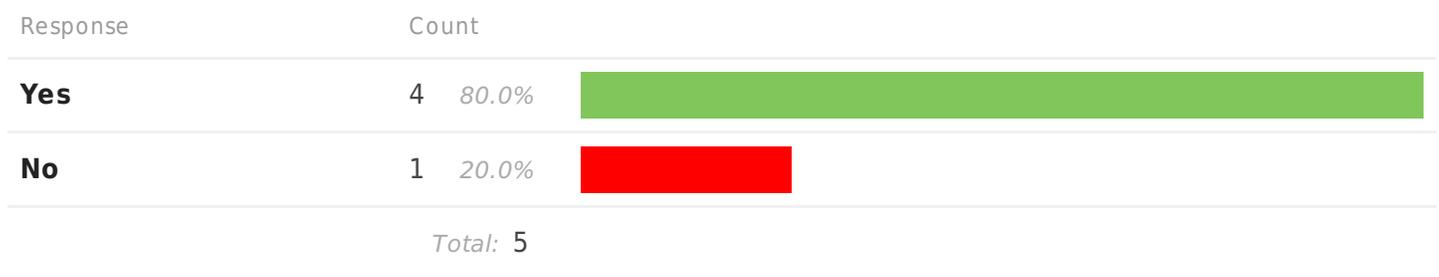
11) For the preferred media format you indicated in your response to Question 10, would you rely on this mechanism to seek information or obtain updates regarding NAS Jacksonville environmental topics and restoration activities?



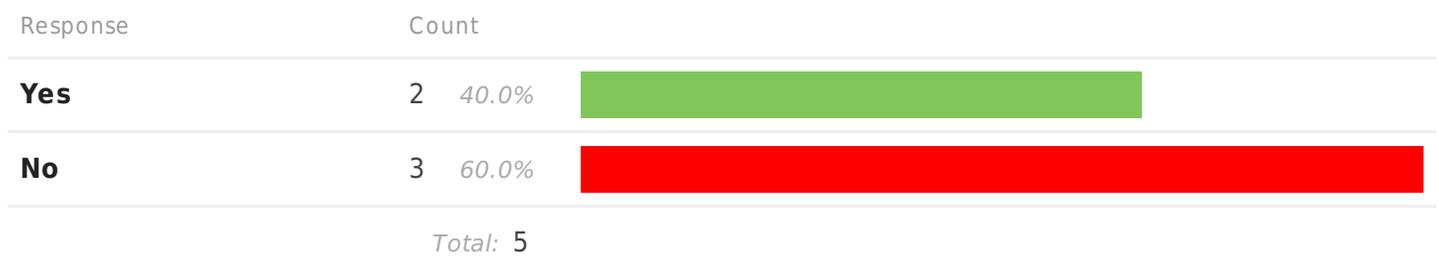
12) Are you aware that the Navy has made specific commitments to stewardship of the environment, and to being a good neighbor to the community?



13) Are you aware that the Navy encourages the community to participate in its Environmental Restoration Program?



14) Do you think other members of your community are aware of this?

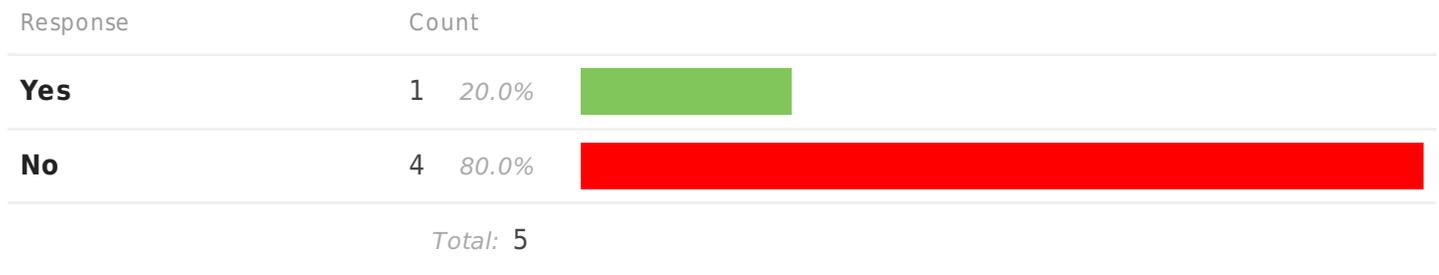


15) Have you ever heard of the NAS Jacksonville Restoration Advisory Board (RAB), which is made up of

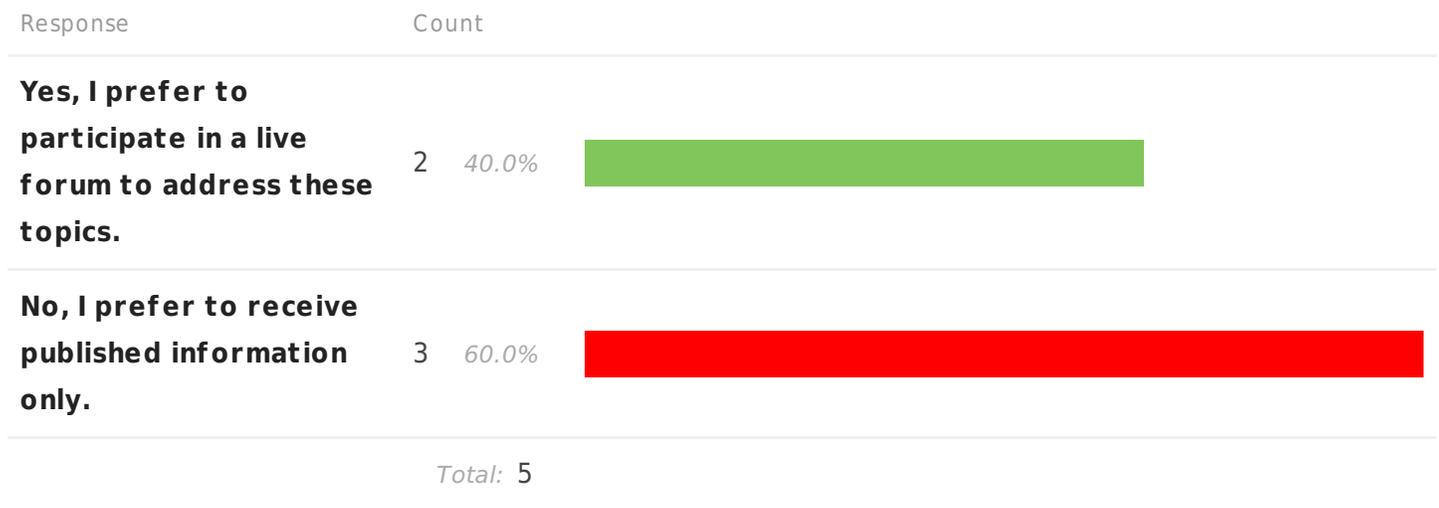
government, citizen, agency, and interest group representatives who conduct annual public meetings about environmental restoration activities?



16) Have you ever attended a NAS Jacksonville Restoration Advisory Board (RAB) meeting?



17) Would you attend future open (in-person) meetings to obtain information and responses to your questions and concerns related to environmental topics specific to the NAS Jacksonville Environmental Restoration Program?



18) Would you be interested in becoming an official member of the NAS Jacksonville RAB?

Response	Count	
Yes	3 60.0%	
No	2 40.0%	
<i>Total: 5</i>		

Optional: If you answered "Yes" to question 18, please provide your name and email address (or mailing address) below and you will be added to the mailing list to be notified of future meetings. This information will not be shared with anyone other than the Navy environmental representative responsible for arranging the meetings.

Variable	Count
Name:	2 responses
Email Address:	2 responses
Street Address:	2 responses
City, State, ZIP code:	2 responses

Jacksonville

Jacksonville fL 32210

4300 Lakeside Drive

4300 Lakeside Drive

psfoy1@gmail.com

drnfoy@gmail.com

Patricia Foy

Norman Foy

Additional Comments:

Response

Count

3 responses

I think the Navy is doing a great job with caring for the environment (to include noise) and surrounding area. In fact, I could argue the Navy is doing too much. Keep up the GREAT WORK!!! I see the results.

Thanks for asking

The environmental efforts at NAS Jacksonville are amazing. I have never had concerns because they are very proactive in publishing policies and establishing preventive measures to ensure the footprint left is minimal. I very much appreciate all that is done to preserve the wildlife and environment as much as possible while still meeting the mission and supporting the community.

Ongoing environmental concerns about impact of new construction, habitat loss, etc.

Just general--birds, wildlife

Florida Times Union, local Riverside paper

Times Union

JAX AIR NEWS

NY Times

WJCT

690am 104.5

APPENDIX D
ENVIRONMENTAL SETTING

ENVIRONMENTAL SETTING

This appendix presents information regarding the physical and environmental characteristics of NAS Jacksonville. Except where other references are cited, the information presented below was summarized from the Preliminary Assessment (Malcolm Pirnie, 2007) in Sections D.1 through D.11 and the information presented in D.12 is copied from the 2014 SEIS (Navy, 2014).

D.1. TOPOGRAPHY

NAS Jacksonville is located in the Coastal Plain physiographic province, which is predominantly flat with marshy areas of various sizes scattered among areas of slightly elevated high ground. The Station is situated on a gentle rise between the St. Johns River and Ortega River. Elevations at NAS Jacksonville range from sea level to approximately 25 feet above mean sea level. The point of highest elevation is located in the southern portion of the Station, and the lowest points lie along the shorelines of the St. Johns River.

D.2. CLIMATE

NAS Jacksonville is characterized by a humid and semitropical climate. The average annual temperature is 70 °F. Average daily temperatures range from approximately 50°F in the winter to 80°F in the summer. Prevailing winds are northeasterly in fall and winter and southwesterly in spring and summer. Average annual rainfall in Duval County is 54 inches, with most rainfall occurring from June through September. Winters are typically mild and dry. During the summer months, thunderstorms occur at a typical frequency of every other day and may yield several inches of rainfall. The Jacksonville area is subject to tropical storms and hurricanes, sometimes with tornadic activity, which are most likely to occur between June and November.

D.3. GEOLOGY

Regional geology consists of hundreds of feet of marine sediments, which were deposited in terraces during prehistoric fluctuations of sea level. The terraced deposits are in the form of ridges that tend to parallel the current coastline. The surficial deposits range from 25 to 100 feet thick and consist of sediments from Late Miocene to recent age. The sediment is highly variable and includes sand, shelly sand, coquina, silt, clay, and shell beds. Below these sediments lie several limestone formations, including (from shallowest to deepest) the Hawthorn, Ocala Limestone, Avon Park, and Oldsmar Formations. The Oldsmar Formation comprises the lower part of the Floridan aquifer system in Duval County. The Avon Park Formation contains interbedded dolomite and limestone, and the Ocala Limestone Formation is nearly pure limestone. The Hawthorn Group, which lies between the Ocala Formation and the modern sand deposits, consists of lithologically variable carbonate sediments (NRCS, 1998).

D.4. SOIL TYPES

The Natural Resources Conservation Service (NRCS) has mapped fourteen different soil types at NAS Jacksonville. The most commonly observed soil types are poorly drained fine sands and loamy soil (NRCS, 2013).

D.5. VEGETATION

NAS Jacksonville is located in what is commonly referred to as the Flatwood section of Duval County. It is a nearly level area consisting of intricate patterns of low ridges interspersed with ponds, swamps, and several knolls. Natural vegetation consists chiefly of pine, palmetto, live oak, turkey oak, magnolia, and locally adapted shrubs. Low areas, which are frequently covered with water, contain cypress and water-tolerant hardwoods.

D.6. HYDROLOGY

NAS Jacksonville is located on a peninsula between the St. Johns River and its tributary, the Ortega River. The St. Johns River originates near Fort Pierce, Florida, approximately 300 miles south of NAS Jacksonville. Tidal influence of the St. Johns River ranges from 106 to 161 miles upstream from the mouth. The St. Johns River, its tributaries, and lakes within the basin are designated as Class III waterways and are used for recreational purposes and the propagation of fish and wildlife. Most of NAS Jacksonville lies within the watershed of the St. Johns River.

NAS Jacksonville is situated on the central and eastern portion of a ridge line between the Ortega and St. Johns Rivers. Surface water drainage across the Station is directed by topographic features to both rivers, according to the side of the dividing ridge line on which it occurs.

D.7. HYDROGEOLOGY

Unconsolidated deposits of sand, shell, and clay comprise the surficial aquifer underlying NAS Jacksonville. The direction of groundwater flow in the surficial aquifer tends to reflect the surface topography of the area, as verified by U.S. Geological Survey (USGS) in their 1996 evaluation of groundwater at Operable Unit (OU) 1 (USGS, 1996). Throughout much of NAS Jacksonville, groundwater flow in the surficial aquifer is generally toward surface water features, including the St. Johns River to the southeast, the Ortega River to the west, and smaller tributaries of these two principal drainage features.

The Hawthorn Formation is a complex aquiclude that acts as a confining bed to the Floridan aquifer system and restricts the downward percolation of water from the surficial aquifer. The Floridan aquifer system is the principal source of fresh water in northeast Florida. It is composed of the lower portion of the Hawthorn

Formation, and the Ocala, Lake City, and Avon Park limestones. Recharge to the Floridan aquifer results from the downward percolation of precipitation in the sandy uplands west and southwest of Jacksonville. The top of the Floridan aquifer in the vicinity of NAS Jacksonville occurs at a depth of approximately 400 feet below ground surface (bgs). Floridan aquifer wells in the vicinity of the Station are under sufficient artesian pressure to flow at the surface. Water in the Floridan aquifer system is used as a drinking water source in the NAS Jacksonville area.

D.8. NATURAL RESOURCES

NAS Jacksonville is located within an area historically dominated by a pine flatwoods matrix dotted with numerous small wetlands, a landscape that typically supports a broad array of wildlife species. However, because of intensive development on the station and in surrounding urban areas, the varieties of wildlife have been reduced over the years. Small mammals such as gray squirrel, raccoon, rabbits, skunk, opossum, and occasionally red and gray fox are common on the station. Various species of lizards, frogs, toads, snakes, and turtles are also present. NAS Jacksonville and the adjacent waters provide year-round habitat for numerous waterfowl and terrestrial birds. Terrestrial bird species include pine warbler, red-headed woodpeckers, tufted titmouse, brownheaded nuthatch, vultures, kestrels, Carolina wrens, and rough-winged swallows. Migratory waterfowl species include blue-winged teal, northern shoveler, gadwall, and ring-necked duck.

NAS Jacksonville supports approximately 656 acres of pine forest, including 156 acres of planted pine and 500 acres of mesic flatwoods. Most of the forests are mature with ages ranging from 35 to 50 years or more. All of the Station's forest stands have been inventoried as part of an overall forestry resources management effort. The primary management goal for the forestland at NAS Jacksonville is outdoor recreation and wildlife management, with sustainable timber production as a minor objective.

D.9. WETLANDS

Wetlands are considered transitional zones between the terrestrial and aquatic environments. These areas are characterized by physical, chemical, and biological features indicative of hydrological conditions. Wetlands serve as a valuable resource for groundwater recharge within the region and are currently regulated by the U. S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act of 1972. Wetlands are defined by USACE as "... those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." The wetland communities at NAS Jacksonville consist of floodplain swamp, bottomland forest, estuarine tidal marsh, dome swamp and depression marsh.

D.10. ENDANGERED/THREATENED SPECIES

The Florida Natural Areas Inventory (FNAI) conducted a survey for rare animal species on NAS Jacksonville in 1996-1997, and a survey for wood storks and bats in 2004 (FNAI, 2004). According to the surveys, several species of threatened or endangered animals have been identified at NAS Jacksonville or in adjacent waters. At the time of the survey, the manatee was listed as federally endangered and the American bald eagle was listed as federally threatened. The manatee was also listed as state endangered, and the American bald eagle and least tern were listed as state threatened. There were five species listed as state species of special concern: the gopher tortoise, little blue heron, snowy egret, tricolored heron, and Sherman's fox squirrel.

Two rare plant species have been documented at NAS Jacksonville: the southern pine lily (*Lilium catesbaei*) and the diverse-leaved crownbeard (*Verbesina heterophylla*). The southern pine lily (or Catesby's lily) is listed as threatened by the State of Florida. The diverse-leaved crownbeard is tracked by FNAI because there are only 30 populations known in the world; it is currently proposed for listing as endangered by the State of Florida.

A search of the FNAI website was conducted on March 27, 2013 to verify that the information for the site as described above was still applicable (FNAI, 2013). Additional information, including a complete list of all currently protected species present in Duval County, is available online at: www.fnai.org.

D.11. CULTURAL AND ARCHAEOLOGICAL RESOURCES

According to the Integrated Cultural Resources Management Plan for the Jacksonville Naval Air Station (Navy, 2002), there are no archaeological sites at NAS Jacksonville listed or eligible for listing in the National Register of Historic Places. A detailed Phase I inventory of the archaeological and historic resources of NAS Jacksonville was completed in 1997. Four archeological sites were deemed potentially significant, and were subject to Phase II archaeological investigations to determine their eligibility for inclusion in the National Register of Historic Places. Findings of "not significant" were reported for each of the four sites; therefore, the sites were not deemed eligible for or listed in the National Register of Historic Places.

A historic architectural survey was also completed in 1997. A total of 262 structures were evaluated for architectural and historical significance. The survey identified 7 individual properties and 5 historic districts with structures that were eligible for listing, but none of the eligible structures is listed in the National Register of Historic Places (Navy, 2002).

D.12. NAS JACKSONVILLE EXISTING ENVIRONMENT

Information regarding the existing environment at NAS Jacksonville was updated in a SEIS that was written in support of the transitioning of P-3C aircraft to P-8A aircraft, and uses the year 2014 as the baseline year for analysis (Navy, 2014). A copy of Section 3 of the SEIS, NAS Jacksonville Existing Environment, is provided herein, which provides detailed information regarding significant activities and operations conducted at NAS Jacksonville, as well as how these activities are estimated to impact the site-specific, local, and the surrounding environment. Some of the attached information was included in Section 3 of this CIP.

3 NAS Jacksonville Existing Environment

This chapter provides a description of the existing environment that could be affected by the proposed action at NAS Jacksonville. As directed by NEPA, Navy procedures for implementing NEPA (32 CFR Part 775), and Navy environmental instructions, the description of the affected environment focuses on those resources potentially subject to impacts. Therefore, the level of detail used in describing a resource is commensurate with the anticipated level of potential environmental impact. As discussed in Chapter 1.3.2, three resource areas (infrastructure and utilities, community services, and transportation) have not been discussed in this SEIS for NAS Jacksonville because the proposed action would not result in noticeable effects to these resources. Resources at and in the vicinity of NAS Jacksonville would be affected by changes to aircraft operations and number of personnel, and new development on the installation. Therefore, the analysis of the affected environment includes the following: airspace and airfield operations, noise, air quality, land use, socioeconomics, topography and soils, water resources and wetlands, biological resources, cultural resources, hazardous materials and waste management, and safety.

3.1 Airspace and Airfield Operations

This chapter describes the existing airfield operations at NAS Jacksonville and the airspace in which the P-8A aircraft operate. The study area for airspace is the NAS Jacksonville airfield and airspace surrounding the station. This chapter does not address the operations or airspace at the training ranges that NAS Jacksonville aircraft utilize because those training activities would not change as a result of the proposed action. As noted in Chapter 1.3.4, the AFTT EIS/OEIS analyzes existing P-3C and future P-8A training requirements in at-sea portions of existing range complexes, OPAREAs, and testing ranges. P-3C and P-8A aircraft at NAS Jacksonville do not conduct any training operations at OLF Whitehouse; therefore, this SEIS does not analyze training operations at OLF Whitehouse because those training activities would not change as a result of the proposed action.

3.1.1 Airspace

Airspace management is defined as the direction, control, and handling of flight operations in the “navigable airspace” that overlies the geopolitical borders of the U.S. and its territories. Navigable airspace is considered to be airspace above the minimum altitudes of flight prescribed by regulations under U.S.C. Title 49, Subtitle VII, Part A, and includes airspace needed to ensure safety in the takeoff and landing of aircraft (49 U.S.C. § 40102). Congress has charged the Federal Aviation Administration (FAA) with responsibility for developing plans and policy for the use of the navigable airspace and assigning by regulation or order the use of the airspace necessary to ensure the safety of aircraft and the efficient use of the airspace (49 U.S.C. § 40103(b); FAA Order 7400.2 2004). The FAA considers multiple and sometimes competing demands for airspace in relation to civil, commercial, and military aviation. Specific rules and regulations concerning airspace designation and management are listed in FAA Order 7400.2.

Under the National Airspace System, the airspace above NAS Jacksonville John Towers Field is designated as Class D airspace. The Class D airspace is a cylinder-shaped airspace from the surface to 2,600 feet above mean sea level (msl) within a 5.3-nautical-mile (NM) radius of the airfield. Air traffic control services to all aircraft operating within it are provided by the NAS Jacksonville Control Tower, and private and commercial air traffic is active in the airspace near NAS Jacksonville. Jacksonville Terminal Radar Approach Control, located at Jacksonville International Airport, provides the connection between the en-route traffic control service and John Towers Field within the airspace delegated by the Jacksonville Air Route Traffic Control Center.

Aircraft flying patterns approaching or departing from John Towers Field normally fly specific routes, i.e., flight tracks. Flight tracks are represented as single lines on maps and depict the average route of the

aircraft over the ground. These routes were established on the basis of land use and obstacle clearance, civil air traffic routes and available airspace, and navigational aid coverage, as well as current operational characteristics of the aircraft operating at NAS Jacksonville. These tracks are affected by aircraft performance, pilot technique, other air traffic, and weather conditions such that the actual flight path (or track) is an airway corridor up to 8 nautical miles wide rather than a single line as depicted on the maps. P-8A flight tracks associated with John Towers Field are illustrated in Figure 3-1.

3.1.2 Airfield Operations

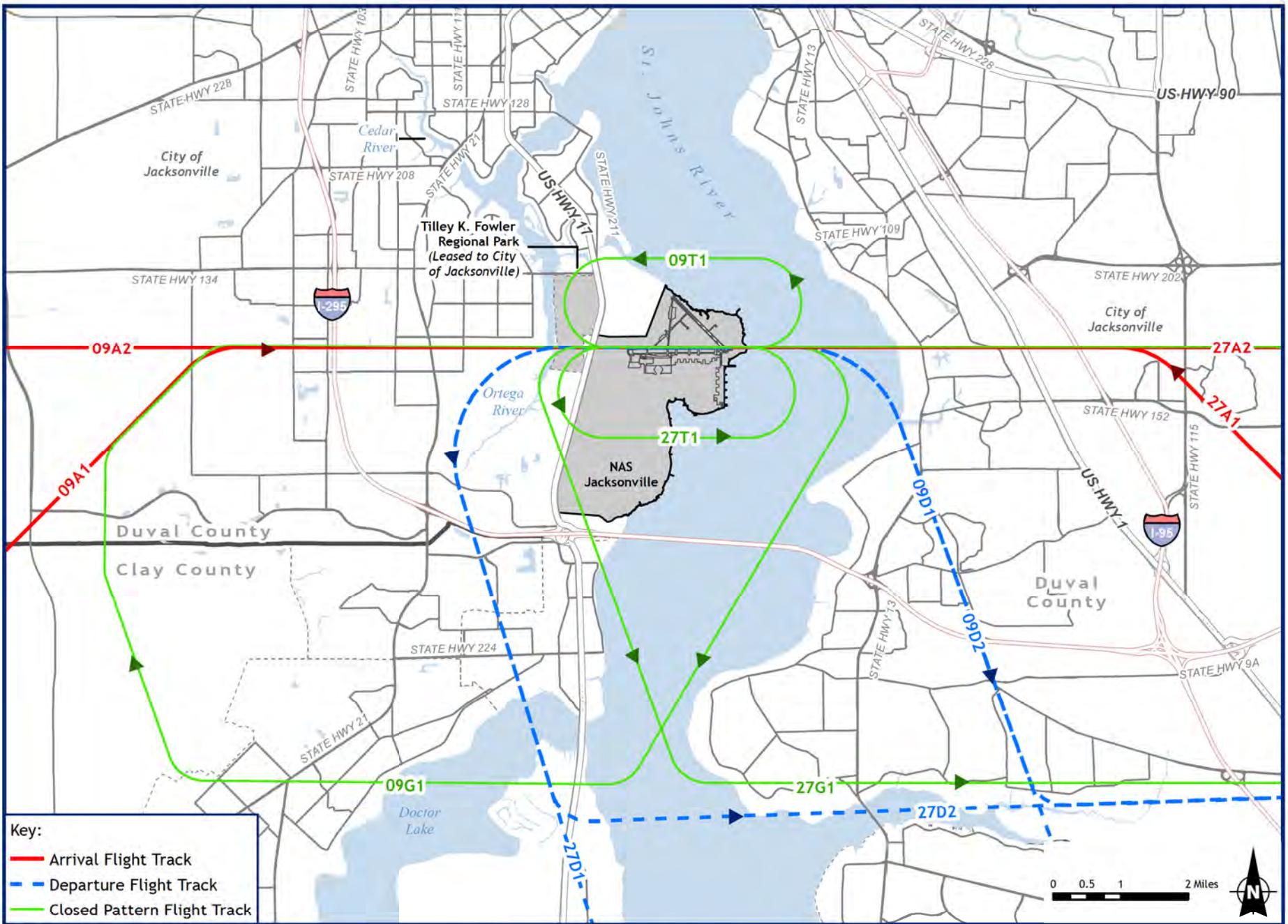
The airfield at NAS Jacksonville (John Towers Field) consists of two intersecting runways, Runway 10/28 and Runway 14/32. Runway 10/28 is a Class B Runway, 8,000 feet long, and is the primary runway for military fixed-wing aircraft. Runway 14/32 is a Class A runway, 5,977 feet long, and is frequently used for pattern work by helicopters. John Towers Field is open 7 days per week, 24 hours per day.

A flight operation refers to any takeoff or landing. The takeoff and landing may be part of a training maneuver (or pattern) associated with the air station runway or may be associated with a departure or arrival of an aircraft.

Basic flight operations at NAS Jacksonville are:

- **Departure.** An aircraft taking off to a local training area, a non-local training area, or as part of a training maneuver.
- **Straight-In/Full-Stop Arrival.** An aircraft lines up on the runway centerline, descends gradually, lands, comes to a full stop, and then taxis off the runway.
- **Instrument Arrival.** An aircraft approaches the runway 500 feet above the altitude of the landing pattern. Approximately halfway down the runway, the aircraft performs a 180-degree turn to enter the landing pattern. Once established in the pattern, the aircraft lowers landing gear and flaps and performs a 180-degree descending turn to land on the runway.
- **Ground-Controlled Approach Box.** A radar or “talk down” approach directed from the ground by Air Traffic Control (ATC) personnel. ATC personnel provide pilots with verbal course and glide-slope information, allowing them to make an instrument approach during inclement weather. The Ground Control Approach (GCA) Box is counted as two operations—the landing is counted as one operation, and the takeoff is counted as another.
- **Touch-and-Go Operation.** An aircraft lands and takes off on a runway without coming to a full stop. After touching down, the pilot immediately goes to full power and takes off again. The touch-and-go (T&G) is counted as two operations—the landing is counted as one operation, and the takeoff is counted as another.

For this SEIS, the Navy used the NASMOD as the best available tool for modeling airfield flight operations to support the noise assessment and other operational planning. The results of this analysis are presented in Table 3-1 as the 2014 baseline aircraft operations.



Source: ESRI, 2012; Wyle, 2007

Figure 3-1
P-3C and P-8A Flight Tracks at NAS Jacksonville
Jacksonville, Florida

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Under the 2014 baseline, pilots perform approximately 43,623 flight operations annually at John Towers Field (Wyle 2013). As shown on Table 3-1, airfield operations at John Towers Field are predominantly P-3C and P-8A operations, which each account for approximately 32 percent of the total airfield operations (Wyle 2013). About 8 percent (3,524 operations) of the total annual operations occur at night (see Appendix D for complete air operations data).

Table 3-1 Annual Modeled 2014 Baseline (No Action Alternative) Operations at NAS Jacksonville

Aircraft Type	Departure	Straight-in/ Full-Stop/		Touch-and-Go	GCA Box	Total
		Arrival	Instrument Arrival			
P-3C	2,042	1,707	336	7,264	2,247	13,596
P-8A	2,576	2,402	175	6,517	2,214	13,884
C-130	115	102	13	120	96	446
Cessna 210	125	112	13	0	12	262
MD-500	125	125	0	0	0	250
T-34	845	836	9	0	54	1,744
PA-42	124	113	12	0	10	259
BE-20	346	290	56	0	66	758
H-1	102	93	9	0	16	220
FA-18E/F ²	364	300	64	0	94	822
C-5A	101	83	18	0	10	212
C-40	415	355	60	0	22	852
E-2C	667	606	61	0	70	1,404
MH-60R	3,810	3,810	0	476	636	8,732
Transient Aircraft	85	72	13	0	12	182
Total Airfield Operations¹	11,842	11,006	839	14,377	5,559	43,623

Notes:

¹ Total air operations numbers may not sum exactly due to rounding.

² Some FA-18E/F operations include FA-18C/D aircraft but are modeled as the louder FA-18E/F aircraft.

3.2 Noise

Several metrics are available to quantify the physical characteristics of the sound produced by an activity and to relate these physical characteristics to the potential human responses to it. Two metrics are used in this SEIS to describe aircraft noise exposure: the Day Night Average Sound Level (DNL) and the Sound Exposure Level (SEL).

DNL is a composite noise metric accounting for the sound energy of all noise events in a 24-hour period. Aircraft noise events are associated with flight operations and ground engine-maintenance run ups. The DNL metric includes a 10-decibel (dB) penalty for nighttime operations (10:00 PM to 7:00 AM) because people are more sensitive to noise during normal sleeping hours, when ambient noise levels are lower. The DNL metric has been determined to be a reliable measure of long-term community reaction to transportation noise, especially aircraft noise, and has become the standard metric used by many federal and state governmental agencies and organizations in the United States, such as the EPA and the FAA, for assessing aircraft noise.

The DNL for the community is depicted as a series of contours that connect points of equal value, usually in 5-dB increments. It is calculated based on modeled aircraft noise events; calculated noise contours

therefore do not represent exact scientific measurements. The area between two specific contours is known as a noise zone.

The noise zones used in this study are:

- 65 to 70 dB DNL;
- 70 to 75 dB DNL; and
- Greater than 75 dB DNL.

The Navy has developed guidance for communities on the types of land uses that are compatible or not compatible within these noise zones. Navy guidance begins with the 65 to 70 dB DNL noise zone. DNL noise zones have historically been used as the noise metric for NAS Jacksonville. For a detailed discussion of noise and noise modeling, please refer to part one of Appendix D, Background Noise Information, and the Wyle Laboratories, Inc., Noise Report WR13-02.

SEL is a metric used for a single flight event. It is an integrated metric that represents both the intensity of a sound and its duration. Individual time-varying noise events, such as aircraft overflights, have two main characteristics: a sound level that changes throughout the event, and a period of time during which the event is heard. SEL provides a measure of the net exposure of the entire event, but it does not directly represent the sound level heard at any given time. During an aircraft flyover, SEL would include both the maximum noise level and the lower noise levels produced during onset and recess periods of the overflight.

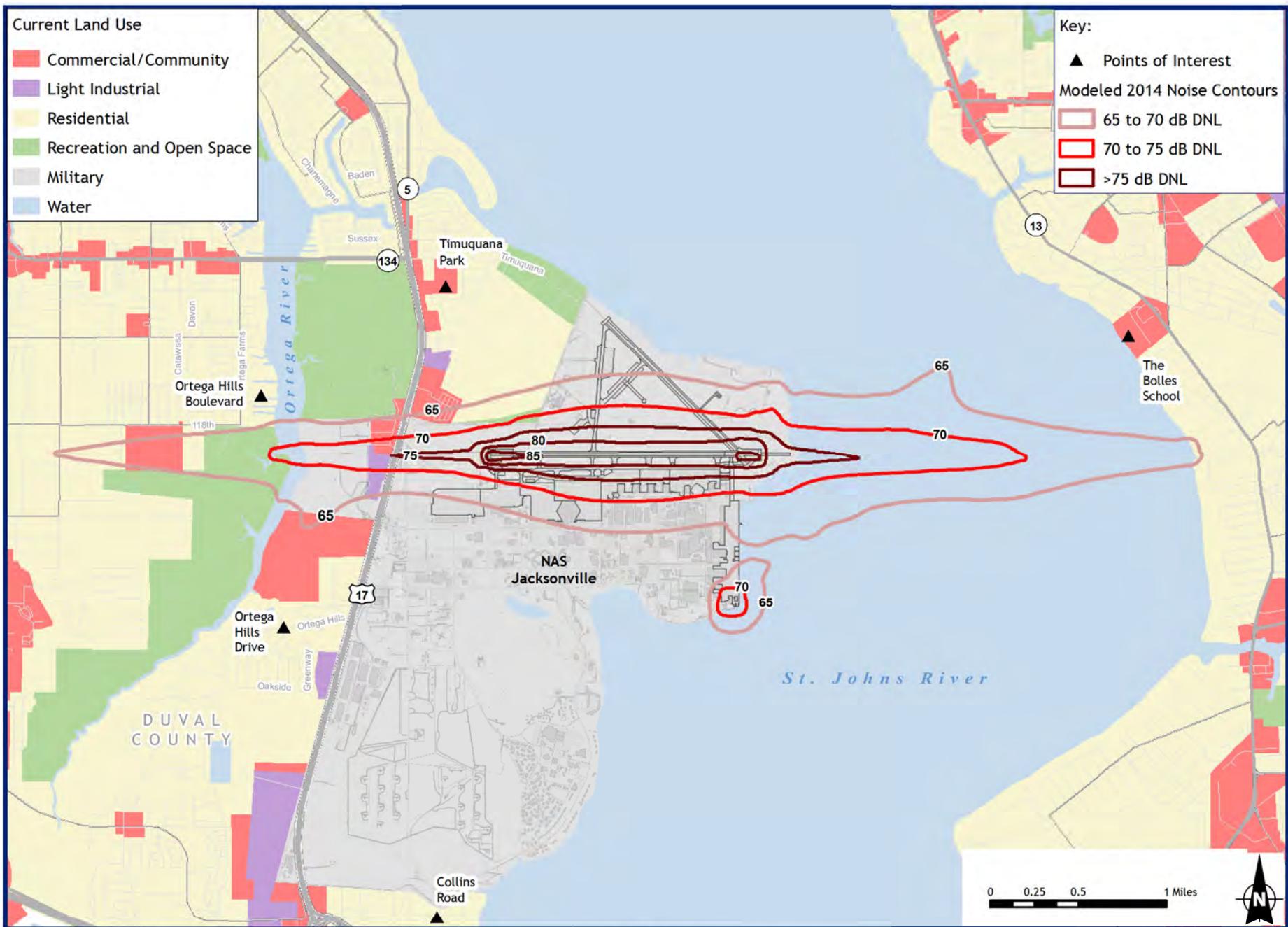
Flight operations are the primary source of noise generated at NAS Jacksonville. As shown in Table 3-1, flight operations are dominated by the P-8A, P-3C, and MH-60R aircraft. P-8A aircraft contribute approximately 49 percent of the acoustic energy to the noise environment at NAS Jacksonville, while transient FA-18E/F are the loudest aircraft operating at the station (Wyle 2013). Although the FA-18E/F aircraft operations are only a small portion of the overall operations, they affect the DNL contours because an FA-18EF operation is typically 5 to 20 dB louder than the same operation of another aircraft.

At NAS Jacksonville, ground engine-maintenance run ups are conducted in an enclosed structure, either in the engine test cell (Building 873) for out-of-frame testing or in the hush house (Building 777) for in-frame testing. P-3C and P-8A in-frame and P-3C out-of-frame engine testing is also conducted at test stands located on the northeast boundary of the station. Pre-flight engine run ups are generally not conducted for the types of aircraft stationed at NAS Jacksonville.

3.2.1 DNL Noise Zones and SEL Noise

The noise zones representing the 2014 baseline environment for NAS Jacksonville are shown on Figure 3-2; they were developed using the estimated annual airfield operations shown in Table 3-1 and average annual engine-maintenance run ups as detailed in Appendix D, Background Noise Information, and Wyle Laboratories, Inc., Noise Report WR13-02.

The 65 dB DNL noise contour extends approximately 2.5 miles east and 2.5 miles west of Runway 10/28, primarily due to transient military tactical jet aircraft (modeled as FA-18E/F) arrivals and FA-18E/F GCA pattern arrivals, respectively. The 65 dB DNL noise contour extends about 1 mile to the south and one-half mile to the north of Runway 10/28, attributable to FA-18E/F departures. The 75 dB and greater DNL noise zone is largely contained within the station boundaries. Although the FA-18E/F aircraft only accounts for 2 percent of the overall flight operations, it is 5 to 20 dB louder in SEL than other aircraft at NAS Jacksonville and is therefore responsible for a large portion of the DNL noise zones.



Source: ESRI, 2012; Wyle, 2013; City of Jacksonville 2012.

Figure 3-2
 Modeled 2014 Baseline DNL Noise Contours at NAS Jacksonville
 Jacksonville, Florida

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The off-station area and estimated 2014 population in the modeled baseline noise zones are provided in Table 3-2. The population shown is derived from the 2010 U.S. Census population data. Most of the off-station land within the existing 65 dB and greater DNL noise contour is located west of the installation and includes mixed uses such as residential, commercial, public facilities, and open space. However, 36 percent of the area within the existing 65 dB and greater noise contour is over open water. Land uses within the baseline noise zones are discussed further in Chapter 3.4.

Table 3-2 Off-Station Area and Estimated Population within Modeled 2014 Baseline (No Action Alternative) DNL Noise Zones for NAS Jacksonville

Noise Zone	2014 Baseline ¹	
	Area (acres) ²	Population ³
65 to 70 dB DNL	848	909
70 to 75 dB DNL	217	180
75 dB DNL or greater	10	4
Total	1,075	1,093

Source: Wyle 2013, U.S. Census Bureau 2010a.

Notes:

- ¹ The 2014 baseline noise analysis in this SEIS models a similar number of FA-18E/F operations to the 2008 FEIS baseline scenario, but the mix of straight-in and overhead break arrivals differs. The 2008 FEIS modeled only 22 percent of arrivals as straight-in, while this SEIS models approximately 92 percent straight-in. The change is due to a revision of the P-8A flight training requirements. The increase in the modeled 2014 baseline noise zone “lobe” lengths to the west, east, and north of the airfield compared to the 2008 FEIS noise zones is primarily due to this change in the percentage of straight-in arrivals versus overhead break arrivals.
- ² The area within the 65 dB and greater DNL noise zone does not include the area within the boundary of NAS Jacksonville.
- ³ 2010 Census data are reported by blocks. The population shown is a proportion of the census block based on the geographic area of the noise zone. These data should be used for comparative purposes only and are not considered actual numbers within the noise zones.

Key:

- dB = Decibel.
- DNL = Day-night average sound level.

The DNL and SEL for the loudest flight operations for the P-3C, P-8A, and FA-18E/F aircraft were modeled for five selected locations in the vicinity of NAS Jacksonville (see Table 3-3 and Figure 3-2). The locations were selected based on comments received during the public comment period for the 2008 DEIS to represent points of interest (POIs) to the public in the vicinity of NAS Jacksonville. Both Ortega Hills Drive and Ortega Farms Boulevard experience the highest DNL of 60 dB. The remaining three locations are exposed to 55 dB DNL or less. Although specific flights would be noticeable at these two locations, the DNL indicates that periods would occur when aircraft overflights are not occurring.

Table 3-3 Outdoor SEL (dB) and DNL (dB) for Modeled 2014 Baseline (No Action Alternative) Aircraft Operations at Points of Interest near NAS Jacksonville¹

Point of Interest	SEL P-3C	SEL P-8A	SEL FA-18E/F	DNL All Modeled Aircraft
Ortega Hills Drive	92	99	110	60
Collins Road	84	85	94	47
Timuquana Park	78	87	102	55
Ortega Farms Boulevard	87	90	108	60
The Bolles School	78	87	102	54

Source: Wyle 2013.

Note:

¹ The modeled sound is representative only for each individual location and does not provide a representative measure of the sound heard during aircraft overflights in other areas.

3.2.2 Supplemental Noise Analysis

Aircraft noise may interfere with a broad range of human activities, including speech; communication; listening to radio, television, or other audio equipment; studying; relaxation; and sleep. Community noise studies conducted in the U.S. since the early 1970s have indicated that adverse effects resulting from aircraft operations, such as annoyance, sleep interference, and speech interference, are generally associated with exposure to sound levels exceeding 65 dB DNL.

This SEIS examines the potential for sleep disturbance, speech interference, and classroom learning interference using metrics of Probability of Awakening (PA), Numbers of Events at or above a Selected Threshold (NA), and Equivalent Sound Level (L_{eq}). The methodologies for these three analyses are described in detail in Appendix D, Background Noise Information, and Wyle Laboratories, Inc., Noise Report WR13-02.

Common to all analyses is the determination of indoor sound levels. The noise models compute the outdoor noise levels that must be converted to interior noise levels. For the purpose of this analysis, typical Noise Level Reductions (NLR) of 15 dB and 25 dB were used to account for the effect on a typical home with windows open and windows closed, respectively (FICON 1992). The same NLR values were applied to schools.

All POIs are considered to be at or near residential areas and relevant to sleep disturbance and speech interference analyses. Only school POIs were relevant to the classroom learning interference analysis.

Sleep Disturbance

The analysis of sleep disturbance, PA, is a calculation of the probability of awakening from a single aircraft overflight. Thus, it is based on the outdoor SEL at each of the POIs, converted to an indoor SEL. Events that were considered are those that occur between 10:00 PM and 7:00 AM Table 3-4 presents the results of the sleep disturbance analysis for the five POIs. For the 2014 baseline (No Action Alternative), the PA ranges from 3 percent to 7 percent with windows open and ranges from 1 percent to 5 percent with windows closed. The P-8A T&G pattern operations are the primary contributor to the PA at all POIs.

Table 3-4 Analysis of Average Nightly (10:00 PM to 7:00 AM) Probability of Awakening for Representative Residential Receptors for the 2014 Baseline (No Action Alternative) Scenario

Point of Interest	Windows Open ¹	Windows Closed ¹
Ortega Hills Drive	6%	3%
Collins Road	3%	1%
Timuquana Park	5%	3%
Ortega Farms Boulevard	7%	5%
The Bolles School	5%	2%

Note:

¹ NLRs of 15 dB and 25 dB for windows open and closed, respectively.

Indoor Speech Interference

The analysis of indoor speech interference is based on the number of noise events per daytime hour that are greater than the maximum sound level of 50 dB indoors. Table 3-5 presents the results of the speech interference analysis for the 2014 baseline scenario for the five POIs. For the 2014 baseline scenario, four of the five sites have more than one speech-interfering event per daytime hour with windows open, while Ortega Farms Boulevard has three events. None of the sites have more than one speech-interfering event per daytime hour when the analysis is run assuming the windows are closed. Both the P-3C and the P-8A T&G pattern operations account for the majority of the speech-interfering events at all POIs.

Table 3-5 Analysis of Average Daily Indoor Speech Interference for Representative Residential Receptors for the 2014 Baseline (No Action Alternative) Scenario

Point of Interest	Indoor Number of Events per Daytime Hour ¹	
	Windows Open ²	Windows Closed ²
Ortega Hills Drive	2	1
Collins Road	1	0
Timuquana Park	2	1
Ortega Farms Boulevard	3	1
The Bolles School	2	1
Number of Sites Exceeding 1 Intrusive Event per Hour	4	0
Minimum Number of Intrusive Events per Hour if Exceeding 1	2	0
Maximum Number of Intrusive Events per Hour if Exceeding 1	3	0

Notes:

¹ Number of Annual Average Daily DNL Daytime Events at or above an Indoor Maximum (Single-Event) Sound Level (L_{max}) of 50 dB;

² NLRs of 15 dB and 25 dB for windows open and closed, respectively

Classroom Learning Interference

To evaluate the potential for classroom learning interference, noise levels were calculated for each of the schools identified as a POI using the L_{eq} metric, which provides the average sound level generated by aircraft operations during an 8-hour school day (i.e., 8:00 AM to 4:00 PM). Also considered in the potential for classroom learning interference is a metric similar to the speech interference metric; that is, the number of noise events per daytime hour that are greater than the maximum sound level of 50 dB indoors but confined to only those events that occur during the 8-hour school day (i.e., 8:00 AM to 4:00 PM). Table 3-6 contains the results of the classroom learning interference analysis for the Bolles School.

For the 2014 baseline scenario, aircraft noise at the Bolles School exceeds the indoor $L_{eq(8h)}$ threshold of 35 dB for continuous noise by 5 dB with windows open, primarily due to the FA-18E/F arrival operations at Runway 28. The majority of speech-interfering events are due to the P-8A T&G patterns and the P-3C departures from Runway 10. The $L_{eq(8h)}$ criteria are not exceeded with windows closed. The interfering events are two and one per hour, respectively, for windows open and windows closed.

Table 3-6 Analysis of Average Daily (8:00 AM to 4:00 PM) Indoor Classroom Learning Interference for 2014 Baseline (No Action Alternative) Scenario

School Point Of Interest	Outdoor $L_{eq(8h)}$ (dB)	Indoor			
		Windows Open ²		Windows Closed ²	
		$L_{eq(8h)}$ (dB)	Events per Hour ¹	$L_{eq(8h)}$ (dB)	Events per Hour ¹
The Bolles School	55	40	2	30	1

Notes:

¹ Number of annual average busy day events per hour during 8-hour school day (8:00 AM to 4:00 PM) at or above an indoor Maximum Single-Event Sound Level (L_{max}) of 50 dB;

² NLRs of 15 dB and 25 dB for windows open and closed, respectively.

3.2.3 Potential Hearing Loss Analysis

People working or living in high-noise environments for extended periods of time can potentially experience hearing loss. Hearing loss can occur as a temporary or as a permanent “shift” in the threshold of hearing. The EPA has established 75 dB for an 8-hour exposure and 70 dB for a 24-hour exposure as the average noise level standard requisite to protect 96 percent of the population from greater than a 5-dB permanent threshold shift in sound perception (EPA 1978).

A 2009 DoD policy directive requires that hearing-loss risk be estimated for the at-risk population, which is defined as the population exposed to 80 dB DNL or greater (DoD 2009). Under baseline conditions, no homes or populations are located within the 80 dB DNL or greater noise contour. Therefore, under baseline conditions, no populations in the vicinity of NAS Jacksonville are considered at risk for PHL. For additional background on PHL, please see Appendix D.

3.2.4 Noise Complaint Process

NAS Jacksonville takes all noise complaints seriously. NAS Jacksonville has a published hotline and noise complaint email address (NASJAX_NOISE_COMPLAINTS@navy.mil). Phone calls may also be reported through the operations duty officer (904-542-2511). Pertinent information such as the location, time, and description of the noise-generating event, as well as the address and contact information for the complainant, are requested. The Operations Department reviews, notifies, and may provide copies of any complaints to several persons, including the commanding officers, executive officer, operations officer, public affairs officer, and community plans and liaison officer (CPLO) within one day of receiving the complaint. These persons may, when necessary, initiate an informal inquiry into the allegations of any complainant to determine the validity of those allegations. This inquiry will involve a follow-up call or email to the complainant from the operations officer. In addition, the public is made aware of operations or exercises that will increase operations at NAS Jacksonville or OLF Whitehouse via press releases, the NAS Jacksonville's CNIC website, and a Facebook page. In addition, the AICUZ noise contours and APZs are also published in the City of Jacksonville Comprehensive Plan and on the city's GIS website (<http://maps.coj.net/website/DuvalMapsSQL/viewer.htm>).

3.2.5 Noise Abatement Measures

NAS Jacksonville periodically reviews ongoing operational procedures to ensure noise impacts can be minimized whenever and wherever practicable while maintaining flight safety. Noise abatement procedures are contained in the current air operations manual for NAS Jacksonville. NAS Jacksonville's policy is to conduct required training and operational flights with a minimal impact on surrounding communities. All aircrews using NAS Jacksonville facilities are responsible for the safe conduct of their mission while complying with published course rules, noise abatement procedures, and good common sense. Each aircrew must be familiar with the noise profiles of their aircraft and must be committed to minimizing noise impacts without compromising operational and safety requirements. Additionally, as noted in the Department of Navy's AICUZ Program Guidance (OPNAVINST 11010.36C), the Navy updates AICUZ studies to address noise-reduction strategies and can conduct interim noise studies. Such studies could include, as appropriate, monitoring and a review of operational procedures in response to changes in training requirements and/or changes in land uses in the vicinity of the installation. The Navy provides recommendations on land use compatibility in noise and safety zones; however, it is the local community's responsibility for ensuring compatible land uses within these zones.

3.3 Air Quality

3.3.1 Air Quality Regulations

National Ambient Air Quality Standards

The Clean Air Act (CAA) is the primary federal statute governing the control of air quality. The CAA designates pollutants as "criteria pollutants" for which NAAQS have been established to protect public health and welfare. These include particulate matter less than 10 microns in diameter (PM₁₀) and less than 2.5 microns in diameter (PM_{2.5}), carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), lead (Pb), and ozone (O₃) (see Table 3-7). O₃ is not an emission; it is created in the atmosphere primarily from the emissions of its precursors NO₂ and Volatile Organic Compounds (VOCs).

Areas that do not meet National Ambient Air Quality Standards (NAAQS) for criteria pollutants are designated "nonattainment areas" for that pollutant. Areas that achieve the air quality standard after being designated as nonattainment areas are re-designated as "attainment areas" following EPA approval of a maintenance plan. The CAA prohibits federal agencies from engaging in, supporting, providing financial assistance for licensing, permitting, or approving any activity that does not conform to an applicable State Implementation Plan (SIP). Federal agencies must determine that a federal action conforms to the SIP before proceeding with the action. This determination is conducted in accordance with the General Conformity Rule (40 CFR 93).

NAS Jacksonville is under the jurisdiction of the Jacksonville/Duval County local air quality program administered by the City of Jacksonville's Regulatory and Environmental Services Department. Duval County is designated as in attainment for all criteria pollutant standards (EPA 2013). Because the region is currently in attainment, the CAA General Conformity Rule does not apply, and a General Conformity Determination is not required.

Table 3-7 National Ambient Air Quality Standards

Pollutant [final rule citation]		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide [76 FR 54294, Aug 31, 2011]		primary	8-hour	9 ppm	Not to be exceeded more than once per year
			1-hour	35 ppm	
Lead [73 FR 66964, Nov 12, 2008]		primary and secondary	Rolling 3-month average	0.15 µg/m ³ (1)	Not to be exceeded
Nitrogen Dioxide [75 FR 6474, Feb 9, 2010] [61 FR 52852, Oct 8, 1996]		primary	1-hour	100 ppb	98th percentile, averaged over 3 years
		primary and secondary	Annual	53 ppb (2)	Annual Mean
Ozone [73 FR 16436, Mar 27, 2008]		primary and secondary	8-hour	0.075 ppm (3)	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
Particle Pollution [78 FR 3086, January 15, 2013] ⁽⁵⁾	PM _{2.5}	primary	Annual	12 µg/m ³	annual mean, averaged over 3 years
		secondary	Annual	15 µg/m ³	annual mean, averaged over 3 years
			24-hour	35 µg/m ³	98th percentile, averaged over 3 years
	PM ₁₀	primary and secondary	24-hour	150 µg/m ³	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide [75 FR 35520, Jun 22, 2010] [38 FR 25678, Sept 14, 1973]		primary	1-hour	75 ppb (4)	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

Source: EPA 2013

Notes:

- ¹ Final rule published November 12, 2008. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
- ² The official level of the annual NO₂ standard is 0.053 ppm, equal to 53 ppb, which is shown here to allow comparison to the 1-hour standard.
- ³ Final rule published March 27, 2008. The 1997 ozone standard (0.08 ppm, annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years) and related implementation rules remain in place. In 1997, EPA revoked the 1-hour ozone standard (0.12 ppm, not to be exceeded more than once per year) in all areas, although some areas have continued obligations under that standard (“anti-backsliding”). The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is less than or equal to 1.
- ⁴ Final rule signed June 22, 2010. The 1971 annual and 24-hour SO₂ standards were revoked in that same rulemaking. However, these standards remain in effect until one year after an area is designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards, where the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standard are approved.
- ⁵ The EPA has revised the annual primary PM_{2.5} standard by lowering the level to 12.0 micrograms per cubic meter (µg/m³), and maintaining the 15.0 (µg/m³) PM_{2.5} standard as a secondary standard. The final rule is effective on March 18, 2013.

Key:

- µg/m³ = Micrograms per cubic meter.
- mg/m³ = Milligrams per cubic meter.
- PM₁₀ = Particulate matter less than 10 microns in diameter.
- PM_{2.5} = Particulate matter less than 2.5 microns in diameter.
- ppb = Parts per billion.
- ppm = Parts per million.

Hazardous Air Pollutants

In addition to the ambient air quality standards for criteria pollutants, national standards exist for hazardous air pollutants (HAPs), which are regulated under Section 112(b) of the 1990 CAA Amendments. The National Emission Standards for Hazardous Air Pollutants regulate HAP emissions from stationary sources (40 CFR Part 61). HAPs emitted from mobile sources are called Mobile Source Air Toxics (MSATs). MSATs are compounds emitted from highway vehicles and non-road equipment that are known or suspected to cause cancer or other serious health and environmental effects (EPA 2013). In 2001, the EPA issued its first MSATs rule, which identified 21 compounds as being HAPs that required regulation. A subset of six of these MSAT compounds were identified as having the greatest influence on health and included benzene, 1,3-butadiene, formaldehyde, acrolein, acetaldehyde, and diesel particulate matter. The EPA issued a second MSAT rule in February 2007, which generally supported the findings in the first rule and provided additional recommendations for compounds having the greatest impact on health. The rule also identified engine emission certification standards for automobiles, trucks, and off-road vehicles (40 CFR parts 59, 80, 85, and 86; FR 72 No. 37, pp. 8427-8570, 2007).

Unlike the criteria pollutants, there are no NAAQS for benzene and other HAPs. The primary control methodologies for these pollutants in mobile sources are to reduce their content in fuel and alter the engine operating characteristics to reduce the volume of pollutants generated during combustion. Because there is a minimal change (or reduction) to all emissions from ground sources, and aircraft and HAPs represent a small percentage of combustion emissions, HAPs were not considered in the 2008 FEIS and are not further evaluated in this SEIS.

Greenhouse Gases

Greenhouse gases (GHGs) are gas emissions that trap heat in the atmosphere. These emissions occur from natural processes and human activities. Scientific evidence indicates a trend of increasing global temperature over the past century due to an increase in GHG emissions from human activities. The climate change associated with this global warming is predicted to produce negative economic and social consequences across the globe. Climate change refers to any significant change in measures of climate lasting for an extended period. Global climate change threatens ecosystems, water resources, coastal regions, crop and livestock production, and human health (EPA 2013). Many scientific studies correlate the observed rise in global annual average temperature and the resulting change in global climate patterns with the increase in GHGs in the Earth's atmosphere. Worldwide use of fossil fuels is the primary cause of that increase (EPA 2013).

EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule on September 22, 2009. GHGs covered under this rule are carbon dioxide (CO₂), methane, and nitrous oxide, and hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and other fluorinated gases including nitrogen trifluoride and hydrofluorinated ethers. Each GHG is assigned a Global Warming Potential (GWP). The GWP is the ability of a gas or aerosol to trap heat in the atmosphere. The GWP rating system is standardized to CO₂, which has a value of one. For example, methane (CH₄) has a GWP of 21, which means that it has a global warming effect 21 times greater than CO₂ on an equal mass basis. The equivalent CO₂ rate is calculated by multiplying the emission of each GHG by its GWP and adding the results together to produce a single, combined emission rate representing all GHGs. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of mobile sources and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions as CO₂ equivalent (CO₂e) are required to submit annual reports to EPA.

On a national scale, federal agencies are addressing emissions of GHGs by reductions mandated in federal laws and Executive Orders (EOs). Most recently, EO 13423 Strengthening Federal Environmental, Energy, and Transportation Management, and EO 13514, Federal Leadership in Environmental, Energy, and Economic Performance, were enacted to address GHGs, including GHG emissions inventory,

reduction, and reporting. GHG emissions occur locally, but GHG impacts are both global in impacts and scale and cumulative over time. Therefore, GHG emissions for the proposed action are discussed in Chapter 9, Cumulative Impacts.

3.3.2 Existing Emissions

Sources of air pollutants at NAS Jacksonville include mobile emissions from aircraft, ground service equipment and vehicles, private and government vehicles, and stationary source emissions from external combustion equipment, internal combustion engines, surface-coating operations, solvent use, fuel storage tanks, and other miscellaneous operations. Stationary sources are operated under a site-wide Title V permit. The primary sources of HAPs in the form of volatile organic compound emissions are from solvent use, plating operations, paint spray booths, and gasoline dispensing.

Existing P-3C and P-8A emissions under 2014 baseline conditions are summarized in Table 3-8. Emissions of criteria pollutants result from aircraft flight operations and maintenance run ups of the aircraft. Aircraft operational information was provided by station personnel as reported in the noise analysis and report (Wyle 2013; see Appendix D) and as discussed in Chapter 3.2.1. Emissions from P-3C flight operations and maintenance run ups are based on memorandum reports from the Navy's Aircraft Environmental Support Office (AESO) (AESO 2000). Time-in-mode assumptions for T&G and GCA box operations are adapted from P-3C time-in-mode assumptions from the AESO (AESO 2000). Emissions from P-8A T&G and GCA box operations and maintenance run ups are based upon emission indexes developed by the International Civil Aviation Organization (ICAO) for the CFM56-7B26 engine, which is used in the P-8A (International Civil Aviation Organization July 2007). Emissions from P-8A landing and takeoff operations (LTOs) are calculated using the FAA Emissions and Dispersion Modeling System (EDMS 5.1.3) (Federal Aviation Administration November 15, 2010). EDMS-derived P-8A emission indexes based on 737-800 aircraft time-in-mode estimates for NAS Whidbey Island are used for all locations because these emission indexes are slightly higher than those of NAS Jacksonville and MCB Hawaii Kaneohe Bay and therefore provide a reasonable, conservative estimate for all LTO operations. These references were used in this analysis to provide emission factors because P-8A data from AESO are not available.

Emissions also result from the operation of POVs used by station personnel to commute to work. Emissions from POVs were estimated based on 2014 baseline P-3C and P-8A personnel loading levels, assuming an average daily commute of 25 miles, completed 250 days per year. Vehicle Miles Traveled (VMT) emission factors were obtained from "Emission Facts: Average Annual Emissions and Fuel Consumption for Gasoline-Fueled Passenger Cars and Light Trucks (EPA 420-F-08-024)" (EPA 2008a). Emission factors and calculations are detailed in Appendix E.

3.4 Land Use

The study area for land use includes NAS Jacksonville and portions of the City of Jacksonville. Land use designations encompass undeveloped and developed land in the study area. Developed land uses range from airfield operations and administrative areas on station to residential and commercial land off station. Undeveloped land is commonly classified as open space or natural areas.

Existing land use conditions, challenges, and recommendations are provided in the following documents: *Air Installations Compatible Use Zones Study Update for Naval Air Station Jacksonville* (Navy NAVFAC Southeast 2000), *NAS Jacksonville 2009 Master Plan* (EDAW, Inc. 2009), and the *City of Jacksonville Comprehensive Plan* (City of Jacksonville 2011). These and other land use planning documents are described in Chapter 3.4.3.

Table 3-8 2014 Baseline (No Action Alternative) P-3C and P-8A Emissions at NAS Jacksonville

Flight Operation/Activity ¹	No. of Operations ¹	Emissions (tpy)				
		CO	NO _x	VOC	SO ₂	PM ₁₀
P-3C Operations						
Straight-In Arrival LTOs	2,042	38.3	21.7	25.1	6.9	11.0
Touch-and-Go	3,632	1.4	10.3	0.3	2.2	4.4
GCA Pattern	1,124	0.6	4.9	0.1	1.1	2.1
Maintenance Run Ups		14.04	5.15	9.54	1.88	2.98
Total P-3C Emissions		54.4	42.0	35.1	12.1	20.5
P-8A Operations						
Straight-In Arrival LTOs	2,576	22.7	34.4	3.1	3.4	1.1
Touch-and-Go	3,259	0.3	10.3	0.0	1.0	0.3
GCA Pattern	1,107	0.2	5.5	0.0	0.5	0.1
Maintenance Run Ups		0.008	0.052	0.001	0.012	0.001
Total P-8A Emissions		23.2	50.2	3.2	4.9	1.5
Total 2014 Baseline P-3C and P-8A Emissions		77.6	92.2	38.3	17.0	22.0
P-3C and P-8A Personnel POV Emissions		191.2	14.8	20.3	0.00	56.4
Total 2014 Baseline P-3C and P-8A Annual Emissions		268.8	107.0	58.6	17.0	78.3

Note:

¹ Operational information from Wyle 2013. An LTO includes a departure and an arrival, and T&G and GCA patterns also include two operations; therefore, total operations listed in Chapter 2 and in the noise analysis will be double these air quality operation totals. Note that operations numbers may not sum to 100 percent due to rounding.

Key:

- CO = Carbon monoxide.
- GCA = Ground control approach pattern.
- LTO = Landing and takeoff operation.
- NO_x = Nitrogen oxides.
- PM₁₀ = Particulate matter less than 10 microns in diameter.
- POV = Privately owned vehicle.
- SO₂ = Sulfur dioxide.
- tpy = Tons per year.
- VOC = Volatile Organic Compounds.

3.4.1 NAS Jacksonville Land Use

NAS Jacksonville occupies approximately 3,896 acres in the southeastern portion of Duval County, Florida, along the west bank of the St. Johns River and on the east and west sides of U.S. Highway 17 (see Figure 2-1 in Chapter 2, Alternatives). The station is 15 miles inland of the Atlantic Ocean and lies 3 miles north of the Duval and Clay County line. Approximately 3,312 acres (85 percent) of the station has been developed (EDAW, Inc. 2009). Aircraft operations areas include approximately 1,600 acres in the northern part of the station and consist of two intersecting runways, parking aprons, taxiways, and clear zones. Administrative and industrial facilities encompass approximately 350 acres immediately south of the aircraft operations area. The portion of the station west of U.S. Highway 17 and adjacent to the Ortega River is leased to the City of Jacksonville and is a public use area designated as the Tillie K. Fowler Regional Park. Part of the land was acquired by the federal government in 1976 to control development to be compatible with the NAS Jacksonville AICUZ guidelines. The Defense Reutilization Marketing Office (DRMO) is located west of U.S. Highway 17.

The southern part of NAS Jacksonville is more sparsely developed, with a mixture of land uses: administrative, residential and community facilities, ordnance storage, recreation, open space, and natural areas. Residential and community facilities include bachelor housing, family housing, and commercial, medical, and utility facilities. Ordnance storage is located near the southern boundary of the station to ensure compliance with all Explosive Safety Quantity Distance (ESQD) requirements. The approximately 584 acres of undeveloped land on the station are primarily natural forestlands and open space areas.

3.4.2 Regional Land Use

NAS Jacksonville is located in the suburban area of the City of Jacksonville. The central business district of Jacksonville is located approximately 9 miles north of the station.

Predominant land uses in the vicinity of NAS Jacksonville include:

- Residential development along the station's southern boundary. South of these residential uses, in northern Clay County, are a mix of residential, commercial/community, and light industrial land uses.
- Undeveloped land and a mixture of recreation, open space, light industrial, and commercial/community uses west of the station in the Yukon and Ortega Hills communities.
- Recreation and open space uses immediately northwest of the station. North and west of these land uses is a mixture of commercial and residential land.
- Residential development along the eastern shore of the St. Johns River.

3.4.3 Land Use Consistency with Local Plans, Programs, and Policies

Development within and around NAS Jacksonville is controlled, guided, or influenced by the following plans, programs, and policies:

- The 2000 NAS Jacksonville AICUZ Update;
- The 2003 Regional Shore Infrastructure Plan (RSIP) Overview for the Jacksonville Fleet Concentration Area (FCA);
- The NAS Jacksonville Integrated Natural Resources Management Plan (INRMP);
- The NAS Jacksonville 2009 Master Plan;
- The City of Jacksonville 2030 Comprehensive Plan; and
- The City of Jacksonville Zoning Code (as amended).

Refer to Chapter 10 for further information on the Coastal Zone Management Act (CZMA) and consistency with the Florida Coastal Management Program (FCMP).

2000 NAS Jacksonville AICUZ Update

The Navy's AICUZ Program is described in Chapter 1.3.5. The *Air Installations Compatible Use Zones Study Update for Naval Air Station Jacksonville* (Navy NAVFAC Southeast 2000) serves to balance the need for aircraft operations with community concerns over aircraft noise and accident potential. The AICUZ Program was developed in response to growing incompatible urban development around military airfields. The 2000 AICUZ update identifies noise zones and APZs. Land use compatibility within the noise zones around NAS Jacksonville is evaluated in Chapter 3.4.4.

APZs are areas where an aircraft mishap is most likely to occur, if an accident were to occur, and is delineated based on historical data and departure, arrival, and pattern flight tracks on and near airfield runways. The Navy makes recommendations to local planning agencies that developments concentrating large numbers of people, such as apartments, churches, and schools, be constructed outside of APZs.

APZ configurations and dimensions are derived from the AICUZ Instruction. APZs are, in part, based on the number of operations conducted at the airfield—more specifically, the number of operations conducted for specific flight tracks. The three APZs include:

- **Clear Zone.** The Clear Zone extends 3,000 feet beyond the end of the runway; it measures 1,500 feet wide at the end of the runway and 2,284 feet wide at its outer edge.
- **APZ I.** APZ I extends 5,000 feet beyond the Clear Zone, with a width of 3,000 feet at its outer edge. APZ I is typically rectangular, although it may curve to conform to the predominant flight track.
- **APZ II.** APZ II extends 7,000 feet beyond APZ I, with a width of 3,000 feet. This zone is typically rectangular, although it, too, may conform to the curve of the predominant flight track.

The NAS Jacksonville APZs are included in the 2000 AICUZ update and are shown on Figure 3-3. As shown, the majority of the clear zones for NAS Jacksonville are contained within the station boundaries. The boundaries of APZ I and APZ II extend off-station into the local community.

Regional Shore Infrastructure Plan Overview for the Jacksonville Fleet Concentration Area

The RSIP for the Jacksonville FCA was completed in February 2003. The Jacksonville FCA includes NAS Jacksonville and three other Navy and USMC installations in northern Florida and southern Georgia. The purpose of the RSIP is to provide long-range facilities and infrastructure planning on a regional level to reduce infrastructure costs and support efficient use of developable land and operation of mission and personnel support functions.

Current land uses at the installation generally are consistent with land use planning concepts identified in the RSIP, which include consolidating existing land use areas based on primary operational function, establishing compatible land use relationships, and accommodating existing land use patterns that are unlikely to change. According to the RSIP, new facilities should be located in compatible functional areas (i.e., areas with similar types of land uses).

Integrated Natural Resources Management Plan

In January 2006, the DoD, U.S. Fish and Wildlife Service (USFWS), and the Association of Fish and Wildlife Agencies (AFWA) entered into a Memorandum of Understanding for a cooperative program of INRMP development. Under this program the INRMP is updated on a continuous basis to achieve mutually agreed upon fish and wildlife conservation objectives in compliance with the Sikes Act. The Navy prepared an INRMP for the Jacksonville Complex, including NAS Jacksonville, in compliance with DoD Instruction 4715.3 and the Sikes Act (16 U.S.C. 670a, *et seq.*). The overall goal of the plan is to integrate management activities with all programs and mission requirements while sustaining, promoting, and restoring the health and integrity of NAS Jacksonville ecosystems. The INRMP identifies land, water, plant, fish, and wildlife resources on the installation. The document guides both short-term resource management activities and long-range planning.

NAS Jacksonville Master Plan

NAS Jacksonville's master plan was prepared in 2009 to be a guiding document for future land use and development on NAS Jacksonville over a 20-year planning period (EDAW, Inc. 2009). The master plan integrates multiple earlier installation plans.

The master plan describes how the station is organized into four major nodes, or activity centers. These areas are defined by a half-mile walking radius around a predominant land use and are connected to each other by green space or various modes of transportation. Within each node, the master plan seeks to minimize major land use changes, co-locate similar land uses, increase green space, improve connectivity, and increase transportation alternatives.

City of Jacksonville Comprehensive Plan

In accordance with State of Florida planning law (Chapter 163 [Part II], F.S. and Chapter 9J-5, F.A.C.), the City of Jacksonville adopted the 2030 Comprehensive Plan in 2010. The plan is primarily a policy document with generalized maps illustrating existing and future conditions.

The 2030 Comprehensive Plan recognizes the AICUZ concepts for NAS Jacksonville and accordingly recommends compatible development near the station in order to protect the safety and welfare of property owners, residents, and businesses in that area (City of Jacksonville 2011). Proposed future land uses in the immediate vicinity of NAS Jacksonville within the noise zones or APZs include a mixture of residential, recreational, light industrial, and business/office uses. These land uses are generally consistent with aircraft operations at NAS Jacksonville.

City of Jacksonville Zoning Ordinance

Zoning is the primary land use control used by the City of Jacksonville to control development. As a federal facility, NAS Jacksonville is exempt from municipal zoning regulations.

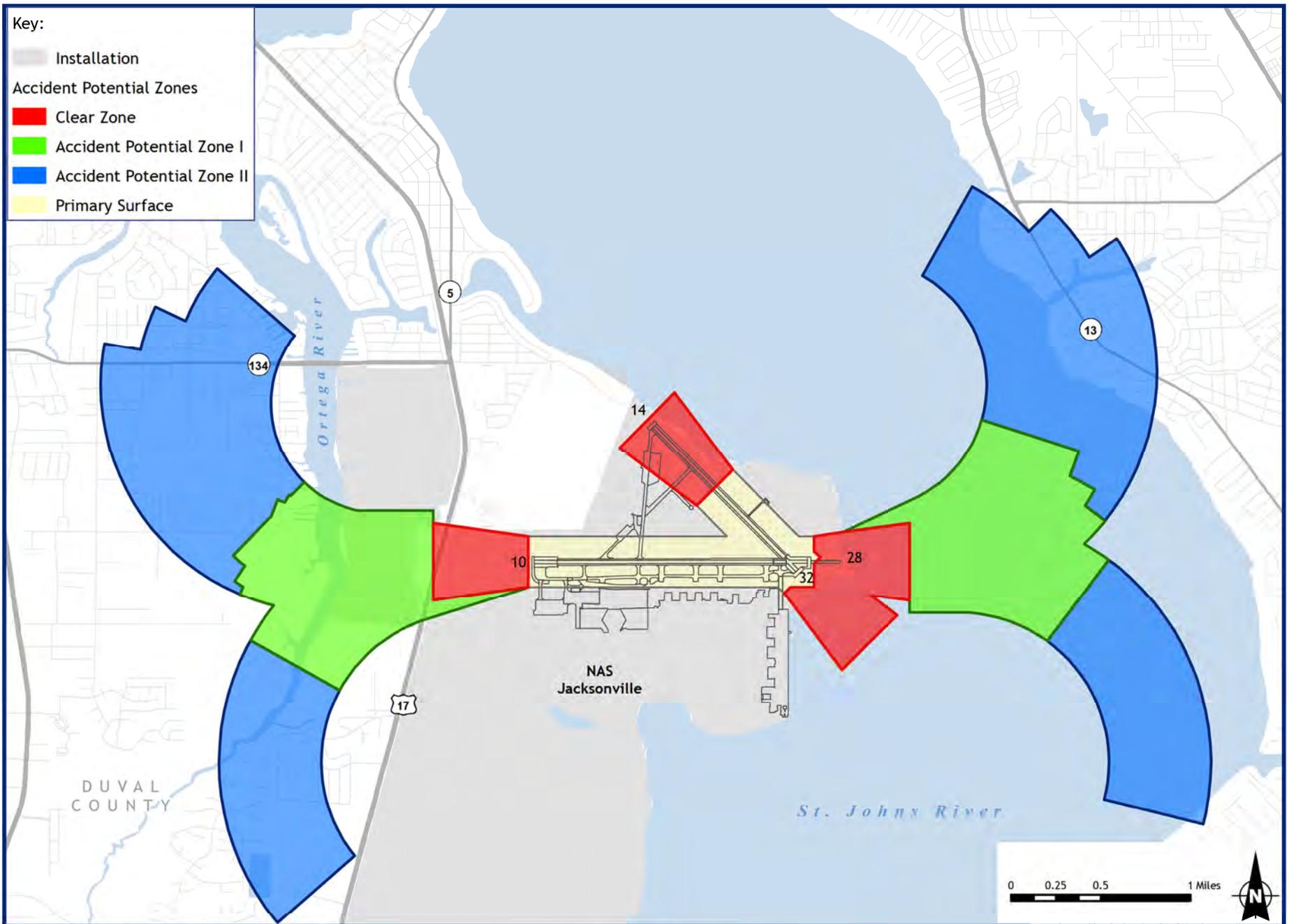
Part 10 of the City of Jacksonville Zoning Code (Regulations Related to Airports and Lands Adjacent Thereto) regulates land uses adjacent to military and civilian airports. The ordinance establishes noise zones and APZs that are intended to conform to the current noise zones and APZs developed by military installations within the city (City of Jacksonville 2013a). Consequently, the land uses around NAS Jacksonville generally are consistent with the compatibility guidance for noise zones and APZs identified by the NAS Jacksonville AICUZ Program.

All residential and non-residential sales and leases and new residential development in the city's greater than 65 dB DNL noise zone and the Airport Notice Zone 6 must include an executed statement, referred to as an Airport Notice Zone Acknowledgement, that such property "may be exposed to significant noise level and/or accident potentials or may be subject to special lighting regulations as a result of the airport operations" (City of Jacksonville 2013a).

3.4.4 Land Use Compatibility Assessment

To determine the compatibility of land uses with existing aircraft operations at NAS Jacksonville, the modeled 2014 baseline noise zone map was overlaid on the City of Jacksonville land use map, as included in the City of Jacksonville 2030 Comprehensive Plan (City of Jacksonville 2011) (see Figure 3-2). Land use designations on the City of Jacksonville land use map were compared with the Navy/USMC land use compatibility recommendations under its AICUZ Program (OPNAVINST 11010.36C; Appendix F).

⁶ Noise Zone A is dB DNL values 75 or greater, Noise Zone B is 65-74.99 dB DNL range, and the Airport Notice Zone is 60 to 64.99 dB DNL range.



Source: ESRI, 2012; NAS Jacksonville 2007.

Figure 3-3
AICUZ APZs at NAS Jacksonville,
Jacksonville, Florida

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Table 3-9 provides the total area, by land use category, within the greater than 65 dB DNL noise zone at NAS Jacksonville. Most land use categories in the less than 65 dB DNL noise zone are considered to be compatible without restrictions, according to AICUZ guidelines.

Table 3-9 Existing Land Uses within the Greater than 65 dB DNL Noise Zone at NAS Jacksonville (2014 Baseline) [No Action Alternative]

Land Use	65 to 70 dB DNL	70 to 75 dB DNL	>75dB DNL	Total Area (acres)	Percent of Total Land Use
Residential ¹	86	3	0	89	4
Recreation/Open Space	91	8	0	99	4
Commercial/Community ²	62	7	0	69	3
Light Industrial	8	9	0	17	1
Military	507	321	308	1,136	51
Water	600	191	10	801	36
Total³	1,354	539	318	2,210	100%

Notes:

¹ Residential Land Use includes Low Density Residential and Rural Residential designations.

² Commercial/Community Land Use includes Community/General Commercial, Business Park, and Public Buildings and Facilities designations.

³ Total land use percentage may not sum to 100 percent due to rounding.

Residential land use is incompatible in noise zones greater than 65 dB DNL (OPNAVINST 11010.36C). Under 2014 baseline conditions, a total of 89 acres of residential land as designated by the City of Jacksonville is within the greater than 65 dB DNL noise zone and is therefore incompatible with AICUZ Program guidelines. Most of this residential land use is within the 65 to 70 dB DNL noise zone; however, 3 acres are within the 70 to 75 dB DNL noise zone.

3.5 Socioeconomics

The study area for socioeconomic resources includes NAS Jacksonville as well as the City of Jacksonville and Duval County, the two local municipalities with the strongest economic ties to NAS Jacksonville. This chapter on the affected socioeconomic environment presents population and housing in Chapter 3.5.1, economy in Chapter 3.5.2, taxes and revenues in Chapter 3.5.3, education in Chapter 3.5.4, and environmental justice in Chapter 3.5.5.

3.5.1 Population and Housing

3.5.1.1 Population

NAS Jacksonville

NAS Jacksonville is a master air and industrial base that is host to more than 110 tenant commands (NAS Jacksonville 2012). The number of personnel at NAS Jacksonville has varied over the years as the result of mission changes, base realignment and closure activities, and fluctuations in the number and type aircraft stationed at the base. Table 3-10 presents historical and current personnel loading for NAS Jacksonville. The number of personnel stationed or employed by the station decreased from 1988 to 1997 but has risen since. Total personnel numbers in 1988 are similar to those reported in 2012.

Table 3-10 Personnel Loading Summary for NAS Jacksonville

Personnel	1988	1997	2002	2012
Officer	1,223	1,220	1,420	NA
Enlisted	7,194	6,286	8,044	NA
Total Active Duty	8,417	7,506	9,464	9,995
Civilian	10,883	6,531	6,722	7,070
Contractor	NA	2,642	2,589	2,223
Total	19,300	16,679	18,775	19,288

Source: Mytych, L. 2007; Schellhorn 2013a, b.

NAS Jacksonville is currently in the process of transitioning from P-3C to P-8A aircraft. The first P-8A aircraft have been delivered to NAS Jacksonville, in accordance with the 2008 ROD. Full transition under the 2008 ROD is not expected to occur until 2019. This transition from P-3C aircraft to P-8A aircraft will lead to a gradual reduction in the number of personnel assigned to NAS Jacksonville.

During baseline year 2014, 2,619 P-3C and P-8A personnel are assigned at NAS Jacksonville, comprising 615 officers and 2,004 enlisted personnel. No civilians or contractors are assigned to the P-3C or the P-8A aircraft squadrons. In baseline year 2014, four of six P-8A squadrons, two P-3C squadrons, and a mixed P-3C/P-8A FRS are operating out of NAS Jacksonville.

City of Jacksonville and Region

The City of Jacksonville is divided into six planning districts, with NAS Jacksonville located in Southwest Planning District Number 4. The Southwest Planning District Number 4 is the third most populated district in the county. Table 3-11 presents the population for the Jacksonville Metropolitan Statistical Area (MSA), Duval County, the City of Jacksonville, and the Southwest Planning District Number 4 for 2000 and 2010. The entire region has experienced population growth over the past decade. Between 2000 and 2010, the total population increased in the Jacksonville MSA by 19.8 percent and in the Southwest Planning District Number 4 by 16.4 percent. During the same time period, Duval County and the City of Jacksonville experienced slightly more moderate growth, with increases in total population of 11.0 percent and 11.7 percent, respectively (see Table 3-11).

Table 3-11 Regional Population around NAS Jacksonville (2000 and 2010)

Jurisdiction	2000	2010	% Change from 2000 to 2010
Jacksonville MSA ¹	1,122,750	1,345,596	19.8
Duval County	778,879	864,263	11.0
City of Jacksonville ²	735,617	821,784	11.7
Southwest Planning District Number 4	133,867	155,850	16.4

Sources: U.S. Census Bureau 2000a, 2000b, 2000c, 2000d, 2000e, 2000f, 2010a, 2010b and 2010c; City of Jacksonville n.d.; Florida Bureau of Economic and Business Research 2012.

Notes:

¹ The Jacksonville MSA includes Baker, Clay, Duval, Nassau, and St. Johns counties.

² The City of Jacksonville accounts for almost all of Duval County, both geographically and demographically. The exceptions are the Town of Baldwin and the communities of Jacksonville Beach, Atlantic Beach, and Neptune Beach, which have not been consolidated into the City of Jacksonville.

This population growth is expected to continue throughout the next decade. Total population in Duval County is projected to increase by 7.4 percent throughout the decade to reach a total of 928,100 residents

by 2020 (Florida Bureau of Economic and Business Research 2012). Population projections for the other geographical areas are currently unavailable.

3.5.1.2 Housing

NAS Jacksonville

The Navy provides housing to eligible military personnel stationed at NAS Jacksonville in either bachelor (officer and enlisted) quarters or family housing units. Military personnel stationed at NAS Jacksonville may be housed either in military-controlled bachelor/family housing units or in private housing within the local community. NAS Jacksonville uses the Office of the Secretary of Defense Housing Requirement Determination Process Policy Guidance in determining the on-station housing requirement. Under this guidance, the construction, operation, and maintenance of government housing is considered only if the private sector is not capable of providing military members with acceptable housing. In accordance with Department of Defense Manual: DoD Housing Management (Number 4165.63-M), factors utilized to determine whether a housing unit in the local community is acceptable include its affordability, location, features, and physical condition.

In FY 2011, 2,825 unaccompanied (bachelor) personnel were stationed at NAS Jacksonville, with 935 of these personnel living in military-controlled housing. The remaining personnel lived in the local community, with approximately 78 percent residing in rental accommodations and 22 percent purchasing homes. In FY 2011, there was a shortfall of 259 acceptable housing units for unaccompanied personnel in the local region (Robert D. Niehaus, Inc. 2012).

According to the NAS Jacksonville Community Planning and Liaison Officer, 5,683 military families that required family housing units were stationed at NAS Jacksonville in FY 2012. During that time, a total of 5,212 adequate housing units were available to military families stationed at NAS Jacksonville, including 428 family housing units under military control and 4,784 acceptable private housing units in the community. Consequently, there was an effective housing deficit of 471 acceptable family units in FY 2012 (Schellhorn 2013b).

The total number of families requiring housing at NAS Jacksonville is expected to decline over the next five years. By FY 2017, it is projected that the total family housing requirement at the station will decline to 4,751 units. However, during the same time period, the total number of adequate housing units is also projected to decline, to 4,662 units. Military-controlled family housing units are expected to be reduced to a total of 302 units by 2017, and only 4,360 acceptable private housing units are expected to be available by that time. By FY 2017, the effective family housing deficit is projected to be 89 units (Schellhorn 2013b).

City of Jacksonville and Region

The housing market in the Jacksonville region has experienced rapid growth over the past decade. The number of owner-occupied, renter-occupied, and vacant housing units increased in the region between 2000 and 2010. The largest proportion of occupied (i.e., not vacant) housing units in all three areas was accounted for by owner-occupied units, ranging from 67.5 percent in the Jacksonville MSA in 2000 to 61.6 percent in Duval County in 2010. The proportion of occupied housing units declined slightly in all three areas between 2000 and 2010. Between 2000 and 2010, the total number of vacant housing units increased by 75 percent in the Jacksonville MSA, or from 42,416 vacant units in 2000 to 74,344 vacant units in 2010. A similar increase in the number of vacant units in Duval County and the City of Jacksonville occurred during the same time period. Between 2000 and 2010, the total number of vacant housing units in Duval County increased from 26,031 units in 2000 to 46,036 units in 2010, and the total number of vacant housing units in the City of Jacksonville increased from 24,327 units in 2000 to 43,167 units in 2010. In 2010, vacancy rates reached 12.4 percent and 11.9 percent of the total housing stock in the Jacksonville MSA and Duval County, respectively (see Table 3-12).

Table 3-12 Regional Housing Availability around NAS Jacksonville (2000 and 2010)

	Housing Units				Percent Owner-Occupied ¹	Percent Renter-Occupied ²	Percent Vacancy Rate ³
	Owner-Occupied	Renter-Occupied	Vacant	Total			
2000							
Jacksonville MSA	292,183	140,444	42,416	475,043	67.5	32.5	8.9
Duval County	191,734	112,013	26,031	329,778	63.1	36.9	7.9
City of Jacksonville	179,729	104,770	24,327	308,826	63.2	36.8	7.9
2010							
Jacksonville MSA	350,768	173,378	74,344	598,490	66.9	33.1	12.4
Duval County	211,077	131,373	46,036	388,486	61.6	38.4	11.9
City of Jacksonville	199,378	123,728	43,167	366,273	61.7	38.3	11.8

Sources: U.S. Census Bureau 2000a, 200b, 2000c, 2000d, 2000e, 2000f, 2010a, 2010b and 2010c.

Notes:

¹ Percent Owner Occupied is calculated as the number of owner-occupied housing units divided by the sum of owner-occupied and renter-occupied housing units.

² Percent Renter-Occupied is calculated as the number of renter-occupied housing units divided by the sum of the owner-occupied and renter-occupied housing units.

³ Percent Vacancy Rate is defined as the number of vacant housing units divided by total housing units.

The rate of construction of new homes in the city gradually increased from 2000, peaked around 2004-2005, and has slowed in recent years. In 2000, building permits were issued for 5,204 new residential units in the City of Jacksonville, and 780 building permits were issued for new residential units in Planning District Number 4. In 2005, a total of 13,839 building permits were issued for new residential units in the City of Jacksonville. By 2010, only 1,576 building permits were issued for new residential units in the City of Jacksonville, and only 319 building permits were issued for new residential units in Planning District Number 4, indicating a slowdown in the pace of housing development (City of Jacksonville n.d.).

3.5.2 Economy

3.5.2.1 NAS Jacksonville

The Navy has a strong presence in the Jacksonville area and an equally strong regional economic impact. The military installations in the Jacksonville area, which include Naval Station (NS) Mayport, Kings Bay NB, Camp Blanding Joint Training Center, Naval Aviation Depot Jacksonville, and Marine Corps Blount Island Command in addition to NAS Jacksonville, provide employment for over 50,000 active and reserve military personnel and civilians (City of Jacksonville 2013a).

The Navy and NAS Jacksonville in particular, is a major contributor to the economy of the City of Jacksonville and the surrounding region. In FY 2008, defense spending in Duval County amounted to almost \$2.4 billion (City of Jacksonville, 2013a). In 2012, NAS Jacksonville had a payroll of approximately \$1.28 billion and employed 9,995 active duty personnel, 2,553 reserve personnel, 6,153 appropriate fund (APF) civilians, 917 non-APF civilians, and 2,223 contractors (NAS Jacksonville 2012). In 2011, the military accounted for 2.8 percent of total employment in Duval County (see Table 3-13). Over the past decade, the importance of military employment in the county has declined as the number of

military personnel assigned to NAS Jacksonville and other installations has declined and the regional economy has expanded and diversified (see Table 3-13).

Table 3-13 Duval County Employment: 2001, 2005, and 2011

Year	Total Employment	Military Employment	Non-Military Employment	% Employed by Military
2001	572,687	23,943	548,744	4.2
2005	620,337	23,633	596,704	3.8
2011	619,621	17,301	602,320	2.8

Sources: U.S. Department of Commerce, 2013a, 2013b and 2013c.

The military personnel, civilians, and contractors employed at NAS Jacksonville live in the community, spend money in the local economy, and use local amenities and resources, and the station also spends money on goods and services purchased in the local community. Thus, the payroll and expenditures of NAS Jacksonville have a compounding, or multiplier, impact in the local economy.

The *2013 Florida Defense Industry Economic Impact Analysis*, conducted by the University of West Florida on behalf of the Florida Defense Alliance, estimated that the DoD contributed \$2.9 billion in expenditures in Duval County in 2011 through salaries (\$827.6 million), the purchase of goods and services (\$791.8 million), and \$1,242.2 million in transfer payments including entitlement payments for military and civilian retirees and veterans. The DoD's direct expenditures were compounded or multiplied in Duval County's economy as the money expended circulated and created further economic activity. Taking this further economic impact into account, the DoD's expenditures directly and indirectly contributed \$11.9 billion to the county's gross regional product (i.e., the final value of all goods and services produced in the county in 2011), which is equivalent to 19.2 percent of the county's gross regional product. The analysis predicted that DoD's contribution to the county's gross regional product would fall to \$11.1 billion by 2015 (University of West Florida 2013).

3.5.2.2 City of Jacksonville and Region

Service industries, particularly health-related services, and retail trade are important economic drivers in the City of Jacksonville. In 2011, the largest single industrial sector in the city was the education, health, and social services sector, which employed an estimated 19.5 percent of the employed civilian labor force. Other major employment sectors included the retail trade sector, which employed 12.2 percent of the employed civilian labor force; the professional, scientific, and management services sector, which employed 11.7 percent of the employed civilian labor force; and the finance, insurance, and real estate sector and the arts, entertainment, recreation, accommodation, and food service sector, which each employed 11.5 percent of the employed civilian labor force (see Table 3-14).

The importance of the Navy to the regional economy, as well as the civilian economy's emphasis on health-service-related industries, can also be seen in Table 3-15, which lists the top ten private and government employers in the City of Jacksonville. As shown on the table, NAS Jacksonville is the city's top employer.

Table 3-14 2011 Percent of Total Civilian Employment by Industrial Sector for the City of Jacksonville, Duval County, and the State of Florida

Sector	City of Jacksonville (%)	Duval County (%)	Florida (%)
Agricultural, forestry, fishing, and mining	0.5	0.5	1.2
Construction	5.5	5.3	6.3
Manufacturing	6.3	6.2	5.3
Wholesale Trade	2.9	2.9	3.0
Retail Trade	12.2	12.2	13.4
Transportation and Warehousing	6.8	7.0	5.2
Information	1.2	1.3	2.0
Finance, Insurance, and Real Estate	11.5	11.6	7.5
Professional, Scientific, and Management Services	11.7	11.9	12.4
Education, Health, and Social Services	19.5	19.5	21.4
Arts, Entertainment, Recreation and Accommodations and Food Service	11.5	11.5	12.2
Other Services	4.7	4.5	5.4
Public Administration	5.8	5.6	4.9

Source: U.S. Census Bureau 2012

Note: Totals may not add to 100 percent due to rounding.

Table 3-15 2010 Top Private and Government Employers in the City of Jacksonville

Sector	Employer	Sector	Employees
Government	NAS Jacksonville ¹	U.S. Atlantic Fleet	17,521 ¹
Government	Duval County Public Schools	Public Education	14,059
Government	NS Mayport	U.S. Atlantic Fleet	10,424
Private	Baptist Health	Health Care	8,276
Government	City of Jacksonville	Public Safety, Public Works, Social Services, Administration	7,953
Private	Wal-Mart Stores, Inc.	Discount Retailer	7,760
Private	Publix Super Markets	Grocery, Retail	7,215
Private	Blue Cross and Blue Shield of Florida	Mutual Insurance Company	6,000
Private	Winn-Dixie Stores, Inc.	Supermarket Chain	6,000
Private	Mayo Clinic	Multi-Specialty Health Care	4,978

Source: City of Jacksonville n.d.; Schellhorn 2013a, b.

Note:

¹ This figure represents 2012 NAS Jacksonville personnel loading numbers.

Table 3-16 shows total employment and the unemployment rates in the City of Jacksonville, Duval County, and the State of Florida from 2010 to 2012. As shown, employment has been gradually increasing and unemployment rates have been falling since 2010 in all three areas. In 2012, the unemployment rates in the State of Florida, Duval County, and the City of Jacksonville ranged from 8.7 percent in the state to 8.9 percent in Duval County (see Table 3-16), and all were above the national average monthly unemployment rate of 8.1 percent (U.S. Department of Labor 2013h).

Table 3-16 Total Employment and Unemployment Rate in the State of Florida, Duval County, and the City of Jacksonville (2010-2012)

Jurisdiction	2010		2011		2012 ¹	
	Employment	Unemployment Rate (%)	Employment	Unemployment Rate (%)	Employment	Unemployment Rate (%)
City of Jacksonville	369,362	11.2	376,764	10.4	384,470	8.8
Duval County	391,817	11.5	399,669	10.6	407,843	8.9
State of Florida	8,102,324	11.3	8,278,141	10.5	8,481,808	8.7

Source: US Department of Labor, 2013a, 2013b.

Note:

¹ Employment totals and the unemployment rates were calculated using data that did not include December (for which data were unavailable at the time of publication) and which included provisional data for November.

In 2011, the City of Jacksonville had an estimated median household income level of \$44,802, a median family income of \$56,290, and a per capita income of \$24,510. These household and family income levels were slightly higher than the average levels for the State of Florida as a whole, but the per capita income level was slightly lower than the statewide level (see Table 3-17).

Table 3-17 2011 Income Levels for the City of Jacksonville, Duval County, and the State of Florida

Income	City of Jacksonville	Duval County	State of Florida
Median Household Income	\$44,802	\$45,958	\$44,299
Median Family Income	\$56,290	\$53,958	\$53,958
Per Capita Income	\$24,510	\$24,905	\$24,905

Source: U.S. Census Bureau 2012

3.5.3 Taxes and Revenues

Jacksonville is a consolidated city/county political entity that extends geographically throughout Duval County, with the only exceptions being the Town of Baldwin and the communities of Jacksonville Beach, Atlantic Beach, and Neptune Beach. Therefore, community services and facilities are provided by the city to properties adjacent to and near to NAS Jacksonville. These properties fall under the city's fiscal jurisdiction, although the properties may also fall under other additional independent taxing authorities (e.g., school board districts or fire districts).

In FY 2011, the City of Jacksonville's total revenues were \$1.54 billion, and its total expenditures were \$1.55 billion. Between FY 2010 and 2011, revenues fell by 7.7 percent and expenditures increased by 2.1 percent. The three largest sources of revenue for the City of Jacksonville were property taxes (32.3 percent of revenues), fines and charges for services (15.1 percent of revenues), and sales and tourist taxes (11.2 percent of revenues). The three largest expenditure items were public safety (36.0 percent of expenditures), economic and physical environment⁷ (15.7 percent of expenditures), and general government (11.0 percent of expenditures). Based on a 2011 population of 865,000, per capita city revenues were \$1,784, and per capita city expenditures were \$1,795 (City of Jacksonville 2012).

⁷ Economic environment includes veteran and disabled services, the Metropolitan Planning Organization, Northeast Florida Regional Council, and the Jacksonville Economic Development Commission. Physical environment includes environmental quality, solid waste, public works, cooperative extension service, and water and sewer expansion authority (City of Jacksonville 2013b).

3.5.4 Education

The Duval County Public School System is the twenty-first-largest school district in the United States. The system has 183 schools throughout the Jacksonville metropolitan area, serving a projected total student population of approximately 127,000 in the 2012-13 school year. The system includes 104 elementary schools, two grade K-8 schools, 24 middle schools, two grade 6-12 schools, and 19 high schools. In addition, the school system administers three ESE (exceptional student education) schools, eight special schools (inclusive of a virtual school and seven alternative schools), and 21 charter schools. In 2012, the system employed 7,946 teachers among a total of 13,267 school district employees (Duval County Public Schools 2012). During the 2012-2013 school year, 275 children (69 officers' children and 206 enlisted personnel's children) resided in on-base family housing at NAS Jacksonville and attended Duval County Public Schools (Schellhorn 2013a).

Students living near NAS Jacksonville would most likely attend Venetia Elementary School, John Stockton Elementary School, or Timucuan Elementary School; J.E.B Stuart Middle School; and Robert E. Lee High School or Nathan B. Forest High School (Davis Demographics 2013).

As of June 2012, all six of these schools were operating below capacity. Venetia Elementary School had a total capacity of 468 students and a total enrollment of 416 students; John Stockton Elementary School had a total capacity of 529 students and a total enrollment of 516 students; Timucuan Elementary School had a total capacity of 705 students and a total enrollment of 646 students; J.E.B. Stuart Middle School has a total capacity of 1,008 students and a total enrollment of 877 students; the Robert E. Lee High School had a total capacity of 1,946 students and a total enrollment of 1,610 students; and the Nathan Forrest High School has a total capacity of 1,809 students and a total enrollment of 1,119 students (Florida Department of Education 2013; Duval County Public Schools 2013a; 2013b; 2013c; 2013d; 2013e; 2013f).

3.5.5 Environmental Justice

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (February 11, 1994), requires federal agencies to identify and address any disproportionately high and adverse human health or environmental effects of its actions on minority and low-income populations. In addition, EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, issued in 1997, directs federal agencies to identify and assess environmental health risks and safety risks that may disproportionately affect children.

In this analysis, minority and low-income populations and children were defined as follows:

- **Minority.** Individuals who are Black or African American, American Indian and Alaska Native, Asian⁸, Native Hawaiian and other Pacific Islander⁹, or persons of two or more races (a separate distinction has been made for people of Hispanic or Latino¹⁰ origin).
- **Low-Income.** Individuals living below the poverty line as defined by the U.S. Census Bureau.
- **Children.** Individuals under the age of 18.

⁸ Asian includes Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, and Other Asian alone, or two or more Asian categories.

⁹ Native Hawaiian and other Pacific Islander includes Native Hawaiian, Guamanian or Chamorro, Samoan and other Pacific Islander alone or two or more Native Hawaiian and other Pacific Islander categories.

¹⁰ Hispanic or Latino (of any race) includes Mexican, Puerto Rican, Cuban, and other Hispanic or Latino composed of people whose origins are from the Dominican Republic, Spain, and Spanish-speaking Central or South American countries.

Statistics pertinent to the State of Florida, the Jacksonville MSA, Duval County, and the City of Jacksonville are summarized in Table 3-18 below.

Table 3-18 Environmental Justice Statistics for NAS Jacksonville (2010)

Jurisdiction	Total Population	Percent Minority	Percent Hispanic or Latino	Percent Low-Income	Percent Children
State of Florida	18,801,310	25.0	22.5	14.7	21.3
Jacksonville MSA	1,345,596	30.1	6.9	13.1	23.8
Duval County	864,263	39.1	7.6	14.9	23.5
City of Jacksonville	821,784	40.6	7.7	15.2	23.9

Source: U.S. Census Bureau 2010a, 2010b, 2010c, 2010d, 2013a, 2013b, 2013c, and 2013d.

As shown on Table 3-18, approximately 40.6 percent of the total population in the City of Jacksonville is minority, while 7.7 percent is considered Hispanic/Latino. The minority population in the City of Jacksonville is greater than that found in the Jacksonville MSA or the State of Florida as a whole. However, the Hispanic/Latino population is much smaller in the city than in the state as a whole (see Table 3-18).

Approximately 15.2 percent of the residents of the City of Jacksonville had 2010 incomes below the U.S. Census-defined poverty level. This level was slightly greater than the 14.9 percent in Duval County and the 14.7 percent in the State of Florida. In 2010, the City of Jacksonville also had a slightly greater percentage of children, at 23.9 percent, than did Duval County or the State of Florida. The City of Jacksonville and the Jacksonville MSA had nearly the same percentage of children (see Table 3-18).

Table 3-19 lists the census block groups and census tracts near NAS Jacksonville within the modeled 2014 baseline greater than 65 dB DNL noise zone. These tables also provide information on the minority and Hispanic/Latino populations, the percentage of children that reside within the census block groups, and the percentage of low-income residents within these census tracts. Census tracts near NAS Jacksonville within the modeled 2014 baseline greater than 65 dB DNL noise zone are shown on Figure 3-4.

Table 3-19 Environmental Justice Statistics for Census Block Groups within the Modeled 2014 Baseline (No Action Alternative) Noise Zones¹ at NAS Jacksonville

Census Tract	Total Population	Percent Minority	Percent Hispanic or Latino	Percent Low-Income ²	Percent Children
Block Group 1, Census Tract 131	1,373	25.4	7.5	14.4	22.7
Block Group 1, Census Tract 132	2,311	28.5	16.4	18.5	17.1
Block Group 2, Census Tract 133	3,915	38.1	7.9	15.1	24.2
Block Group 4, Census Tract 134.02	1,360	27.6	9.3	28.2	24.5
Block Group 1, Census Tract 135.22	3,414	50.7	16.6	16.5	27.2
Block Group 4, Census Tract 165	919	9.0	5.5	2.9	21.7
Block Group 5, Census Tract 165	1,418	4.7	2.3	2.9	20.7

Source: U.S. Census Bureau, 2010a, 2010c

Notes:

¹ Noise zones represented in this table are for the greater than 65 dB DNL noise zone.

² Percent low-income is based on census tract level data.

3.6 Topography and Soils

NAS Jacksonville comprises the study area for topography and soils. The following discussion describes station-wide topography and soils for context as well as occurrence of these resources within the proposed construction areas. As described in Chapter 2.4.4.1 and shown on Figure 2-4, proposed construction areas include a 1,000-foot-long overrun to the approach end of Runway 10; a parallel taxiway and taxiway connectors for the overrun; and a new 400-foot-long asphalt blast pad at the west end of the overrun.

NAS Jacksonville lies in the Atlantic Coast Flatwoods, a physiographic region characterized by generally flat, low-lying terrain with undulating series of ancient dune ridges. The station is situated on a gentle rise between the St. Johns River to the east and the Ortega River on the west. Elevations range from sea level along the rivers to approximately 27 feet above msl inland. Much of the airfield and its adjacent developed area has been graded and is nearly level at 15 feet above msl. The highest elevation occurs in the southern portion of the station. The proposed construction area associated with the Runway 10 overrun is at approximately 19 feet above msl and has a gradual north-to-south slope.

Nineteen soil types are mapped within the boundaries of NAS Jacksonville (NRCS 2013). Common soils mapped by the Natural Resources Conservation Service (NRCS) in and around the proposed construction areas include Urban land; Albany fine sands, 0 to 5 percent slopes; Arents, nearly level; Arents, sanitary landfill; Pottsburg fine sand, high, 0 to 3 percent slopes; and Sapelo fine sand, 0 to 2 percent slopes (NRCS 2013). These soils are typically a dark color and are identified as very deep and poorly drained, with moderate permeability. However, because each of the three construction areas has been previously disturbed, it is likely that most of the original soils have either been removed or are covered with fill materials.

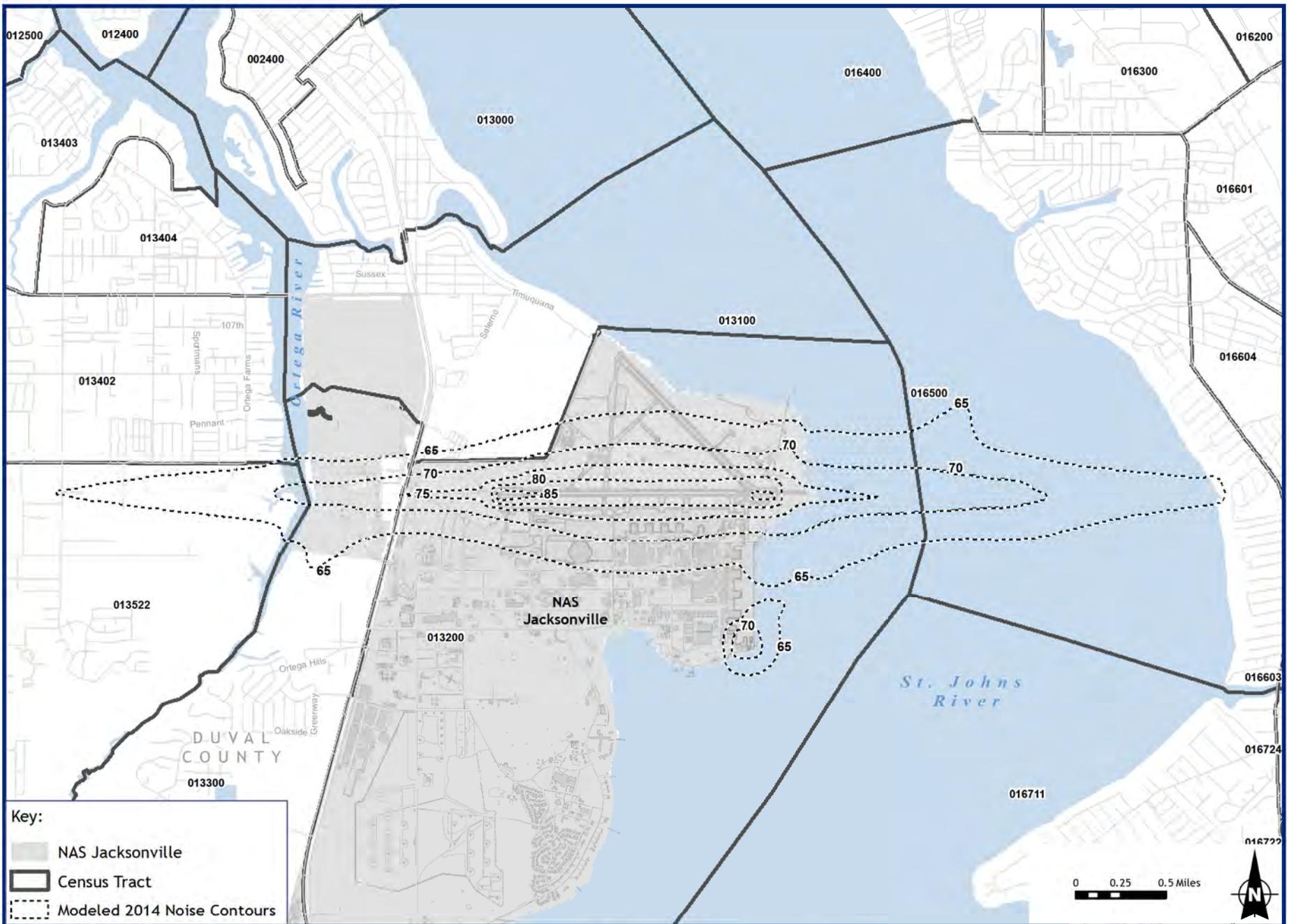
3.7 Water Resources and Wetlands

NAS Jacksonville is the study area for water resources and wetlands. The following discussion describes station-wide water resources and wetlands for context as well as occurrence of these resources within the proposed construction areas.

The Federal Water Pollution Control Act, as amended by the Clean Water Act (CWA), restores and maintains the chemical, physical, and biological integrity of the nation's waters. The CWA regulates the discharge of pollutants from point sources into waters of the U.S. The CWA, as amended in 1987, requires each state to establish water quality standards for its surface waters derived from the amount of pollutants that can be assimilated by a body of water without deterioration of a designated use. The CWA prohibits spills, leaks, or other discharges of oil or hazardous substances into the waters of the U.S. in quantities that may be harmful. The CWA limits any discharge of pollutants to a level sufficient to ensure compliance with the state water quality standards. Direct discharges of effluents are regulated under the National Pollutant Discharge Elimination System (NPDES) permits issued by the EPA or under state NPDES programs approved by EPA.

3.7.1 Surface Water

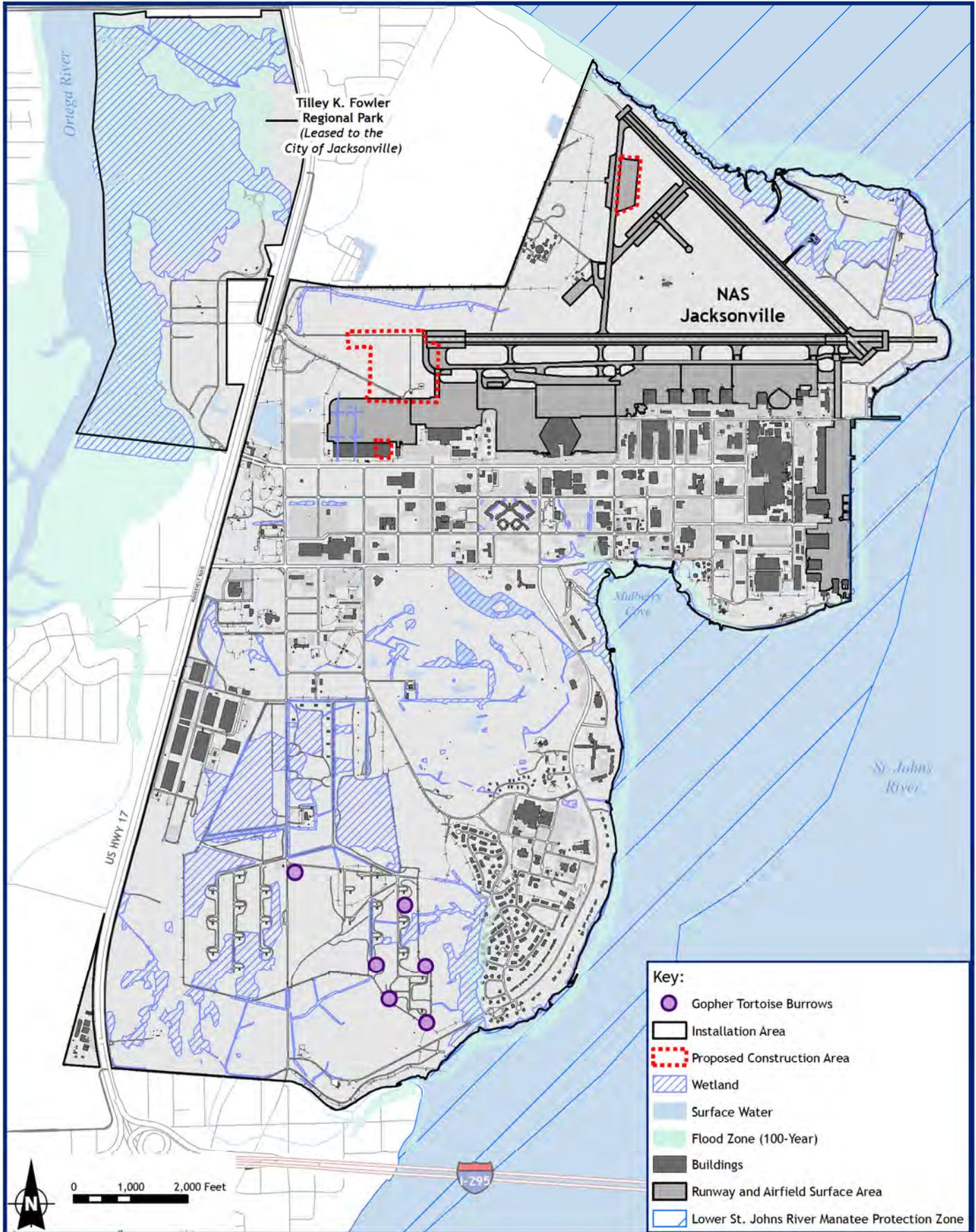
NAS Jacksonville is located on a peninsula between the St. Johns River to the east and the Ortega River to the west (see Figure 3-5). The St. Johns River in the vicinity of the station is a tidal estuary with a slow-moving northward current. The river empties into the Atlantic Ocean approximately 24 miles northeast of the station. The Ortega River is also a northward-flowing water body and enters the St. Johns River approximately 3 miles north of the station.



Source: ESRI 2010; Wyle 2013; US Census Bureau 2010.

Figure 3-4
 2010 Census Tracts Wholly or Partially within Modeled 2014 Baseline
 DNL Noise Contours at NAS Jacksonville
 Jacksonville, Florida

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Source: ESRI, 2010; City of Jacksonville, 2007; NAS Jacksonville, 2006, 2013.

Figure 3-5
Natural Resources
 NAS Jacksonville, Jacksonville, Florida

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Primary surface water bodies at NAS Jacksonville include an unnamed tributary to the St. Johns River, three unnamed tributaries to the Ortega River, and three dredged lakes (Casa Linda Lake, Lake Scotlis, and Turtle Pond). Casa Linda Lake is located adjacent to the golf course in the northernmost corner of the property and is approximately 10 acres. Lake Scotlis is approximately three acres and is located at the center of the installation. Turtle Pond is a very small pond located on the installation golf course. A detention pond is located at the western edge of the installation adjacent to Highway 17. No surface water bodies occur within or immediately adjacent to any of the proposed construction areas.

3.7.2 Water Quality

The St. Johns River and its tributaries are the main sources of surface water in the region. Surface runoff from NAS Jacksonville flows eastward to the St. Johns River or westward to the Ortega River. An extensive storm water network consisting of concrete piping, natural ditches, and box culverts conveys surface runoff from these basins to the St. Johns and Ortega rivers.

The State of Florida classifies surface waters according to their beneficial uses. These classifications are Class I (potable water supplies); Class II (shellfish propagation or harvesting); Class III (recreation and fish and wildlife propagation); Class IV (agricultural water supplies); and Class V (navigation, utility, and industrial use). The St. Johns River, its tributaries, and lakes within the lower St. Johns River basin are designated as Class III (Florida Department of Environmental Protection 2010).

The St. Johns River has a relatively flat drainage basin, multiple associated draining water bodies, and a slow flow rate. These characteristics limit assimilation capabilities and contribute to pollution levels.

Impervious surfaces cover approximately 35 percent of the land area at NAS Jacksonville; therefore, discharge of storm water from various industrial facilities located at the station is regulated under a NPDES permit. In compliance with the permit, NAS Jacksonville has prepared a Storm Water Management Plan (SWMP) and a Storm Water Pollution Prevention Plan (SWPPP) to control storm water discharges from the station that may adversely affect water quality in the lower St. Johns River basin. These plans include a description of the existing drainage conditions for each drainage basin on the station and basin-specific recommendations for storm-water-management facilities. Storm water controls implemented at the station are based primarily on the St. Johns River Water Management District regulations for storm water management. The following structural best management practices (BMPs) have been installed in the developed areas of the station to improve the quality of storm water runoff:

- Stabilized drainage channels designed to dissipate water during storm events;
- Wet and dry detention/retention ponds; and
- Grass swales and exfiltration devices.

Structural BMPs are also employed in areas such as vehicle or aircraft maintenance, wash-down, and fueling areas; outdoor material storage, loading, and unloading areas; and waste disposal areas that are exposed to storm water. Structural BMPs include skimmer dams, spill-control gates, oil/water separators, and roof and canopy structures over solid/hazardous waste storage areas.

The three proposed construction areas at NAS Jacksonville are located within the northern portion of Drainage Basin 17. This basin covers approximately 350 acres and includes a mixture of vegetated and impervious surfaces. NAS Jacksonville operates under a station-wide Section 402 NPDES Permit (Number FLR05A829MSGP, expiration date October 6, 2016) for storm water.

3.7.3 Floodplains

EO 11988, Floodplain Management, requires federal agencies to identify and consider practicable alternatives for locating incompatible facilities in areas identified as floodplains. The EO defines the term “floodplain” as “the lowland and relatively flat areas adjoining inland and coastal waters including flood-prone areas of offshore islands, including at a minimum, that area subject to a 1-percent or greater chance of flooding in any given year.” This zone of a 1-percent or greater chance of flooding in any given year is also commonly referred to as the 100-year floodplain because flooding is expected to occur once every 100 years, on average. Where practicable alternatives to siting federal facilities in the 100-year floodplain are not available, the facilities must be constructed in accordance with and be consistent with the intent of the standards and criteria of the National Flood Insurance Program.

Most of NAS Jacksonville is located outside the 100-year floodplain. Narrow floodplains associated with the St. Johns River occur along the northern and eastern boundaries of the station, while the majority of the station property west of U.S. Highway 17 is within the Ortega River floodplain. No 100-year floodplains are mapped within or adjacent to any of the proposed construction areas at NAS Jacksonville.

3.7.4 Groundwater

Water beneath NAS Jacksonville is present in three main groundwater systems: a surficial aquifer; the Hawthorne aquifer; and the Floridan aquifer. The surficial aquifer is present on the station from land surface to approximately 15 to 35 feet below ground surface (bgs). Groundwater in this aquifer flows from high to low topography and toward surface water bodies. Many ditches and the unnamed streams on the station drain groundwater from the surficial aquifer to the St. Johns and Ortega rivers. Groundwater in this aquifer is not a water supply for NAS Jacksonville or surrounding areas (ATSDR 2005).

The Hawthorne aquifer ranges from about 35 to 400 feet bgs. The aquifer is approximately 10 to 75 feet below sea level and ranges from 250 to 500 feet in thickness throughout Duval County. While some private wells near NAS Jacksonville are located within the Hawthorne aquifer, NAS Jacksonville does not use this aquifer as a water supply (ATSDR 2005).

The Floridan aquifer begins about 400 feet bgs at NAS Jacksonville and extends more than 1,000 feet bgs. Groundwater in the aquifer flows east-northeast. The Floridan aquifer is the principal source of potable water in northeast Florida, including NAS Jacksonville. NAS Jacksonville draws water from two active wells within this aquifer (ATSDR 2005); however, most of the potable water used by the station is purchased from the Jacksonville Electric Authority.

Groundwater within the surficial aquifer and top layer of the Hawthorne aquifer beneath NAS Jacksonville has been contaminated with solvents, pesticides, herbicides, semi-volatile organic compounds, metals, radionuclides, and cyanide. No contaminants have been detected in groundwater at more than 60 feet bgs. Because of the artesian nature of the Floridan aquifer, groundwater movement is likely upward toward the surficial aquifer rather than downward from the surficial aquifer. Consequently, no groundwater used by NAS Jacksonville residents and personnel drawn from the Floridan aquifer has been or would be exposed to contaminants. NAS Jacksonville also regularly monitors areas on-station to ensure that contaminated groundwater is not migrating off-site (ATSDR 2005).

3.7.5 Wetlands

Executive Order 11990, Protection of Wetlands, requires that federal agencies adopt a policy to avoid, to the extent possible, long- and short-term adverse impacts associated with destruction and modification of wetlands and to avoid the direct and indirect support of new construction in wetlands whenever there is a practicable alternative.

Field delineations of jurisdictional wetland boundaries at NAS Jacksonville were completed most recently in 2009. These surveys show approximately 627 acres of jurisdictional wetlands within the boundaries of the station. The wetland communities on NAS Jacksonville are predominantly freshwater marshes and floodplain swamp, bottomland forest, estuarine tidal marsh, dome swamp, and depression marsh, all associated with the St. Johns River and Ortega River (NAS Jacksonville 2004). No wetlands were mapped within or directly adjacent to the proposed construction area at the station at the time of the 2003 survey. Based on the results of that survey and discussions with NAS Jacksonville natural resources personnel (NAS Jacksonville 2013), no wetlands are present within the proposed construction areas.

3.8 Biological Resources

NAS Jacksonville and the surrounding land and water area that provides habitat for wildlife comprise the study area for biological resources.

3.8.1 Vegetation

Natural vegetative communities cover approximately 1,120 acres (29 percent) of NAS Jacksonville. These communities are primarily confined to the southern end of the station around the ordnance storage area and to the northwest section of the station west of U.S. Highway 17. The remainder of the installation has been developed, and vegetation in these areas is limited to managed communities, including lawns, a golf course, ornamental trees and shrubs, and fragmented forest stands.

The two primary natural vegetative communities at NAS Jacksonville are mesic flatwoods and floodplain swamp. Mesic flatwoods, along with wet and scrubby flatwoods, cover approximately 500 acres of NAS Jacksonville. The canopy of flatwoods is dominated by slash pine (*Pinus elliottii*) with occasional longleaf pine (*P. palustris*). Laurel oak (*Quercus laurifolia*), water oak (*Q. nigra*), southern magnolia (*Magnolia grandiflora*), and tupelo gum (*Nyssa biflora*) occasionally are present. The shrub stratum is dominated by saw palmetto (*Serenoa repens*), gallberry (*Ilex glabra*), and staggerbush (*Lyonia fruticosa*). The sparse groundcover is primarily bracken fern (*Pteridium aquilinum*) with occasional clumps of wiregrass (*Aristida stricta*) (NAS Jacksonville 2004).

Other natural communities include dome swamp, estuarine tidal marsh, floodplain marsh, scrubby flatwoods, and upland mixed forest (NAS Jacksonville 2004). Vegetation in the proposed construction area of the Runway 10 overrun is dominated by Bahia grass (*Paspalum notatum*) (NAS Jacksonville 2013). The vegetation in this area is regularly mowed as part of the airfield clear zone management program.

3.8.2 Wildlife

NAS Jacksonville is located within an area historically dominated by pine flatwood habitats. A broad assemblage of wildlife species may be found within these communities, but very few of these species are restricted to these habitats. Vegetative communities do not support a wide variety of wildlife because of urban development surrounding the installation and the presence of a fence line surrounding the property. NAS Jacksonville wildlife habitat is restricted to small mammals, such as the gray squirrel (*Sciurus carolinensis*), raccoon (*Procyon lotor*), rabbits, skunk (*Mephitis mephitis*), opossum (*Didelphis virginiana*), and occasionally red (*Vulpes vulpes*) and gray fox (*Urocyon cinereoargenteus*), as well as small amphibians and reptiles including salamanders, lizards, frogs, toads, snakes, and turtles. Terrestrial bird species include the pine warbler (*Dendroica pinus*), woodpeckers, tufted titmouse (*Baeolophus bicolor*), brown-headed nuthatch (*Sitta pusilla*), vultures, hawks, wrens, and swallows.

3.8.3 Migratory Birds

The Migratory Bird Treaty Act (MBTA) is the primary legislation in the United States established to conserve migratory birds. The MBTA prohibits taking, killing, or possessing migratory birds unless permitted by regulation. Migratory bird conservation in relation to the proposed action is addressed in a Memorandum of Understanding developed in accordance with EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, signed January 10, 2001. This memorandum between DoD and the USFWS outlines the responsibility of federal agencies to protect migratory birds and how to incorporate conservation efforts into their routine operations and construction activities; the memorandum was recently re-signed to cover DoD activities through 2013.

A study of migratory birds at NAS Jacksonville was conducted between 1997 and 2004 (NAS Jacksonville 2004). The study identified more than 50 species of neotropical migratory bird species on the station. The most common species on the installation covered by the MBTA included the eastern towhee (*Pipilo erythrophthalmus*), red-winged blackbird (*Agelaius phoeniceus*), northern cardinal (*Cardinalis cardinalis*), blue jay (*Cyanocitta cristata*), and Carolina wren (*Thryothorus ludovicianus*). Migratory waterfowl species observed within the vicinity of NAS Jacksonville include the pintail (*Anas acuta*), geese, northern shoveler (*A. clypeata*), gadwall (*A. strepera*), redhead duck (*Aythya americana*), and ring-necked duck (*A. collaris*).

3.8.4 Threatened and Endangered Species

The Endangered Species Act (ESA) of 1973 and subsequent amendments provide for the conservation of threatened and endangered species of animals and plants and the habitats in which they are found. The Navy ensures that consultations are conducted as required under Section 7 of the ESA for any action that “may affect” a federally listed threatened or endangered species. Although protection of species listed at the state level as threatened or endangered is not legally mandated for federal agencies, the Navy encourages cooperation with states to protect such species when such protection is consistent with an installation’s mission.

Information on the potential occurrence of federally listed threatened and endangered species within and in the vicinity of NAS Jacksonville was obtained from the Florida Natural Areas Inventory (FNAI), USFWS North Florida Field Office, and National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS) Southeast Regional Office. In 1997, FNAI conducted a survey for endangered, threatened, and rare plant and animal species occurring on NAS Jacksonville and other Navy properties in the region (FNAI 1997). Additionally, FNAI submitted a final report in 2004 on field surveys conducted on selected rare species found at NAS Jacksonville and supporting installations.

NMFS and the USFWS share responsibility for implementing the ESA. Generally, USFWS manages land and freshwater species, while NMFS manages marine and anadromous species¹¹. Each of these agencies maintains databases to track the occurrence of threatened and endangered species: the USFWS provides species occurrences on a county level (USFWS 2013); the NMFS provides species occurrences by marine and estuarine water bodies (NMFS 2013a). For this SEIS, USFWS and NMFS databases, along with the NAS Jacksonville INRMP, were searched to identify the potential occurrences of federally listed threatened and endangered species within Duval County, on NAS Jacksonville, and in the waters surrounding NAS Jacksonville.

A total of 12 ESA-listed species were identified as occurring within the vicinity of NAS Jacksonville, of which eleven are managed by the USFWS and one by NMFS. Threatened and endangered species managed by USFWS within the vicinity of NAS Jacksonville include the piping plover (*Charadrius*

¹¹ Migratory fishes that spend most of their lives in the sea and migrate to freshwater to breed.

melodus), red-cockaded woodpecker (*Picoides borealis*), wood stork (*Mycteria americana*), eastern indigo snake (*Drymarchon corais couperi*), frosted salamander (*Ambystoma cingulatum*), West Indian (Florida) manatee (*Trichechus manatus latirostris*), green sea turtle (*Chelonia mydas*), hawksbill sea turtle (*Eretmochelys imbricata*), Kemp's ridley sea turtle (*Lepidochelys kempii*), leatherback sea turtle (*Dermochelys coriacea*), and loggerhead sea turtle (*Caretta caretta*). The ESA-listed species managed by the NMFS is the shortnose sturgeon (*Acipenser brevirostrum*). The current federal protection status and presence of each of these species within the vicinity of NAS Jacksonville are indicated in Table 3-20.

Table 3-20 Federally Protected Species that May Occur at or in the Vicinity of NAS Jacksonville

Common Name	Scientific Name	ESA Listing	Presence in the Study Area
Birds			
Piping Plover	<i>Charadrius melodus</i>	Threatened	No suitable habitat at or adjacent to NAS Jacksonville
Red-cockaded Woodpecker	<i>Picoides borealis</i>	Endangered	No sightings at or adjacent to NAS Jacksonville.
Wood Stork	<i>Mycteria americana</i>	Endangered	Transient occurrences of wood stork recorded at the station. No nesting activity documented on or adjacent to the station.
Reptiles			
Eastern Indigo Snake	<i>Drymarchon corais couperi</i>	Threatened	Closely associated with the gopher tortoise. Gopher tortoise burrows are present in the southern portion of the station within the weapons compound.
Green Sea Turtle	<i>Chelonia mydas</i>	Endangered	No suitable nesting habitat at or adjacent to NAS Jacksonville.
Hawksbill Sea Turtle	<i>Eretmochelys imbricata</i>	Endangered	No suitable nesting habitat at or adjacent to NAS Jacksonville.
Kemp's Ridley Sea Turtle	<i>Lepidochelys kempii</i>	Endangered	No suitable nesting habitat at or adjacent to NAS Jacksonville.
Leatherback Sea Turtle	<i>Dermochelys coriacea</i>	Endangered	No suitable nesting habitat at or adjacent to NAS Jacksonville.
Loggerhead Sea Turtle	<i>Caretta caretta</i>	Threatened	No suitable nesting habitat at or adjacent to NAS Jacksonville.
Amphibians			
Frosted Salamander	<i>Ambystoma cingulatum</i>	Threatened	Occupies slash and longleaf pine flatwoods. Not observed on NAS Jacksonville.
Fish			
Shortnose Sturgeon	<i>Acipenser brevirostrum</i>	Endangered	Very rare in St. Johns River. Observed approximately 40 miles upstream from NAS Jacksonville.
Mammals			
West Indian (Florida) Manatee	<i>Trichechus manatus latirostris</i>	Endangered/ Critical Habitat	The reach of the St. Johns River adjacent to NAS Jacksonville is part of the Lower St. Johns River Manatee Refuge.

Source: NAS Jacksonville 2004; U.S. Fish and Wildlife Service 2013a; NMFS 2013a, 2013b

3.8.4.1 USFWS-Managed Species

Piping Plover and Red-Cockaded Woodpecker

The Piping plover is a small, migratory shorebird found on sandy beaches occurring along the Atlantic Ocean (USFWS 2013). Due to its inland location, no plovers have been recorded on or adjacent to NAS Jacksonville.

The red-cockaded woodpecker is endemic to the southeastern United States (USFWS 2008). A year-round resident, it inhabits mature pine forest and is seen near sunrise and sunset, as it leaves for or returns from foraging. There have been no sightings of this species at NAS Jacksonville.

Wood Stork

Wood storks use a variety of freshwater and estuarine wetlands for nesting and feeding. Preferred nest sites are medium to tall trees either in water or on islands surrounded by large open water areas. Storks normally use the same nest sites every year, provided the sites remain undisturbed and sufficient forage habitat remains available in adjacent wetlands. Typical forage areas include freshwater marshes, narrow tidal creeks, shallow tidal pools, agricultural or roadside drainage ditches, and managed impoundments. Most foraging occurs within 13 miles of nesting colonies, although wood storks have been observed to travel up to 60 miles from nest sites to forage (USFWS 1997b). Approximately 50 wood stork nesting colonies are documented in north Florida, two of which have been confirmed in Duval County (NAS Jacksonville 2004).

In 2004, the FNAI surveyed potential wood stork nesting habitat on NAS Jacksonville. Transect surveys were completed through forested wetlands along the Ortega River to determine the presence or absence of wood stork nesting. No sign of wood storks or other colonial nesting birds was observed. The swamp along the Ortega River was determined to be not typical of wood stork nesting habitat, and the area is not likely to attract wood storks in search of new nesting areas (FNAI 2004).

The closest wood stork nesting colony to NAS Jacksonville is located approximately 10 miles north of the station within the St. Johns River floodplain (USFWS 2013). From 1997 to 2003, one wood stork was detected at the main station (NAS Jacksonville 2004).

Wood storks have recently been observed at NAS Jacksonville at Tillie Fowler Park (Navy-owned land across Roosevelt Boulevard), on the station golf course, and in trees near Turtle Pond. None of these observations have been associated with nesting colonies.

Eastern Indigo Snake

The eastern indigo snake most commonly inhabits sites with dry, well-drained sandy soils. The indigo snake is closely associated with the gopher tortoise when in this habitat and uses gopher tortoise burrows as dens and for egg-laying (USFWS 2008b). Gopher tortoise burrows are present in the southern portion of the station within the weapons compound (NAS Jacksonville 2004).

Frosted Salamander

The medium-sized (up to 5 inches) frosted salamander inhabits slash and longleaf pine flatwoods that have a wiregrass floor and scattered wetlands. This species has not been observed at NAS Jacksonville.

Manatee

Florida manatees, a native subspecies of the West Indian manatee, inhabit freshwater, brackish, and marine habitats in coastal and inland areas of the southeastern U.S. Shallow grass beds located near deep channels are preferred manatee feeding areas in these habitats (USFWS 2001). The FNAI recorded 82

manatees along the immediate coastline of NAS Jacksonville during the 1996 survey (FNAI 1997). During the summer, manatees regularly feed along the station shoreline in Mulberry Cove (see Figure 3-5).

The stretch of the St. Johns River adjacent to NAS Jacksonville is part of the Lower St. Johns River Manatee Refuge (see Figure 3-5). The refuge was established to prevent the taking of manatees from collisions with watercraft. In the portion of the refuge adjacent to the station, watercraft are required to travel at slow speeds within the manatee protection zone and no more than 25 miles per hour (mph) while in the channel (NAS Jacksonville 2004, USFWS 2013). In addition to protection under the ESA, the manatee is also protected under the Marine Mammal Protection Act (MMPA) (see Chapter 3.8.7).

Sea Turtles

There are no known sea turtle nesting beaches at or adjacent to NAS Jacksonville, and these species have not been recorded in the St. Johns River adjacent to NAS Jacksonville.

3.8.4.2 NMFS-Managed Species

Shortnose Sturgeon

The shortnose sturgeon is a semi-anadromous species, inhabiting the lower estuarine portions of rivers and traveling upstream to spawn (NMFS 2010). Breeding normally occurs over rocky or gravelly substrate or limestone outcroppings.

Fish sample collection was conducted in 2002 and 2003 by the Florida Fish and Wildlife Conservation Commission (FFWCC) to determine population levels of the shortnose sturgeon in the lower St. Johns River (FFWCC 2013b). Only one shortnose sturgeon was collected during 820 hours of sampling. The sturgeon was collected approximately 40 miles upstream of NAS Jacksonville, near an area known for historical shortnose sturgeon catches.

3.8.5 Bald and Golden Eagles

The bald eagle (*Haliaeetus leucocephalus*) was delisted under ESA, effective August 8, 2007, because of its reproductive success throughout the U.S. However, taking of bald eagles is still prohibited under the Bald and Golden Eagle Protection Act (BGEPA) of 1940, as amended in 1978, as well as the MBTA. The BGEPA prohibits “taking” bald or golden eagles, including their parts, eggs, or nests, without a permit issued by the Secretary of the Interior. It defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb” (16 U.S.C. 668-668d). “Disturb” means “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle; 2) a decrease in its productivity by substantially interfering with normal breeding, feeding, or sheltering behavior; or 3) nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior” (50 CFR Part 22). Inactive eagle nests, which may become active again, are also protected under the act.

FFWCC conducted an aerial survey of known eagle nesting territories from 2008 to 2012 (FFWCC 2013a). This survey identified three active bald eagle nests within approximately 3 miles of NAS Jacksonville:

- A bald eagle nest that was confirmed active in 2012 is located approximately 1.4 miles west of the station at Ringhaver Park.
- A bald eagle nest that was confirmed active in 2012 is located on NAS Jacksonville, south of the installation’s golf course.

- A bald eagle nest that was confirmed active in 2012 is located on the eastern shore of the St. Johns River, approximately 2.5 miles east of the station.

3.8.6 Other Species of Concern

Other species of concern evaluated in this SEIS include candidate species proposed for listing under the ESA. Other species of concern identified with potential to occur on or in the immediate vicinity of NAS Jacksonville include the gopher tortoise (*Gopherus polyphemus*) and the striped newt (*Notophthalmus perstriatus*) (USFWS 2013).

Gopher tortoises inhabit well-drained sandy areas and are commonly found in sandhill, pine flatwoods, scrub, scrubby flatwoods, dry prairies, xeric hummock, pine mixed hardwoods, and coastal dunes (FFWCC 2013). Suitable gopher tortoise habitat exists primarily in the southern portion of the station in the vicinity of the weapons bunkers and weapons compound. Six active and two abandoned gopher tortoise burrows were found in the southeast corner of the weapons compound during field surveys completed in 2005 (NAS Jacksonville 2006).

USFWS, along with branches of the DoD including NAS Jacksonville; the fish and wildlife agencies of Florida, Georgia, Alabama, and South Carolina; and related non-profit organizations, drafted and executed a Candidate Conservation Agreement for the gopher tortoise. This agreement develops a range-wide approach to gopher tortoise management and conservation in its eastern range. In addition to signing this agreement, the Navy prepared a Gopher Tortoise Management Plan for the station to address maintenance in the weapons area and because the tortoise is a keystone species whose removal from the station would impact other species, possibly including federally listed species (NAS Jacksonville 2006). The plan provides actions for habitat improvements, habitat protection, and tortoise relocations when necessary for safety or mission-related development (NAS Jacksonville 2006). Based on discussions with NAS Jacksonville natural resources personnel, no gopher tortoise burrows are present within the proposed construction areas.

The striped newt occupies shallow, unpolluted water, usually with some kind of vegetation. Temporary ponds or bays are more preferred because they lack fish, among other predators, which increases larval survival. No suitable habitat for this species has been identified at NAS Jacksonville.

3.8.7 Marine Mammals

The MMPA is administered by the USFWS and NMFS to protect and manage marine mammals. No marine mammals other than the West Indian (Florida) manatee have been documented in the waters adjacent NAS Jacksonville (NAS Jacksonville 2004).

3.9 Cultural Resources

Under NEPA, cultural resources include archaeological resources, architectural or built resources, and Native American resources. Under Section 106 of the National Historic Preservation Act of 1966 (NHPA) and its implementing regulations at 36 CFR Part 800, the head of any federal agency having direct or indirect jurisdiction over a proposed federal or federally financed undertaking must identify historic properties within a proposed project's area of potential effect (APE) and consider the effects of the proposed undertaking on these properties.

Implementing regulations for Section 106 at 36 CFR Part 800 define historic properties as any prehistoric or historic district, site, building, structure, or object included in or eligible for inclusion in the NRHP, including the artifacts, records, and remains that are related to and located within such properties and including properties of traditional religious and cultural importance to a federally recognized Indian tribe. Such properties must meet the NRHP criteria for eligibility (36 CFR Part 60). Eligibility determinations

are based on NRHP (Table 3-21) and National Park Service (NPS) criteria (Table 3-22) for architectural integrity.

Table 3-21 National Register of Historic Places Criteria for Historic Significance

36 CFR 60.4, Part I
<p>The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:</p> <ul style="list-style-type: none">A. That are associated with events that have made a significant contribution to the broad patterns of our history; orB. That are associated with the lives of persons significant in our past; orC. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; orD. That have yielded, or may be likely to yield, information important in prehistory or history.
36 CFR 60.4, Part II
<p>Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the NRHP. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:</p> <ul style="list-style-type: none">A. A religious property deriving primary significance from architectural or artistic distinction or historical importance; orB. A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; orC. A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life; orD. A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; orE. A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; orF. A property primarily commemorative in intent if design, age, traditions, or symbolic value has invested it with its own exceptional significance; orG. A property achieving significance within the past 50 years if it is of exceptional importance.

Source: U.S. Department of the Interior, National Park Service 1995.

Table 3-22 National Park Service Criteria for Architectural Integrity

Criteria	Definition of Architectural Integrity
Location	Must not have been moved.
Design	Must retain historic elements that create the form, plan, space, structure, and style of the property.
Setting	Setting must retain its historic character.
Materials	Must retain the key exterior materials dating from the period of its historic significance.
Workmanship	Methods of construction from its time of significance must be evident.
Feeling	Physical features must convey its historic character.
Association	Must be the actual place where a historic event or activity occurred and must be sufficiently intact to convey that relationship to an observer.

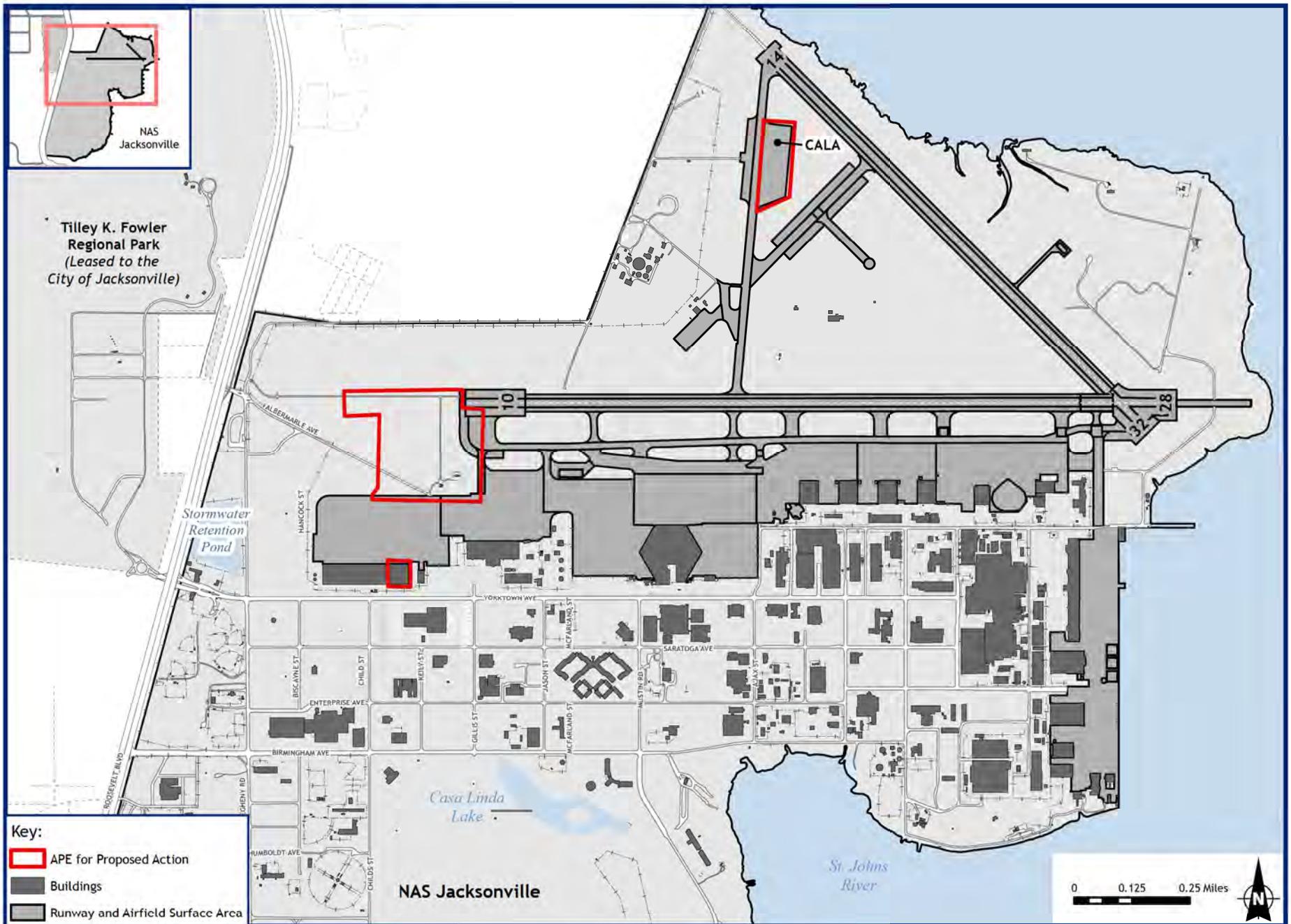
Source: U.S. Department of the Interior, National Park Service 1995.

Native American resources are cultural resources of interest or importance to federally recognized Indian tribes and may be archaeological, architectural, geographical, or biological. Such resources may also be considered historic properties or tangible or physical properties of traditional religious and cultural importance to an Indian tribe that meet the NRHP criteria (ACHP 2004, Parker and King 1990). Such resources may also include Traditional Cultural Properties (TCPs): properties that are eligible for inclusion in the NRHP because of their association with cultural practices or beliefs of a living community that (a) are rooted in that community's history and (b) are important in maintaining the continued cultural identity of the community (Parker and King 1990). Additionally, Native American resources may include culturally sensitive locations, such as sacred sites, or cultural items that are offered protection under the American Indian Religious Freedom Act (AIRFA), EO 13007, the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and other federal legislation and regulations, as described in the Integrated Cultural Resources Management Plan (ICRMP) for NAS Jacksonville (SEARCH 2010).

For the purposes of the identification and evaluation of cultural resources, the project area for the proposed action is considered the same as the APE. Implementing regulations for Section 106 define the APE for an undertaking as the geographical area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking. For the purposes of compliance with Section 106, the APE for the proposed action is the footprint within which existing or new facilities are or would be located at NAS Jacksonville (see Figure 3-6).

3.9.1 Architectural Resources

Two architectural or built resources are associated with the APE for the proposed action at NAS Jacksonville: Hangar 511 and the CALA. The Navy defines buildings and structures according to the definitions provided in *National Register Bulletin 16A: How to Complete the National Register Registration Form*. A building is a construction "...created principally to shelter any form of human activity." Structures are "...those functional constructions made usually for purposes other than creating human shelter" (NAVFAC 2013). According to these definitions, Hangar 511 and the CALA are both considered structures.



Source: ESRI, 2012; City of Jacksonville, 2007; NAS Jacksonville, 2012

Figure 3-6
 Area of Potential Effects at NAS Jacksonville
 Jacksonville, Florida

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The 2010 ICRMP for NAS Jacksonville indicated that neither of the two architectural or built resources within the APE has been evaluated for NRHP-eligibility (SEARCH 2010). Hangar 511 is an existing structure that was built in 2009 and would not be NRHP-eligible due to its age (four years old). The CALA is also an existing structure (a paved area with markings, lighting, and tie-downs). Its location along the eastern side of Taxiway Charlie suggests that it may be associated with the taxiway. Taxiway Charlie was built in 1941 and has been recommended as needing evaluation to determine its NRHP-eligibility (SEARCH 2010).

3.9.2 Archaeological Resources

An intensive archaeological site assessment survey and inventory was conducted at NAS Jacksonville in 1997, which included the APE for the proposed action. No archaeological resources were identified within the APE at NAS Jacksonville (Johnson 1997, as cited in SEARCH 2010).

3.9.3 Native American Resources

No previously identified Native American resources are present within the APE at NAS Jacksonville (SEARCH 2010).

3.10 Hazardous Materials and Waste Management

Hazardous materials are used at NAS Jacksonville for airfield operations and industrial support activities, including petroleum, oils, and lubricants; solvents and thinners; caustic cleaning compounds and surfactants; cooling fluids (antifreeze); adhesives; acids and corrosives; paints; and herbicides, pesticides, and fungicides. Hazardous materials are used for aircraft and vehicle repair and maintenance at NAS Jacksonville. Activities at NAS Jacksonville that generate hazardous wastes include painting, using solvents for cleaning and degreasing, mechanical and chemical paint and corrosion removal, fluids change-out, electroplating, metal casting, machining, and welding or soldering. The Navy monitors its operations to minimize the use of hazardous materials and reduce the generation of hazardous wastes. If not consumed during use, these materials and possibly their containers eventually may be disposed of as a solid or hazardous waste.

NAS Jacksonville is classified as a large-quantity hazardous waste generator, as defined by the Resource Conservation and Recovery Act (RCRA), because it has the potential to generate more than 2,200 pounds of hazardous waste every month. Hazardous wastes are accumulated at less-than-90-day accumulation points throughout the station before being transferred to permitted storage facilities and then collected and stored on site in accordance with NAS Jacksonville's RCRA Part B operating permit. Collection, transportation, and disposal of wastes at NAS Jacksonville are conducted through the Public Works Department (EDAW, Inc. 2009). Paint waste, rags with paint thinner, and electroplating waste make up the largest components of the hazardous waste stream generated at NAS Jacksonville (EDAW, Inc. 2009).

Environmental Restoration Program Sites

Hazardous waste disposal sites at NAS Jacksonville have been investigated under the DoD's Environmental Restoration Program (ERP), comprised of both the Installation Restoration Program and Munitions Response Program, in compliance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act for former waste sites and with RCRA for sites associated with continuing operations. Restoration processes have been in place at NAS Jacksonville since 1985, when site assessments were initiated. The purpose of the ERP is to identify, assess, characterize, and clean up or control contamination caused by past hazardous waste disposal practices and hazardous material spills at Navy facilities. Past hazardous material use, and methods of disposal, although acceptable at the time, resulted in pollutants being released into soil and groundwater. The Navy has taken an aggressive and proactive approach to cleaning up its hazardous waste sites through the ERP.

Sites designated as potential sources of contamination (PSC) at NAS Jacksonville are in various stages of investigation and remediation under either the ERP or have been transferred to the Petroleum Program. NAS Jacksonville has entered into a Memorandum of Agreement with the EPA and the Florida Department of Environmental Protection regarding long-term land use controls for these sites and to ensure final remedies remain in place (EDAW, Inc. 2009).

One PSC is located in proximity to the proposed construction area, PSC 4, Pine Tree Planting Area. This approximately 70-acre site, adjacent to the proposed construction area to the north, was used formerly as a disposal site for wastewater treatment plant sludge, asbestos, oil, and other petroleum products. Remedial investigations, including groundwater and surface water testing and sediment sampling, were conducted between 1985 and 1992. Due to concentrations of metals (chromium, cadmium, mercury, and silver) detected at the site, sludge piles and soil surrounding one sludge sampling location were removed in January 1997. The remedial investigation was completed in January 1998. A Record of Decision was signed on October 20, 1998, recommending no further action planned with implementation of land use controls.

3.11 Safety

Safety is a priority for the Navy. The Navy practices operational risk management as outlined in the Office of the Chief of Naval Operations Instruction 3500.9 A. Requirements outlined in this document provide a process to maintain readiness in peacetime and achieve success in combat while safeguarding people and resources. The primary safety issues include flight safety (Chapter 3.11.1) and BASH (Chapter 3.11.2).

3.11.1 Flight Safety

The FAA is responsible for ensuring the safe and efficient use of U.S. airspace by military and civilian aircraft and for supporting national defense requirements. To fulfill these requirements, the FAA has established safety regulations, airspace management guidelines, a civil-military common system, and cooperative activities with the DoD. In addition, the Navy has developed guidance on airfield safety zones, flight rules, ATC procedures, and safety procedures.

To complement flight training, all Navy pilots use state-of-the-art simulators. Simulator training includes flight operations and comprehensive emergency procedures, which minimizes risks associated with mishaps due to pilot error. Additionally, highly trained maintenance crews routinely inspect each aircraft in accordance with Navy regulations, and maintenance activities are monitored by senior technicians to ensure aircraft are equipped to withstand the rigors of operational and training events safely.

The primary safety concern with regard to military aircraft training operations is the potential for aircraft mishaps to occur. Aircraft mishaps could be caused by mid-air collisions with other aircraft or objects, weather, mechanical failures, pilot error, or BASH (See Chapter 3.11.2). Aircraft mishaps are classified as Class A, B, or C according to the severity of injury to individuals and total property damage, with the most severe being a Class A Mishap (\$2 million or more in property damage, aircraft destroyed, or fatality or permanent total disability) and the least severe a Class C Mishap (\$50,000 to \$500,000 in property damage and/or nonfatal injury) (Naval Safety Center 2012).

NAS Jacksonville maintains emergency and mishap response plans to guide responses to aircraft accidents. These plans assign responsibilities and prescribe functional activities necessary to react to major mishaps, whether on- or off-station. Response would normally occur in two phases. The initial response focuses on rescue, evacuation, fire suppression, safety, elimination of explosive devices, ensuring security of the area, and other actions immediately necessary to prevent loss of life or further property damage. The second phase is the mishap investigation.

3.11.2 Bird/Wildlife Aircraft Strike Hazards

The presence of resident and migratory birds creates a potential BASH risk at NAS Jacksonville. The airfield's proximity to a major river, several large hangars, and expanses of grass and emergent wetlands adjacent to the airfield increase the potential BASH risk. NAS Jacksonville has prepared and implemented a BASH plan, inclusive of wildlife hazard assessment surveys, to reduce the potential for collisions between aircraft and birds or other animals. The BASH plan prescribes an ongoing process that involves the distribution of information and active and passive measures to control how birds use the critical areas around the airfield. Methods outlined in the plan to reduce BASH risk at the airfield include habitat management, bird dispersal, depredation, and bird avoidance.

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APPENDIX E

STATUS OF ENVIRONMENTAL RESTORATION PROGRAM SITES AT NAS JACKSONVILLE

STATUS OF ENVIRONMENTAL RESTORATION PROGRAM SITES AT NAS JACKSONVILLE

As a result of ERP activities at NAS Jacksonville, a total of 58 PSC sites, 26 PCA sites, and 6 UXO sites have been identified for investigation and cleanup under the CERCLA and/or FDEP UST Program processes. These sites have been grouped into operable units (OUs) according to either geographic proximity or administrative similarities in CERCLA activities. The specific sites that comprise each OU and a summary of the known or suspected contaminants, completed actions, current status, and next steps at each site are identified in Table E-1 below. A copy of the current RCRA operating permit, 72437-HO-011 (Expiration Date May 25, 2019), which also identifies the various types of hazardous waste sites at the facility and their current status, is also provided below.

Table E-1. Status of Installation Restoration Program and Munitions Response Program Sites at NAS Jacksonville

Site ID	Site Name	Known or Suspected Wastes and Contaminants	Completed Actions and Current Status	Next Steps
OPERABLE UNIT 1 – OIL AND SOLVENT DISPOSAL PITS AREA				
PSC 26	Old Main Registered Disposal Area	Paint waste, radium paint, household and sanitary waste, liquid industrial waste, and demolition and construction debris	Initial cleanup to address petroleum contamination completed and site was capped. Passive LNAPL recovery was discontinued because RAOs have been achieved. LUCRD has been developed and is in review. LTM underway.	Post-ROD remedial action under OU1, including landfill maintenance and LTM Reports.
PSC 27	Ex-PCB Transformer Storage Area	PCBs	PSC 27 remedy consists of capping and LUCs.	Post-ROD remedial action under OU1, including landfill maintenance and LTM Reports.
OPERABLE UNIT 2 – WASTEWATER TREATMENT PLANT AREA				
PSC 2	Former Firefighter Training Area (aka PCA 15)	Fuel oil	Contaminated soil was removed for thermal treatment, and site was transferred to petroleum program as PCA 15. Remedy (AS/SVE) was in place 2001, but discontinued. Site is now in MNA.	Evaluate OU2 remedy effectiveness in 5-Year Review.
PSC 3	WWTP Ex-Sludge Disposal Area	Sludge from drying beds	ROD signed and remedy implemented in 1998. LUCs (GW and site use restrictions) are in place.	Use of the site is controlled through the LUCIP.
PSC 4	Pine Tree Planting Area	Sludge from WWTP drying beds, asbestos, oil, and other petroleum products	ROD signed and remedy implemented in 1998. LUCs (GW and site use restrictions) are in place.	Use of the site is controlled through the LUCIP.
PSC 41	Domestic Waste Sludge Drying Beds	Sludge, metals	Interim cleanup completed; ROD signed and remedy implemented in 1998. LUCs (GW and site use restrictions) are in place.	NFRAP.
PSC 42	Wastewater Treatment Plant Effluent Polishing Pond	Sludge, metals	Interim cleanup completed; ROD signed and remedy implemented in 1998. LUCs (GW and site use restrictions) are in place.	Continue MNA with annual LTM reports. Use of the site is controlled through the LUCIP.

Site ID	Site Name	Known or Suspected Wastes and Contaminants	Completed Actions and Current Status	Next Steps
PSC 43	Industrial Waste Sludge Drying Beds	Sludge, metals	Interim cleanup completed; ROD signed and remedy implemented in 1998. LUCs (GW and site use restrictions) are in place.	NFRAP.
OPERABLE UNIT 3 – INDUSTRIAL AREA AND DRY CLEANERS				
PSC 11	Hangar Building 101	Solvents, metals	Approximately 100 tanks in electroplating shop were removed, a mercury spill was cleaned up, and the shop was closed. NFRAP under ROD in 2000. PSC 11 is considered to be the source of groundwater contamination identified as Area A.	Area A is currently in Post-ROD MNA for groundwater at OU 3. Continue OU 3 RI/FS Addendum activities.
PSC 12	Old Test Cell, Building 101K	Solvents	NFRAP under ROD in 2000.	PSC 12 is currently in Post-ROD MNA for groundwater at OU 3. Continue OU 3 RI/FS Addendum activities.
PSC 13	Radium Paint Waste Disposal Pit	Radium paint waste	Contaminated soil successfully removed. NFRAP under ROD in 2000.	PSC 13 is currently in Post-ROD MNA for groundwater at OU 3. Continue OU 3 RI/FS Addendum activities.
PSC 14	Battery Shop	Lead, metals, solvents	ROD signed in 2000 and remedy implemented in 2004. Lead soil contamination remains on site. LUCs are in place to prevent unrestricted land use.	LUCs were implemented to prevent potential exposure to contaminated media. Continue OU 3 RI/FS Addendum activities.
PSC 15	Solvent and Paint Sludge Disposal Area	Solvents, paint wastes, radium	NFRAP under ROD in 2000. Radiological contamination remains under concrete pad or lower than 3 feet bgs. LUCs are in place to prevent unrestricted land use. Groundwater contamination from PSC 15 was designated Area G.	Area G is currently in Post-ROD MNA for groundwater at OU 3. Continue OU 3 RI/FS Addendum activities with enhanced bioremediation with emulsified vegetable oil.
PSC 16	Black Point Storm Sewer Discharge	JP-5 jet fuel, oil, metals, solvents	ROD signed in 2000 and remedy implemented in 2002. In 2007, a sediment toxicity study showed contaminant concentrations at PSC 16 to be within background. Therefore, NFA is the appropriate response for this site.	PSC 16 received NFA status.
PSC 48	Base Dry Cleaners (Building 106)	Dry cleaning solvents	Interim remedy implemented in 1998, and ROD signed in 2000. Remedy (AS/SVE) operated from 2002 to 2005 when it was discontinued. Site was re-evaluated and addressed holistically along with other OU 3 sites in a new ROD.	PSC 48 is a focus area for the OU 3 RI Addendum with enhanced bioremediation with emulsified vegetable oil and electrokinetics.
Building 780	Groundwater in vicinity of Building 780	Chlorinated solvents	ROD signed and remedy (GW pump/treat, SVE) implemented in 2000. Remedy discontinued due to lack of effectiveness. Site will be re-evaluated and addressed holistically along with other OU 3 sites in a new ROD.	Building 780 is a focus area for the OU 3 RI Addendum with enhanced bioremediation with emulsified vegetable oil.
Area A	Groundwater Area A	Chlorinated solvents	ROD approved in 2007. GW contaminant concentrations remain high and there is potential NAPL present.	Area A is currently in Post-ROD MNA for groundwater at OU 3 with annual LTM reports. Continue OU 3 RI/FS Addendum activities.

Site ID	Site Name	Known or Suspected Wastes and Contaminants	Completed Actions and Current Status	Next Steps
Area B	Groundwater Area B	Chlorinated solvents	ROD approved in 2000, and remedy (MNA) in place 2003. Site will be addressed holistically along with other OU 3 sites in a new ROD.	Area B is currently in Post-ROD MNA for groundwater at OU 3 with biennial LTM reports. Continue OU 3 RI/FS Addendum activities.
Area C	Groundwater Area C	Chlorinated solvents	ROD approved in 2000, and remedy (enhanced biodegradation) in place 2002. Area C was treated using HRC with post-remediation. Additional site investigation is underway to evaluate potential impacts to the St. Johns River. Site will be addressed holistically along with other OU 3 sites in a new ROD.	Continue OU 3 RI/FS Addendum activities.
Area D	Groundwater Area D	Chlorinated solvents	ROD approved in 2000, and remedy (enhanced biodegradation) in place 2002. Area D was treated using HRC with post-remediation. Post-injection monitoring is underway. Site will be addressed holistically along with other OU 3 sites in a new ROD.	Continue OU 3 RI/FS Addendum activities.
Area E	Groundwater Area E	Chlorinated solvents	RI/FS completed in 2004. Site will be addressed holistically along with other OU 3 sites in a new ROD.	Continue OU 3 RI/FS Addendum activities.
Area F	Groundwater Area F	Chlorinated solvents	ROD approved in 2000, but remedy (chemical oxidation) not yet implemented. Further investigation of site is underway. Site will be addressed holistically along with other OU 3 sites in a new ROD.	Area F is a focus area for the OU 3 RI/FS Addendum with enhanced bioremediation with emulsified vegetable oil and MNA.
Area G	Groundwater Area G	Chlorinated solvents	ROD approved in 2000 and remedy (MNA) in place 2003. Additional site investigation is underway to evaluate potential impacts to the St. Johns River. Site will be addressed holistically along with other OU 3 sites in a new ROD.	Area G is currently in Post-ROD MNA for groundwater at OU3 with biennial LTM reports. Continue OU 3 RI/FS Addendum activities with enhanced bioremediation with emulsified vegetable oil and MNA.
Storm Sewer	OU 3 Storm Sewer	Chlorinated solvents	ROD approved in 2000 and remedy (continued monitoring) in place 2003. Additional investigation will be conducted following completion of remedy at Area F. Site was addressed holistically along with other OU 3 sites in a new ROD.	Storm Sewer area is currently in Post-ROD monitoring. Continue OU 3 RI/FS Addendum activities.
OPERABLE UNIT 4 – CASA LINDA LAKE				
PSC 21	Casa Linda Lake	PCBs, metals, inorganic chemicals	ROD was signed in 2000. LUCs are in place to prohibit fish consumption and prevent exposure to contamination remaining in place.	LUCIP and 5-Year Review.
OPERABLE UNIT 5 – SOUTH ANTENNA FIELD				
PSC 51	South Antenna Field Firefighting Training Area	Metals, solvents	ROD was signed and LUCRD approved in 2006. RA is underway (MNA for GW and LUCs to prevent exposure to metals contamination remaining in site soil).	Continue MNA with annual LTM reports, and apply contingency plan if VOCs don't naturally attenuate. Evaluate remedy effectiveness in 5-Year Review.

Site ID	Site Name	Known or Suspected Wastes and Contaminants	Completed Actions and Current Status	Next Steps
OPERABLE UNIT 6 – HANGAR 1000 GROUNDWATER PLUME				
PSC 52	Hangar 1000	Solvents and waste oils	ROD was signed and LUCRD approved in 2007. MNA is underway with multiple treatments systems.	Continue monitoring with annual MNA evaluation reports, and evaluate remedy effectiveness in 5-Year Review.
OPERABLE UNIT 7 – DEFENSE REUTILIZATION AND MARKETING OFFICE (DRMO) NOW KNOWN AS DEFENSE LOGISTICS AGENCY (DLA) DISPOSITION SERVICES				
PSC 46	DRMO	Benzene	ROD was approved in 2006. Removal action for soils and concrete is complete. A small cap was installed. GW monitoring is underway. Project Completion Report was submitted March 2013.	Finalize LUCRD and continue LTM with annual LTM reports.
OPERABLE UNIT 8 – PESTICIDE SHOP				
PSC 47	Pesticide Shop (Building 536)	Pesticides, chlordane	ROD was approved in 2008. Remedy was in place and LUCRD was approved in 2009. Currently in third year of MNA.	Continue monitoring, and evaluate remedy effectiveness in 5-Year Review.
OPERABLE UNIT 9 – BUILDING 200 WASH RACK				
PSC 45	Building 200 Wash Rack Disposal Pit	Solvents	RI is final and FS is in progress. EECA has been approved. Contamination from another source encountered during the RI will be investigated as a separate site known as PSC 58. An EECA was finalized and soil removal was conducted in 2013	Complete the FS and continue MNA.
OPERABLE UNIT 10 – MUNITIONS RESPONSE SITES				
UXO 1	Fort Dix Skeet Range (Formerly PSC 22)	Metals, PAHs	SI is complete. RI/FS is in progress.	Complete the RI/FS.
UXO 2	.50 Caliber Range (Formerly PSC 23A)	Metals	SI is complete. RI/FS is in progress.	Complete the RI/FS.
UXO 3	Former Skeet Range (Formerly PSC 23B)	Metals, PAHs	SI is complete. RI/FS is in progress.	Complete the RI/FS.
UXO 4	Akron Road Pistol Range (Formerly PSC 56)	Metals	SI is complete. RI/FS is in progress.	Complete the RI/FS.
UXO 5	.30 Caliber Range (Formerly PSC 57)	Metals detected, but risk assessment shows no COCs.	SI is complete. RI/FS is in progress.	Complete the RI/FS.
UXO 6	Trap Ranges (Formerly PSC 58)	Metals, PAHs	SI is complete. RI/FS is in progress.	Complete the RI/FS.
OPERABLE UNIT 11 – SITES WITH LAND USE CONTROLS BUT NO RECORDS OF DECISION				
PSC 5	Shoreline Fill West of Fuel Barge Dock	Concrete debris, paint, paint strippings and remover, and solvents – SCTL exceedances of arsenic, benzo(a)pyrene, and benzo(a)pyrene equivalents have been reported	Interim remedy was completed in 2003 and LUCs were implemented to address contamination remaining in place. However, an RI/FS is underway to meet requirements of the LUCIP.	Complete the RI/FS and ROD for OU 11 to meet LUCIP requirements.

Site ID	Site Name	Known or Suspected Wastes and Contaminants	Completed Actions and Current Status	Next Steps
PSC 8/55	Vacant Lot East of Fuel Farm / Old Sludge Disposal Area (Merged with PSC 55)	PSC 8 - Abrasive blast grit, industrial wastewater, sludge from PSC 42 polishing pond; PSC 55 – suspected sludge disposal area	Interim remedy was completed in 1999 and LUCs were implemented to address contamination remaining in place. However, an RI/FS is underway to meet requirements of the LUCIP. PSC 8 was merged with adjacent PSC 55.	Complete the ESI, RI/FS and ROD for OU 11 to meet LUCIP requirements.
PSC 9	Old Disposal Area East of Fuel Farm	Building materials, organic debris, solvents, metals; benzo(a)pyrene has been detected in soil at levels exceeding screening criteria	Interim remedy was completed in 1999 and LUCs were implemented to address contamination remaining in place. However, an RI/FS is underway to meet requirements of the LUCIP.	Complete the ESI, RI/FS, and ROD for OU 11 to meet LUCIP requirements.
PSC 18	Fill Area	Radium paint wastes	Interim remedy was completed in 1999 and LUCs were implemented to address contamination remaining in place. However, an RI/FS is underway to meet requirements of the LUCIP.	Complete the RI/FS and ROD for OU 11 to meet LUCIP requirements.
PSC 29	Organic Disposal Area	Asbestos, fuel, paint wastes; PAHs and arsenic have been detected in soil at levels exceeding screening criteria and iron and manganese have been detected in groundwater at levels exceeding screening criteria	Interim remedy was completed in 2003 and LUCs were implemented to address contamination remaining in place. However, an RI/FS is underway to meet requirements of the LUCIP.	Complete the RI/FS and ROD for OU 11 to meet LUCIP requirements.
PSC 31	Asphalt Mixing Area	PCBs; PAHs have been detected in soil at levels exceeding screening criteria	Interim remedy was completed in 1999 and LUCs were implemented to address contamination remaining in place. However, an RI/FS is underway to meet requirements of the LUCIP.	Complete the RI/FS and ROD for OU 11 to meet LUCIP requirements.
PSC 32	Ex-Base Landfill	Refuse, construction debris, and scrapped vehicles; PAHs and Aroclor-1260 have been detected in soil at levels exceeding screening criteria and iron and manganese have been detected in groundwater at levels exceeding screening criteria	Interim remedy was completed in 1999 and LUCs were implemented. However, an RI/FS is underway to meet requirements of the LUCIP.	Complete the RI/FS and ROD for OU 11 to meet LUCIP requirements.
PSC 50	East Side Waste Water Treatment Plant Sludge Drying Beds	Metals, organic chemicals; metals and PCBs have been detected in soil at levels exceeding screening criteria	Interim remedy was completed in 1999 and LUCs were implemented to address contamination remaining in place. However, an RI/FS is underway to meet requirements of the LUCIP.	Complete the RI/FS and ROD for OU 11 to meet LUCIP requirements.
OPERABLE UNIT 12 – TORPEDO REWORK FACILITY				
PSC 38	Torpedo Rework Facility	Fuel, acid, metals	RI/FS is under way. Draft RI was submitted in November 2014.	Complete the RI/FS and conduct an RA.
SITES WITH NO FURTHER ACTION STATUS				
PSC 1	Patrol Road Turnaround Area	Nonhazardous construction debris and fuel	NFRAP in 1994 based on exclusion from CERCLA authority.	No further action.

Site ID	Site Name	Known or Suspected Wastes and Contaminants	Completed Actions and Current Status	Next Steps
PSC 6	Fuel Farm Steam Pit	Fuel oil	Fuel was removed from the pit. No evidence of discharge to surrounding soil or groundwater. No further action recommended under RRDS in 1995.	No further action.
PSC 10	Tank 119K	None found	No further action recommended.	No further action.
PSC 17	Glass Bead Disposal Area	Metals	No further action recommended under RRDS in 1999.	Maintain LUCIP requirements.
PSC 19 (aka PCA 14)	Old Gas Station Site	Petroleum	USTs removed. NFRAP in 2005 when site was transferred to petroleum program.	No further action.
PSC 20	Former Solid Waste Incinerator Facility	Site was found to be clean	USTs removed. No further action recommended under RRDS in 1999.	No further action.
PSC 24	Scrap Metal Disposal Area	Scrap metal	Scrap metal removed. No further action recommended under RRDS in 1995.	No further action.
PSC 25	Building H2039 (former radioactive waste storage area)	Radioactively contaminated glassware	No further action recommended under RRDS in 1995.	No further action.
PSC 28	Ex-Firefighting Training Area	Oil, household wastes	PSC 28 was misidentified, and PSC-51 was later investigated as the Ex-Firefighting Training Area. NFRAP was recommended under RRDS in 2003.	No further action.
PSC 30	Old Drum Lot	Solvents, cadmium	Sampling conducted in 2008. NFA letter received 2009. LUCs were proposed in June 1999 RRDS. USEPA and FDEP agree with No Action. No ROD required.	No further action.
PSC 33 (aka PCA 1)	Base Service Station / NEX Gas Station	Gasoline	NFA letter received 2002. Site was closed out under the petroleum program as PCA 1, but transferred back to the IRP after TCE was detected in groundwater. A portion of the Site is now being investigated as PSC 56, as described on the next page.	No further action.
PSC 34	Old Transformer Storage Area	PCBs	No leaks or spills reported, site is now Navy Exchange Complex, Base Commissary, and parking lot. No further action recommended under RRDS in 1995.	No further action.
PSC 35	Former Temporary PCB	Asbestos, PCBs	No further action recommended under RRDS in 1999.	No further action.
PSC 36	Dewey Park	Asbestos debris piles, metals	Debris piles removed. Land leased to city of Jacksonville in 1996. No further action recommended under RRDS in 1998.	No further action.
PSC 37	Ex-Power Barge Dock	None	No evidence was found to corroborate a former employee's report of an explosion on a barge docked at this location during the 1950s and 1960s. No further action recommended in 2000 based on IRP documentation.	No further action.
PSC 39	Possible Transformer Burial Area	None	No evidence was found to corroborate a former employee's report that electrical gear was buried in a ditch between Building 164 and the railroad tracks between 1943 and 1945. No further action recommended under RRDS in 1999.	No further action.
PSC 40	Ex-East Industrial Wastewater Treatment Plant Discharge Area	Domestic and industrial	No further action recommended under RRDS in 1999.	No further action.

Site ID	Site Name	Known or Suspected Wastes and Contaminants	Completed Actions and Current Status	Next Steps
PSC 44	Drainage Ditch West of JAX	Hydraulic fluids, waste solvents, and other contaminants	LUCs are in place. ROD was completed in 1998.	Evaluate remedy effectiveness in 5-Year Review
PSC 49	Commissary Battery Charging	Battery acid, oil	No further action recommended under RRDS in 1999.	No further action.
OTHER SITES				
PSC 7 (aka PCA 4)	Gas Hill	JP-5 jet fuel, aviation gasoline	Tank farm was demolished, and site was transferred to petroleum program as PCA 4. RAP for groundwater MNA was approved in 2010.	Perform LTM with MNA.
PCA 16	103 rd Street Hawkins Property	JP-5 jet fuel, aviation gasoline	RAP conducted in 1991. Soil removed in 2004. In 2005 a treatability study was conducted.	Monitoring is ongoing.
PCA 25	Boat House Area – Tanks 120 and 1982	TBD	PCA 25 and PCA 7 were combined into one SAR.	Investigation is ongoing.
PCA 26	Kemen Test Cell	JP-5 jet fuel, aviation gasoline	Awaiting funding for a SAR and a RAP.	Develop a SAR and a RAP.
PSC 18	Fill Area	Radium paint wastes	Contaminated soil removed, site restored; no further action recommended.	Maintain LUCIP requirements.
PSC 29	Organic Disposal Area	Asbestos, fuel, paint wastes	Site elimination study data under review.	No further action.
PSC 56	Base Service Station (Building 880) - NEX Gas Station	Gasoline, TCE	NFA letter received 1994. Site was closed out under the petroleum program as PCA 1, but transferred back to the IRP after TCE was detected in groundwater. This site will be investigated as PSC 56.	NFA for petroleum. Investigate comingled contamination under CERCLA protocol.
PSC 57	S-3 High Power Turn-Up Pad	Chlorinated solvents	Site was closed out under the petroleum program as PCA 17, but transferred back to the IRP after vinyl chloride was detected in groundwater. Site is now being investigated as PSC 57.	NFA for petroleum. Investigate TCE and vinyl chloride under CERCLA protocol. SI activities are underway.

Notes:

AS/SVE = air sparging and soil vapor extraction
 CERCLA = Comprehensive Environmental Response, Compensation and Liability Act
 COC = contaminant of concern
 DLA = Defense Logistics Agency
 DRMO = Defense Reutilization and Marketing Office
 EECA = Engineering Evaluation/Cost Analysis
 ESI = extended site investigation
 FS = feasibility study
 GW = groundwater
 HRC = hydrogen releasing compound
 IRP = Installation Restoration Program
 JP-5 = jet propellant 5
 LNAPL = light non-aqueous phase liquid
 LTM = long-term monitoring
 LUC = land use control
 LUCIP = land use control implementation plan
 LUCRD = land use control remedial design
 MNA = monitored natural attenuation
 NAPL = non aqueous-phase liquid

NFRAP = no further remedial action planned
 OU = operable unit
 PCA = petroleum contamination area
 PCB = polychlorinated biphenyl
 PSC = potential source of contamination RA = remedial action
 RAP = remedial action plan
 RD = remedial design
 RI = remedial investigation
 RI/FS = remedial investigation and feasibility study
 ROD = record of decision
 RRDS = remedial response decision system
 SAR = Site Investigation Report
 SCTL = soil cleanup target level
 SI = site inspection
 TCE = trichloroethene
 UST = underground storage tank
 UXO = unexploded ordnance
 VOC = volatile organic compound
 WWTP = wastewater treatment plant



Florida Department of Environmental Protection

BOB MARTINEZ CENTER
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TALLAHASSEE, FLORIDA 32399-2400

RICK SCOTT
GOVERNOR

CARLOS LOPEZ-CANTERA
LT. GOVERNOR

HERSCHEL T. VINYARD JR.
SECRETARY

July 22, 2014

Sent Via E-mail

Jane.Beason@navy.mil

Captain Roy Undersander
Naval Air Station Jacksonville
US Highway 17 and Yorktown Ave.
Jacksonville, Florida 32212

RE: Naval Air Station Jacksonville
EPA ID Number: FL6 170 024 412
Operating / Postclosure / Corrective Action Permit Renewal 0072437-HO-011
Duval County

Dear Captain Undersander:

Enclosed is Permit Number 0072437-HO-011 for container storage units, miscellaneous unit, postclosure and implementing/continuing corrective action requirements. This permit is being issued pursuant to Section 403.722, Florida Statutes (F.S.), and Chapters 62-4, 62-160, 62-730, and 62-780, Florida Administrative Code (F.A.C.).

This permit is final and effective ("issued") on the date filed with the Clerk of the Department. When the permit is final, any party to the permit has the right to seek judicial review of the permit pursuant to Section 120.68, F.S., by the filing of a Notice to Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, Department of Environmental Protection, 3900 Commonwealth Boulevard, MS #35, Tallahassee, Florida 32399-3000; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal.

The Notice of Appeal must be filed within thirty (30) days from the date the final permit is issued. If you should have any questions, please contact Merlin D. Russell Jr. at (850)245-8796 or merlin.russell@dep.state.fl.us

Captain Undersander

Page 2 of 2

July 22, 2014

Sincerely,



Tim J. Bahr, Administrator
Hazardous Waste Program and Permitting

TJB/mdr

Enclosures

cc (with enclosures):

Brian Bastek, EPA/Region 4, bastek.brian@epa.epamail.gov
Alvin Brown, Mayor of Jacksonville, mayorbrown@coj.net
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RICK SCOTT
GOVERNOR

CARLOS LOPEZ-CANTERA
LT. GOVERNOR

HERSCHEL T. VINYARD JR.
SECRETARY

PERMITTEE:
Naval Air Station Jacksonville
US Highway 17 and Yorktown Avenue
Jacksonville, FL 32212

I.D. NUMBER: FL6 170 024 412
PERMIT NUMBER: 72437-HO-011
DATE OF ISSUE: JULY 22, 2014
EXPIRATION DATE: May 25, 2019

ATTENTION:
Commanding Officer

COUNTY: Duval
PROJECT: Operation of Two Container Storage Units,
Operation of One Miscellaneous Unit, Postclosure Care
of One Unit, and Facility-Wide Corrective Action

Pursuant to authorization obtained by the Florida Department of Environmental Protection (FDEP) under the Resource Conservation and Recovery Act [42 United States Code (U.S.C.) 6901, *et seq.*, commonly known as RCRA] and the Hazardous and Solid Waste Amendments of 1984 (HSWA), this permit is issued under the provisions of Section 403.722 Florida Statutes (F.S.), and Chapters 62-4, 62-160, 62-730, 62-777 and 62-780 Florida Administrative Code (F.A.C.). This permit replaces expired permit 72437-HO-010. The above-named Permittee is hereby authorized to perform the work or operate the facility shown on the application dated November 2013 and revised application dated February 2014 that are incorporated herein and collectively referred to as the “permit application.” The permit application also includes any approved drawing(s), plans, and other documents that are specifically identified and incorporated by reference. Solid waste management units (SWMUs) and areas of concern (AOCs) identified to date are listed in Appendix A. The RCRA-regulated units, permitted units or permitted activities are specifically described as follows.

Hazardous Waste Container Storage Units

Two hazardous waste container storage units are located at the facility (see Attachment A). A brief description of each unit is provided below. The units are shown schematically in Attachments B and C.

Building 144 is an 82.4 ft × 40 ft hazardous waste container storage building. The floor is constructed of a 6 inch concrete slab. This building is divided into eight storage bays. Storage bays are segregated by a curb topped with a 6 ft tall chain link fence. The floor of each bay is sloped toward the outer curb of the bay to provide secondary containment. The building is permitted for storage of 13,365 gallons or 243 55-gallon drums of waste. The building is permitted for hazardous waste storage using only Department of Transportation (DOT) approved shipping containers. The building is permitted for storage of hazardous waste with waste codes listed in Attachment D of this permit. Building 762 is a 30 ft × 20 ft 10 in hazardous waste container storage building. The building has a 6 inch curb around the

perimeter. The floor is constructed of monolithic concrete slab with a slope towards the northeast. The building contains a 2.5 ft × 2.5 ft × 3 ft sump. The building is permitted for storage of 3,960 gallons or 72 55-gallon drums of waste. The building is permitted for hazardous waste storage using only Department of Transportation (DOT) approved shipping containers. The building is permitted for storage of hazardous waste OTTO fuel with waste code D003 and contaminated rags with waste codes D006 and D008. At the time of permit issuance, Building 762 is not in active use.

Miscellaneous Unit

Hangar 101S is a miscellaneous unit currently undergoing partial closure. The unit was first documented in August 2007 when Naval Air Station Jacksonville reported to the Department the discovery of an abandoned underground ventilation piping system in Fleet Readiness Center Southeast's (FRC-SE) Hangar 101S. The unit consists of concrete trenches and pits, and a series of 12 inch and 30 to 36 inch diameter vitrified clay pipes that were connected to the aircraft stripping wastewater treatment system. The piping was never adequately secured and, over time, wastewater entered the ventilation system. The unit also consists of an abandoned blast media recovery system with four sumps and a series of piping and ancillary equipment. The Permittee has decided that clean closure is not obtainable at this time since the unit lies within an operating aircraft hangar. It has been determined that complete removal of all hazardous waste and contaminated equipment would require a shutdown of hangar activities. Such a shutdown has been deemed unacceptable to FRC-SE command. A source removal was completed in 2009. In accordance with Part II.I of the Permit Application, final closure will be completed upon shutdown of the active aircraft hangar. Because the Miscellaneous Unit lies within the boundaries of a designated CERCLA site named Operable Unit # 3, groundwater monitoring oversight will be carried out by the CERCLA program once a Record of Decision (ROD) is approved by the Department.

Post-Closure Unit

The Former Wastewater Polishing Pond is a closed surface impoundment located in the area called PSC 42 discussed in Part II.D of the permit application. The unit was built in 1970 to provide a 2.36 million gallon per day capacity for combined domestic and industrial wastewater treated effluent. The polishing pond contained hazardous waste generated from wastewater treatment operations. Waste present in this unit has hazardous waste codes F001 through F005 and F019 as described in the permit application. Certification of Closure for this unit was accepted by the Department on October 5, 1997. The contamination was left in place after treatment by macro-encapsulation in concrete.

Hazardous and Universal Waste Registrations

Registrations and notifications shall be made by submitting a completed Form 62-730.900(1)(b), "8700-12FL – Florida Notification of Regulated Waste Activity."

PERMITTEE: Naval Air Station Jacksonville
I.D.NUMBER: FL6170024412

PERMIT NUMBER: 72437-HO-011
EXPIRATION DATE: May 25, 2019

The registration for the Permittee as a used oil marketer and used oil filter processor was renewed on May 2, 2013 in accordance with the provisions of Chapter 62-710, F.A.C. The registration is valid until June 30, 2014.

The Permittee is required to investigate any releases of contaminants to the environment at the facility regardless of the time at which waste was placed in a unit and to take appropriate corrective action for any such releases. Pursuant to 40 Code of Federal Regulations (CFR) 260.10 [as adopted by reference in Subsection 62-730.020(1), F.A.C.], the corrective action requirements of this RCRA permit extend to all property under control of the Permittee (see Attachment A, a map of the property boundaries of the land under the Permittee's control) and to all contamination that originated from discharges at the property under control of the Permittee.

This permit is based on the premise that information and reports submitted by the Permittee prior to issuance of this permit are accurate. Any inaccuracies found in this information or information submitted as required by this permit may be grounds for termination or modification of this permit in accordance with Section 403.727(3)(a) F.S. and Rule 62-730.290, F.A.C., and potential enforcement action.

The facility is located at U.S. Naval Air Station-Jacksonville, Jacksonville, Florida 32212.

The following documents were used in the preparation of this permit.

1. September 25, 1991 letter authorizing exemption from professional engineer and geologist certification requirements for federal employees.
2. Final Application for Permit Renewal Hazardous Waste Operation, Post-Closure and Site-Wide Corrective Action, Naval Air Station Jacksonville, Jacksonville, Florida Rev. February 2014.

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PART I-GENERAL AND STANDARD CONDITIONS

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit are “permit conditions” and are binding and enforceable pursuant to Sections 403.141, 430.727, or 403.859 through 403.861, F.S. The Permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Sections 403.087(6) and 430.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the Permittee from liability for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the Permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The Permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the Permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. This permit or a copy thereof shall be kept at the work site of the permitted activity. In the event that there is no building or reasonable repository for such a copy at the work site, an alternate location must be approved by the Department in writing.
8. The Permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted for the activities below. Reasonable time may depend on the nature of the concern being investigated.

- a. Have access to and copy any records that must be kept under conditions of the permit.
 - b. Inspect the facility, equipment, practices, or operations regulated or required under this permit.
 - c. Sample or monitor any substances or parameters at any time or location reasonably necessary to assure compliance with this permit or Department rules.
9. The conditions in this permit shall take precedence over the permit application documents where there are differences between those documents and the permit conditions.
10. In accepting this permit, the Permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of the permitted activity which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted activity arising under the Florida Statutes or Department rules, except where such use is prescribed by Section 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
11. The Permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the Permittee does not waive any other rights granted by Florida Statutes or Department rules. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, F.A.C., shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard.
12. The Permittee shall comply with the following notification and reporting requirements.
- a. If for any reason the Permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the Permittee shall immediately provide the Department with the following information.
 - (1) A description of and cause of noncompliance.
 - (2) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The Permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.
 - b. The Permittee will report any event requiring emergency response or noncompliance that may endanger human health or the environment from fires and explosions or releases of hazardous waste that may endanger public drinking water supplies. The Permittee will report to the Department verbally within 24 hours, and provide a written report of the incident to the Hazardous Waste Regulation Section at the address in Part I.15 or by alternate means (*e.g.*, e-mail) as approved by the Department, within five calendar days. It is the responsibility of the Permittee to ensure receipt of the written report. The Department of Environmental Protection's 24-hour emergency telephone number is (850) 413-9911 or (800) 320-0519. During

normal business hours, the DEP District Office may be contacted at (904) 256-1700 (Jacksonville)

- (1) The verbal report shall include the following information.
 - (a) The name, address, I.D. number, e-mail address, and telephone number of the facility and its owner or operator.
 - (b) The date, time, and type of incident.
 - (c) The identity and quantity of materials involved.
 - (d) The extent of any injuries.
 - (e) An assessment of actual or potential hazards.
 - (f) The estimated quantity and disposition of recovered materials.
 - (2) The written report shall include all of the information in the verbal report and the following information.
 - (a) A description and cause of the noncompliance.
 - (b) If not corrected, the expected time of correction, and the steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.
- c. Within 15 calendar days of discovery per Part V.1.b, the Permittee shall notify the Department in writing of any newly discovered release(s) of contaminant(s) to the environment resulting in a de Minimis cleanup (Part V.4) or a suspected new AOC(s) and/or SWMU(s) discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means.
- (1) The notification shall include, at a minimum, the location of the release, AOC or SWMU (hereinafter referred to collectively as “site”), and all relevant information (*e.g.*, location of site(s) on a map of appropriate scale; general dimensions of affected area; media affected; hazardous constituents released; and magnitude of release).
 - (2) The Department may conduct, or require that the Permittee conduct, confirmatory sampling in order to determine whether contamination is present (Part V.A.3). The Department will notify the Permittee in writing of the final determination as to the status of the newly discovered or suspected site.
 - (3) Depending upon the type of discovery, notification requirements of Part I.12.b may also be required.
- d. The Permittee shall comply with the “Notices” provisions of Rules 62-780.220, F.A.C., and 62-730.225, F.A.C.
- (1) Prior to performing field activities.
 - (2) When contamination beyond the facility boundary is confirmed by laboratory analysis.
 - (3) When a Temporary Point of Compliance (TPOC) is established beyond the boundary of the source property in conjunction with monitored natural attenuation or active remediation.
 - (4) When a fifth year update to the status of a TPOC is issued.

- (5) By placing warning signs at facilities where there may be a risk of exposure to the public of environmental media contaminated with hazardous waste.
 - e. The Permittee shall give written notice to the Department at least 15 days prior to physical alterations or additions to the facility that could affect activities covered by this permit. The notice shall include a summary description of the project, an evaluation of the effect it will have on: the operation of a hazardous waste facility, postclosure care, the ability to investigate contamination at or from a contaminated site, and an evaluation of the effect it might have on the known or suspected contamination.
 - f. Operating and Postclosure Permittees that generate hazardous waste, and all HSWA Corrective Action Permittees that are also a large quantity generator (LQG) of hazardous waste, shall submit a Biennial Report covering facility activities during the previous calendar year by March 1 of each even numbered year pursuant to Chapter 62-730, F.A.C.
13. The Permittee shall comply with the following recordkeeping requirements.
- a. Upon request, the Permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
 - b. The Permittee shall hold all information required by the permit at the facility or other location designated by this permit. This includes records of all monitoring information (including all calibration and maintenance records and all original recordings for continuous monitoring instrumentation); copies of all reports; records of all data used to complete the permit application; and all monitoring data required by 40 CFR Part 264 and Part IV and when applicable, Part VI of this permit when applicable. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule. Any Remedial Action Plan as applicable for each contaminated site and associated cost estimate(s) shall be held until a Site Rehabilitation Cleanup Order is issued.
 - c. Records of monitoring information shall include all required items in Chapter 62-160, F.A.C., and the following information.
 - (1) The date, exact place, and time of sampling or measurements.
 - (2) The person responsible for performing the sampling or measurements.
 - (3) The dates that analyses were performed.
 - (4) The person responsible for performing the analyses.
 - (5) The analytical techniques or methods used.
 - (6) The results of such analyses.
 - d. If the Permittee generates hazardous waste, the Permittee shall retain a copy of all notices, certifications, demonstrations, waste analysis data, and other documentation produced to comply with land disposal restrictions (40 CFR Part 268 and Rule 62-730.183, F.A.C.) for at least three years from the date that the waste which is the subject of such documentation was last sent to an on-property or off-property facility

for treatment, storage, or disposal, or until remedial activity is completed, whichever date is later. These periods may be extended by request of the Department at any time and are automatically extended during the course of any unresolved enforcement action regarding this permit and facility.

14. Within the timeframe requested by the Department, the Permittee shall furnish any information required by law which is needed to determine compliance with the permit. If the Department's request does not include a timeframe, the time of response is 30 days. If the Permittee becomes aware that the relevant facts were not submitted or were incorrect in the permit application or any report submitted to the Department, such facts or information shall be corrected promptly.
15. Except as otherwise specifically provided in this permit, all submittals in response to permit conditions shall be provided as described below. Submittals may be directed to alternative addresses (*i.e.* electronic submittal) and will not require a permit modification. Technical submittals (*e.g.* work plans, reports) provided in digital format must be in optical media format (CD or DVD) or through a secured internet port (*i.e.* username/password encryption) when one is available.

Environmental Administrator
Hazardous Waste Program and Permitting, M.S. 4560
Department of Environmental Protection
2600 Blair Stone Road, Tallahassee, Florida 32399-2400

In addition to copies sent to Hazardous Waste Program and Permitting in Tallahassee, submittals in response to postclosure or operating permit conditions shall be sent to:

Hazardous Waste Supervisor
Department of Environmental Protection
Suite 100, 8800 Baymeadows Way West, Jacksonville, Florida 32256

16. All documents submitted pursuant to the conditions of this permit shall be accompanied by a cover letter stating the name and date of the document submitted, the number(s) of the Part(s) and Condition(s) of the permit affected, the E.P.A. I.D. number, and the permit number and project name of the permit involved.
17. All documents proposing modifications to the approved permit and involving the practice of engineering must be submitted to the Department for review and be signed, sealed, and certified by a Professional Engineer, in accordance with Chapter 471, F.S. and Subsection 62-730.220(9), F.A.C., or by a Professional Engineer employed by the U.S. Government. All submittals incorporating interpretation of geological data shall be signed and sealed by a Professional Geologist in accordance with Chapter 492, F.S., and Subsection 62-730.220(10), F.A.C. or by a Professional Geologist employed by the U.S. Government.
18. All work plans, reports, schedules and other documents ("submittals") required by this permit are subject to approval by the Department prior to implementation. The

Department will review the submittals and respond in writing. Upon written approval by the Department, the Permittee shall implement all work plans, reports and schedules as provided in the approved submittal. If the Department disapproves a submittal, the Department will do one of the following.

- a. The Department will notify the Permittee in writing of the reason(s) why the submittal does not contain information adequate to support the conclusion, alternative, plan, proposal or recommendation, or why the conclusion, alternative, plan, proposal or recommendation is not supported by the applicable criteria. In this case, the Permittee shall submit a revised submittal within 60 days of receipt of the Department's disapproval unless an alternative deadline is approved in writing by the Department.
 - b. The Department will revise the submittal, or approve the submittal with conditions, and notify the Permittee of the revisions or conditions. In the case of work plans, the Department may notify the Permittee of the start date of the schedule within the revised or conditionally approved work plan.
19. The Permittee shall revise "Part I – General" of the Application for a Hazardous Waste Facility Permit [DEP Form 62-730.900(2)(a)] and submit the revised form to the Department within 30 days of any changes in the Part I information. Changes in the Part I information may also require changes to the Department's 8700-12FL form.
20. The Permittee may claim that any information required to be submitted by this permit is confidential in accordance with Chapter 403.73, F.S.
21. This permit is transferable only upon written Department approval in accordance with Rule 62-4.120 and Subsection 62-730.290(6), F.A.C., as applicable. The Permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department. Before transferring ownership or operation of this facility during the term of this permit, the Permittee must notify the new owner or operator in writing of the requirements of 40 CFR Part 264 and Chapter 62-730, F.A.C.
22. The following conditions apply to renewal, modification and revocation of this permit.
- a. The Permittee shall submit a complete application for the renewal of this permit a minimum of 180 calendar days before the expiration of the permit. The permit renewal application shall be submitted in accordance with Rules 62-4 and 62-730, F.A.C.
 - b. The Department may modify, revoke, reissue, or terminate for cause this permit in accordance with Chapters 62-4 and 62-730, F.A.C.
 - c. The Permittee may submit any permit modification to the Department for approval. The filing of a request for a permit modification, revocation, reissuance, termination, notification of planned changes, or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition.
 - d. The Permittee shall submit the application for a permit renewal or modification to the addresses in Part I.15.

- (1) The Permittee shall submit a fee with the permit renewal or modification application that meets the requirements of Rule 62-730.293, F.A.C. A Permittee choosing to pay the fee on an annual basis shall submit the annual fee payment no later than the anniversary date of permit issuance.
- (2) The Permittee shall submit a copy of the cover letter accompanying the permit renewal or modification application and the fee to the following address.

Florida Department of Environmental Protection
Hazardous Waste Program and Permitting
Post Office Box 3070, Tallahassee, Florida 32315-3070

- (3) The Permittee shall also submit notification of fee submittal, or notification of annual fee submittal, to the addresses in Part I.15.a., or by an alternate means (*e.g.*, e-mail) as approved by the Department.
 - (4) The permit renewal or modification application fee may alternately be submitted electronically. If the Permittee intends to submit the application fee electronically, the Permittee shall obtain instructions from the Department on the proper procedures, and shall follow such instructions in making the electronic submittal. Notification per Part I.22.d.(3) is still required.
- e. The timeframes for permit review begin on the date when the Department has received both the permit renewal or modification application and the application fee.
 - f. If the Permittee allows this permit to expire prior to Department acceptance of the certification of postclosure and termination of all corrective action, the Permittee must reapply for a permit in accordance with DEP Form 62-730.900(2), F.A.C.
 - g. Any request to modify a permit for the treatment, storage, or disposal of hazardous waste generated off-site shall include an evaluation of the applicability of, and Permittee's compliance with, the siting criteria of Section 403.7211, F.S., and Rule 62-730.182, F.A.C.

23. If and when the Permittee intends to transfer parcels to third parties, the Permittee may remove a parcel from the Facility covered by this permit, and the Department will approve the removal of the parcel so long as the parcel never contained a contaminated site, or so long as any contamination associated with the contaminated site has been addressed to the satisfaction of the Department. The Department will approve the transfer or removing of a parcel in writing.

- a. The satisfaction of the Department may be conditioned on a sale with certain legal restrictions on the future use and/or remedial activity requirements on the parcel being transferred.
- b. Following the legal transfer of the property, a permit modification request to transfer the parcel from the permit must be made per Part I.22 within 30 days. A new facility map denoting the current property boundary and new property boundary legal description shall be submitted with the permit modification request.
- c. Even though a parcel is no longer defined as part of the facility as a result of the permit modification (using the minor modification requirements of Subsection 62-730.290(4), F.A.C.), in the event that a previously unknown contaminated site is

found on the parcel, and such contamination resulted from activities which occurred prior to the sale, the Permittee will be responsible for any corrective action along with any other persons who may have legal responsibility for the contamination (see Part V.1.b. regarding discovery of a new SWMU).

24. The following conditions apply to land disposal (placement) of hazardous wastes.
 - a. 40 CFR Part 268 and Rule 62-730.183, F.A.C., identifies hazardous wastes that are restricted from land disposal and defines those limited circumstances under which an otherwise prohibited waste may continue to be placed on or in a land treatment, storage, or disposal unit. The Permittee shall maintain compliance with the requirements of 40 CFR Part 268. Where the Permittee has applied for an extension, waiver, or variance under 40 CFR Part 268, the Permittee shall comply with all restrictions on land disposal under this Part pending final written approval of such application.
 - b. Waste identified in 40 CFR Part 268 Subpart C may not be placed in a land disposal unit without treatment unless the requirements of 40 CFR Part 268 Subparts C and/or D are met.
 - c. The storage of hazardous wastes restricted from land disposal in 40 CFR Part 268 is prohibited unless the requirements of 40 CFR Part 268 Subpart E are met.
25. The Permittee is not relieved of responsibility to clean up a release that has migrated beyond the facility boundary where off-property access is denied or revoked.
 - a. The Permittee shall use all reasonable efforts, including but not limited to correspondence, telephone calls, personal contacts, drafting and redrafting agreements, and payment of a fee, to obtain access to real property necessary for work to be performed in the implementation of this permit.
 - b. If necessary access cannot be obtained by the Permittee, or if obtained, is revoked by owners or entities controlling access to the properties to which access is necessary, the Permittee shall notify the Department within five business days of such refusal or revocation. The Department may at any time thereafter seek to obtain such access as is necessary to implement the terms of this permit.
 - c. The Permittee shall reimburse the Department for any expenses that the Department is ordered to pay, or that the Department incurs in connection with its efforts to obtain necessary access to said property. The Permittee shall pay these sums to the Department, or arrange a payment schedule with the Department, within 30 days of demand by the Department. Payments shall be performed in accordance to Part I.22.d.
26. Reserved
27. Anti Deficiency Act: The execution of and compliance with this permit by Naval Air Station Jacksonville is subject to the provisions of the Anti-Deficiency Act, as amended, 31 U.S.C. section 1341 et seq., and requisite regulations which control funding of operations and activities. Nothing in this permit is intended to make or authorize an expenditure or obligation exceeding an amount or purpose available in a United States

Government (Government) appropriation or fund for an expenditure or obligation in violation of the Anti-Deficiency Act. Further, this permit is not intended to involve the Government in a contract or obligation for payment or any other expense before an appropriation is adopted unless otherwise authorized by law.

28. National Security: The Permittee shall maintain compliance with all schedules given by the Department absent a previously approved extension or national security contingencies. National security contingencies may impact upon the Permittee's ability to comply with a time period in a schedule. National security contingencies may include, but are not limited to, the total or limited denial of entry and egress from the Permittee's installation for indefinite periods of time and the necessity to immediately deploy base personnel who are responsible for meeting the requirements of this permit. The Department will consider national security contingencies as a legitimate basis for granting an extension of time periods. Upon the occurrence of national security contingencies requiring actions that impact compliance with a time period in a schedule, the Permittee shall notify the Department as soon as possible. The Permittee shall request an extension of time, permit modification, or a variance of the permit condition to comply with a time period in a schedule and explain the reason for the request. The Department will review and process such requests within a reasonable amount of time.
29. Any dispute resolution will be conducted in accordance with Chapter 120, F.S. (Administrative Procedure Act), Chapter 28-106, F.A.C., and the Department's existing rules and procedures. Prior to pursuing resolution under Chapter 120, F.S., disputes may be resolved by the Installation Restoration Program tiered team approach.

PART II-OPERATING CONDITIONS

Part II Subpart A-General Operating Conditions

1. The Permittee shall comply with those sections of 40 CFR Part 124 specified in Subsection 62-730.200(3), F.A.C., 40 CFR Parts 260 through 268, and 40 CFR Part 270 as adopted in Chapter 62-730, F.A.C., until all hazardous waste permitting operations have ceased and the facility has been closed and released from postclosure care requirements and all facility-wide corrective action requirements.
2. The Permittee shall comply with the manifest requirements of 40 CFR 264.71 and 264.72. The Permittee must document the reconciliation of any manifest discrepancies.
3. The Permittee shall notify the Department in writing four weeks prior to receipt of hazardous waste from a foreign source. Notice of subsequent shipments of the same waste from the same foreign source is not required.
4. The owner or operator of a facility that is authorized by the Department to receive hazardous waste from an off-site source (except where the owner or operator is also the generator) must inform the generator in writing that he has the appropriate permit(s) for, and will accept, the waste the generator is shipping.

- a. The Permittee that receives hazardous waste from an off-site source shall comply with the following notification and reporting requirements.
 - (1) Unmanifested Waste Report: The Permittee shall submit an Unmanifested Waste Report to the Department within 15 days of receipt of unmanifested waste.
 - (2) Manifest Discrepancy Report: If a significant discrepancy in a manifest is discovered, the Permittee shall attempt to rectify the discrepancy. If not resolved within 15 days after the waste is received, the Permittee shall immediately submit a letter report, including a copy of the manifest, to the Department.
5. Sampling and analysis of permitted and new hazardous wastes shall be conducted in accordance with the Waste Analysis Plan of the permit application.
 - a. The Permittee is liable for waste profiles supplied to generators.
 - b. Prior to acceptance of new waste codes, a permit modification per Condition I.22 is required. The need for a substantial modification should be evaluated using the criteria in Subsection 62-730.182(4), F.A.C.
6. With respect to ignitable and reactive wastes, the Permittee shall comply with 40 CFR 264.17, 264.176, and 264.198. With respect to incompatible wastes, the Permittee shall comply with 40 CFR 264.17, 264.177 and 264.199.
7. If this facility has suspected or confirmed environmental contamination where there may be a risk of exposure to the public, then upon direction from the Department the Permittee must comply with the warning sign requirements of Section 403.7255, F.S. and Rule 62-780.220, F.A.C. The Permittee is responsible for supplying, installing and maintaining the warning signs.
8. The Permittee shall comply with the security provisions of 40 CFR 264.14 and the facility security provisions of the permit application.
9. Facility personnel must successfully complete the approved training program indicated in the permit application, within six months of employment or assignment to a facility or to a new position at the facility. Verification of this training must be kept with the personnel training records and maintained at the facility. Personnel shall not work unsupervised until training has been completed. The training must be reviewed by facility personnel at least annually. The Permittee shall maintain an updated list of personnel handling hazardous waste and their respective job titles at the facility.
10. The Permittee shall maintain and operate the facility to minimize the possibility of fire, explosion or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.
11. The Permittee shall comply with the following conditions concerning preparedness and prevention.

- a. At a minimum, the Permittee shall have the equipment available at the facility which is described in the Prevention and Preparedness Plan (PPP) of the permit application. The Permittee shall visually inspect and maintain the facility emergency and safety equipment (40 CFR 264.32) listed in the PPP, in accordance with 40 CFR 264.15, 40 CFR 264.33 and the permit application, during permitted activities. The Permittee shall remedy any deterioration or malfunction discovered by an inspection, in accordance with the requirements of 40 CFR 264.15(c). A schedule for the inspection of the facility emergency and safety equipment must be maintained as the operating record of the facility. Changes, additions, or deletions to the schedule must be approved in writing by the Department.
 - b. The Permittee shall maintain immediate access to an internal communications or alarm system, fire protection equipment, spill control equipment and decontamination equipment.
 - c. The Permittee shall maintain arrangements with State and local authorities as required by 40 CFR 264.37, and with local medical facilities and emergency response personnel. If State or local officials refuse to enter into preparedness and prevention arrangements with the Permittee, the Permittee must document this refusal in the operating record. Authorities/facilities include local fire and police departments, sheriff's office, state police, hospitals, ambulance services and emergency medical technicians, and state and local emergency response centers.
 - d. The Permittee shall maintain aisle space, as required pursuant to 40 CFR 264.35, to allow the unobstructed movement of personnel, fire protection, and emergency response equipment to any area of the facility.
12. The Permittee shall comply with the following conditions concerning the Contingency Plan (CP).
- a. The Permittee shall immediately carry out the provisions of the permit application, and follow the emergency procedures described by 40 CFR 264.56, whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which threatens or could threaten human health or the environment. The Permittee shall give proper notification if an emergency situation arises and, within five calendar days, must submit to the Department a written report which includes all information required in Condition I.12.b.
 - b. The Permittee shall comply with the requirements of 40 CFR 264.53. Electronic copies of the CP must be submitted to the authorities/facilities in Condition II.A.11.c., provided the entity has the capability to receive electronic submittals.
 - c. Within seven calendar days of meeting any criterion listed in 40 CFR 264.54(a), (b) or (c), the Permittee shall amend the plan and submit the amended plan for Department approval. Any other changes to the plan must be submitted to the Department within seven days of the change. Amendments to the plan must be approved in writing by the Department. All approved amendments or plans must be distributed to the State and local authorities in Condition II.A.11.c..
 - d. The Permittee shall comply with the requirements of 40 CFR 264.55, concerning the emergency coordinator.

- e. The Permittee shall perform at a minimum, an annual review of the Contingency Plan to ensure that it is up to date and contains current information. The date of review should be noted in the written operating record at the facility.
13. The Permittee shall develop and maintain a Waste Minimization Program Plan. The Permittee shall maintain copies of the certification required by this Condition in the facility operating record for a minimum of three years. The Permittee must certify, no less often than annually, the following.
 - a. The Permittee has a program in place to reduce the volume and toxicity of hazardous waste generated to the degree determined by the Permittee to be economically practicable.
 - b. The proposed method of treatment, storage or disposal is the most practicable method available to the Permittee, which minimizes the present and future threat to human health and the environment.
 14. The Permittee shall keep a written operating record at the facility that includes the following.
 - a. The results of any waste analysis.
 - b. Copies of hazardous waste manifests for three years.
 - c. The results of inspections.
 - d. The closure plan, postclosure plan, and remedial action (corrective measures) plans as applicable for each contaminated site, along with cost estimates for each plan.
 - e. Inspections of emergency and safety equipment.
 - f. Biennial reports.
 - g. Personnel training records.
 - h. The Waste Minimization Program Plan and annual certification of waste minimization.
 - i. The description and quantity of each hazardous waste received or generated.
 - j. The location and quantity of each hazardous waste within the facility.
 - k. Notices to generators as specified in 40 CFR 264.12(b).
 - l. A log of dates of operations and unusual events.
 - m. A summary report and details of incidents that require implementation of the contingency plan.
 - n. The date of annual review of the Contingency Plan.
 - o. Monitoring and test data for 40 CFR 264 Subparts AA, BB, and CC requirements.
 - p. Documentation that local officials have refused to enter into preparedness prevention arrangements with the Permittee.

Part II Subpart B-Specific Operating Conditions

1. The Permittee shall not store more than 243 (55 gal) drums, or equivalent, of material in containers in Building 144 at any one time.
2. The Permittee shall not accumulate more than 72 (55 gal) drums of waste, or equivalent, of material in containers in Building 762 at any one time.

3. The Permittee shall only store hazardous waste listed in Attachment D of this permit in Building 144 and Building 762.
4. The Permittee shall maintain and operate the secondary containment structures, including maximum design capacity limits, in accordance with Part II.B of the Application and as required by 40 CFR 264.175. Specifically, in Building 144 the following maximum number of 55-gallon drums are allowed in each cell: A - 31 drums; E - 30 drums; B - 35 drums; F - 28 drums; C - 30 drums; G - 28 drums; D - 31 drums; H - 30 drums.
5. No container of hazardous waste shall remain at the facility for a period longer than one year. It shall be a violation of this permit to put hazardous waste into a different container or to change the label on a container in order to avoid this time limit.
6. The Permittee shall manage all containers, which shall include containers used to store substances other than hazardous waste, in the manner outlined in this permit and the Permit Application to ensure that a release of hazardous waste or hazardous constituents will not occur.
7. The Permittee shall notify the Department if the volume of material in the container storage areas exceeds 95% of the permitted capacity.
8. The Permittee shall not stack containers with capacity over 15 gallons more than two high. The stacked containers shall be on pallets, with no more than four containers per pallet. Containers smaller than 15 gallons may be stacked two high per pallet and the pallet may be stacked on a single layer of larger containers.
9. Containers shall be handled in a manner that will prevent container rupture or leakage. If a container holding hazardous waste is not in good condition, or begins to leak, the waste shall be transferred to another container in good condition.
10. The Permittee shall only use containers compatible with the hazardous waste contents. The Permittee shall not place waste in unwashed containers that have previously held incompatible waste.
11. The Permittee shall ensure that stored hazardous waste is compatible with the secondary containment systems and liners of the storage areas.
12. The Permittee shall inspect the integrity of the containment areas to ensure that they are free of cracks and gaps.
13. The Permittee shall maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of the facility.

14. The Permittee shall inspect the container loading/unloading area and the container storage areas at least once weekly looking for leaking containers and for deterioration of containers and containment systems caused by corrosion and other factors following procedures identified in the Permit Application.
15. The Permittee shall move all misplaced waste to its designated area by the end of each business day.
16. The Permittee may store non-hazardous substances in the regulated storage areas provided that the Permittee complies with the requirements of 40 CFR 264.175 and:
 - a. The volume of non-hazardous materials plus all other materials in the Container Storage Areas do not exceed the capacities specified in Conditions 1 and 2 of this Part.
 - b. The Permittee maintains the required aisle spacing in the storage area for both the permitted and non-hazardous materials.
 - c. The Permittee assures non-hazardous materials have labels specifying their contents.
 - d. The Hazardous and Non-hazardous Wastes are compatible.
 - e. The Permittee maintains in the facility operating record a written log of any non-hazardous materials stored in the permitted storage areas. The log shall include:
 - (1) The type and the quantity of non-hazardous materials;
 - (2) Verification of adequate secondary containment;
 - (3) Confirmation of appropriate aisle spacing availability; and
 - (4) Documentation of compatibility of non-hazardous materials and other materials present in the regulated hazardous waste container storage areas.
17. The Permittee shall manage all containers stored at facility in accordance with the applicable provisions of 40 CFR 264 subpart CC.
18. The Permittee shall ensure that all containers are kept closed with rings tightened and bungholes plugged except when adding or removing waste.
19. Spilled or leaked waste and accumulated precipitation shall be removed from the sump or accumulation areas in the storage buildings as soon as possible, but no later than 24 hours after the release. A hazardous waste determination shall be performed on the collected material. If the collected materials are a hazardous waste under 40 CFR part 261 then they shall be managed as a hazardous waste pursuant to 40 CFR 264.175(5).

20. The retaining pond flood gate adjacent to Building 144 shall remain closed when waste is transported into or out of Containment Building 144 such that in the event of an accidental spill or release, waste is not discharged to the retaining pond.
21. The retaining pond flood gate adjacent to Building 144 shall only be opened if its contents do not exhibit an oily sheen. If an oily sheen is exhibited then a hazardous waste determination shall be performed on the collected material. If the collected materials are a hazardous waste under 40 CFR Part 261 then they shall be managed as a hazardous waste pursuant to 40 CFR 264.175(5).

Part II Subpart C-Closure Conditions

1. The Permittee shall close Building 144, Building 762 and Hangar 101S in a manner that minimizes or eliminates, to the extent necessary to protect human health and the environment, postclosure escape of hazardous waste, hazardous waste constituents, hazardous waste decomposition products, contaminated leachate or run-off to the groundwater, surface waters, or to the atmosphere (40 CFR Part 264.111).
2. The Permittee shall have a written Closure Plan as required by 40 CFR 264.112(a). The Closure Plan and all revisions to the plan must be kept at the facility until closure is completed, certified in accordance with 40 CFR 264.115, and accepted by the Department.
3. Modifications to the approved Closure Plan shall be in accordance with the requirements of 40 CFR 264.112(c) and Rule 62-730.290, F.A.C.
4. The Permittee shall notify the Department within seven calendar days of any determination that actions undertaken as part of closure or associated monitoring programs no longer satisfy the requirements set forth in this permit. If the Department determines that a modification of the permit is required, the Permittee shall, within 60 calendar days of notice by the Department, submit an application for a permit modification in accordance with Part II.C.3.
5. Within 90 days after receiving the final volume of hazardous waste or upon notification by the Department that closure of a unit is required, the owner or operator must treat or remove from the unit all hazardous waste.
6. The Permittee shall complete closure activities within 180 days after notification to the Department of closure and in accordance with the closure schedule in the permit application. Any changes in the time allowed for closure activities or reporting requirements shall require prior written Department approval. At least 30 calendar days prior to initiating physical closure activities, the Permittee shall prepare and submit a Closure Activities Report.
 - a. The Closure Activities Report will be in columnar format (*i.e.* a table or spreadsheet) with columns for “closure activity,” “schedule date,” and “completed date.”
 - b. The Closure Activities Report shall be maintained and updated by the Permittee throughout the closure period, with copies submitted monthly to the Department,

- unless an alternate submittal schedule is approved by the Department in writing. Each report must be submitted to the Department by the tenth day of each month for the preceding month until the acceptance of physical closure by the Department. These reports can be submitted electronically.
- c. Any deviation from the schedule or described tasks shall be fully documented in the Closure Activities Report.
7. The Permittee shall notify the Department 45 days prior to the date on which the Permittee expects to begin partial or final closure of a unit(s).
 8. The Permittee shall properly decontaminate or dispose of all equipment, structures, and residues used during or resulting from the closure activities.
 9. The Permittee shall manage all hazardous wastes, residues, sludges, spilled or leaked waste, or contaminated liquids and soils removed during closure of the unit(s) in accordance with the applicable provisions of 40 CFR Parts 260 through 268, including the manifest requirements. A copy of each manifest required as a result of closure activities shall be submitted to the Department with the Closure Certification.
 10. The Permittee shall provide opportunities for site inspections by the Department by informing the Department at least seven days in advance of any major physical closure activity (*e.g.*, unit decontamination or removal, cap installation, soil sampling, soil removal, etc.).
 11. Within 30 days of determining that all contaminated soil cannot be practically removed or decontaminated, the Permittee shall notify the Department of such determination. Within 90 days of the determination the Permittee shall submit an application for permit modifications to close the facility as a landfill (land disposal unit) and perform postclosure care as required by 40 CFR 264.
 12. Within 60 calendar days of the completion of closure, the Permittee shall submit to the Department, by certified mail or hand delivery, a Closure Certification Report signed by the Permittee and an independent Professional Engineer registered in the State of Florida, or a Professional Engineer employed by the U.S. Government, stating that the unit has been closed in compliance with the Closure Plan and the conditions of this permit. The Closure Certification must be based on the Professional Engineer's own observation and knowledge of the closure activities. The Closure Certification Report must include, but not be limited to the following.
 - a. Environmental sampling data to verify closure activities.
 - b. Decontamination data.
 - c. Copies of manifests or other appropriate shipping documents for removal of all hazardous wastes and all contaminated residues.
 - d. A description of final closure activities.
 - e. A final Closure Activities Report (Condition II.C.6 of this Subpart).
 13. Within 30 calendar days of submitting a Closure Certification Report for a land disposal unit, including a land disposal unit identified under Part II.C.11, the Permittee shall

submit to the Department and to the local zoning authority, or the authority with jurisdiction over local land use, a survey plat indicating the type, location, and quantity of hazardous wastes disposed of within the unit with respect to permanently surveyed benchmarks in accordance with 40 CFR 264.116. For hazardous wastes disposed of before January 12, 1981 the owner or operator must identify the type, location, and quantity of the hazardous wastes to the best of the Permittee's knowledge and in accordance with any existing records. This notice is in addition to the requirement to execute a formal land use control (*e.g.*, a restrictive covenant) in order to obtain a site rehabilitation completion order based on restricted exposure risk assumptions under Chapter 62-780, F.A.C. Part II Subpart D-Miscellaneous Unit Conditions

PART III-POSTCLOSURE CONDITIONS

Part III Subpart A-General Postclosure Conditions

1. If clean closure cannot be achieved in groundwater and/or soil, postclosure care will be implemented upon completion of closure (or upon permit issuance/modification if the unit has closed) of the former Polishing Pond as follows below.
 - a. The Permittee shall begin postclosure care and continue for 30 years after October 5, 1997 in accordance with 40 CFR 264.117(a) and in accordance with the Postclosure Plan, in the application.
 - b. The Permittee shall never disturb the final cover or any other components of the associated structures unless obtaining prior written Department authorization pursuant to 40 CFR 264.117(c).
 - c. The Permittee shall ensure that all postclosure care activities are conducted in accordance with a Department approved Postclosure Plan prepared in conjunction with 40 CFR 264.118.
2. The Permittee shall annually evaluate and report the effectiveness of postclosure care. The Permittee may apply for a shortened postclosure care period in accordance with 40 CFR 264.117(a)(2)(i). However, the Department may also extend the postclosure care period if it is determined that the extended period is necessary to protect human health and the environment in accordance with 40 CFR 264.117(a)(2)(ii).
3. The Permittee shall comply with those sections of 40 CFR Part 124 specified in Rule 62-730.200(3), F.A.C., 40 CFR Parts 260 through 268, and 40 CFR Part 270 as adopted in Chapter 62-730, F.A.C., until all hazardous waste permitted operations have ceased and the facility has been closed and released from postclosure care requirements and all facility-wide corrective action requirements.
4. During postclosure the Permittee shall submit to the Department a completed inspection log describing results of inspections and remedial actions taken in maintaining the final cover, containment structures, groundwater monitoring equipment, surveying benchmarks and security devices in order to comply with 40 CFR 264.117(a). These logs shall be submitted as a component of an Environmental Monitoring or Remedial Action Status Report or required in Part IV and VI of this permit. The reporting conditions and

inspection periods can be changed with prior written Department approval and will not require a permit modification.

5. The Permittee shall keep a copy of the Postclosure Plan and all revisions to the plan at the facility or at another location approved by the Department until postclosure care is completed and certified in accordance with 40 CFR 264.120 and accepted by the Department.
6. Any proposed amendments to the Postclosure Plan shall be submitted to the Department for review and written approval. Proposed amendments can be submitted within the combined reports referenced in Part III.A.4.
7. The Permittee shall notify the Department in writing or via e-mail if any damage to the final cover occurs. Damage subject to this notification will be that requiring repair or replacement, not maintenance. Notification describing repairs taken shall be given after damage has been corrected, or within seven calendar days from the date the damage was detected, whichever occurs first. Description of repairs taken shall be submitted in writing or via e-mail to the Department within seven calendar days of the completion date.
8. If this facility has suspected or confirmed environmental contamination where there may be a risk of exposure to the public, then upon direction from the Department the Permittee must comply with the warning sign requirements of Section 403.7255, F.S. The Permittee is responsible for supplying, installing and maintaining the warning signs.
9. The Permittee shall comply with the security provisions of 40 CFR 264.14 and the facility security provisions of the permit application. Release from the security provisions requires a demonstration that such are no longer necessary and require written Department approval.
10. The Permittee shall comply with the following conditions concerning preparedness and prevention. Release from the preparedness and prevention provisions requires a demonstration that such are no longer necessary and require written Department approval.
 - a. At a minimum, the Permittee shall have the equipment available at the facility which is described in the permit application. The Permittee shall visually inspect the facility emergency and safety equipment in accordance with 40 CFR 264.15 and of the permit application, during permitted activities. The Permittee shall remedy any deterioration or malfunction discovered by an inspection, in accordance with the requirements of 40 CFR 264.15(c). A schedule for the inspection of the facility emergency and safety equipment must be maintained as the operating record of the facility. Changes, additions, or deletions to the schedule must be approved in writing by the Department.
 - b. The Permittee shall test and maintain the required equipment as necessary to assure its proper operation in time of emergency.
 - c. The Permittee shall maintain immediate access to an internal communications or alarm system.

- d. The Permittee shall maintain arrangements with State and local authorities as required by 40 CFR 264.37. If State or local officials refuse to enter into preparedness and prevention arrangements with the Permittee, the Permittee must document this refusal in the operating record.
11. Within 60 calendar days from the completion of the postclosure care period, the Permittee shall submit to the Department by certified mail or hand delivery, a letter signed by the Permittee and an independent Professional Engineer, registered in the state of Florida, or a Professional Engineer employed by the U.S. Government, stating that the postclosure care of the Hazardous Waste Management Area was performed in accordance with the specifications in the Department approved Postclosure Plan.

Part III Subpart B-Specific Postclosure Conditions

1. The Permittee shall comply with Part II.D Surface Impoundment, of the permit application.

PART IV-ENVIRONMENTAL MONITORING CONDITIONS

Part IV Subpart A-General Environmental Monitoring Requirements

1. Environmental monitoring is performed to conduct detection monitoring, ensure that the extent of contamination remains delineated, or to track the progress of corrective action. Monitoring is a dynamic activity and decisions on future actions are dependent upon prior results and site-specific conditions. The ability to alter a monitoring plan based on results and site-specific conditions is essential to a comprehensive and efficient monitoring program. Changes to the Environmental Monitoring Plan (EMP) conditions that follow can be made with written Department approval and will not require a permit modification. The Permittee shall continue to implement the approved EMPs.
2. Part IV.A.3 identifies the required elements of a comprehensive EMP. An EMP is comprised of both relatively static and more frequently changing components. EMP components that may frequently change are described in Part IV.A.11 and are to be reported in Environmental Monitoring Reports (EMRs); the most current EMR represents the most current EMP. The Permittee shall ensure that all remaining EMP components are included in the EMR or clearly identified and referenced in the EMR. Note that some items may be more dynamic in nature on a site specific basis, *e.g.*, some items in Part IV.A.3.e.
3. The EMP must address all environmental media as necessary, including groundwater, sediment, soil, and surface water. The EMP, including future revisions, must include the following elements at a minimum. Facilities with a monitoring program in place, but lacking a provision below, will submit identified provisions within 60 days of notification by the Department, or in the next Environmental Monitoring Report as directed.
 - a. The EMP shall include a map(s) showing all contaminated sites, any SWMUs and AOCs in detection monitoring, and associated monitoring wells and piezometers (including recovery or extraction, point of compliance, Temporary Point of

- Compliance, and background wells), surface water features pertinent to the contaminated site and surface water sampling locations, and any areas subject to soil or sediment sampling. Contaminated sites are the SWMUs and AOCs listed in Appendices A.2, A.3, and A.4.
- b. A map(s) showing all SWMUs and AOCs shall be submitted to the Department and incorporated by reference into the EMP. The map shall be updated within 60 days of the discovery of a new SWMU (Part V.1.b.) or AOC.
 - c. Well construction information for each well and piezometer in the EMP shall be submitted to the Department and incorporated by reference into the EMP. Well construction information shall also be submitted in an electronic format (*e.g.*, spreadsheet) for inclusion in the Department's WACS database (or its successor). Location of each well or piezometer shall be provided in latitude and longitude. Information on new wells and piezometers shall be submitted within 30 days of installation.
 - d. The EMP shall include a table or tables listing all wells and piezometers to be sampled (or potentially sampled based on results) or measured, surface water sampling locations, and soil or sediment sampling locations (or methods for choosing locations such as grid-based) and the following information for each.
 - (1) Well or piezometer depth, screened interval, surveyed ground surface elevation and surveyed top of casing elevation; surface water sampling depth(s), and soil and sediment sampling intervals.
 - (2) The regulatory status of each well or piezometer, such as assessment, extraction or recovery, point of compliance, Temporary Point of Compliance, or background well.
 - (3) The frequency of sampling for each location (in all media), such as annual, semiannual, bi-annual, not currently sampled.
 - (4) Wells where groundwater level elevations will be measured (but not sampled).
 - (5) Contaminants of concern to be sampled.
 - e. The EMP shall include the following information concerning quality assurance and the laboratory practices.
 - (1) A statement that all sampling and analysis activities will comply with Rule 62-160.110(5), F.A.C.
 - (2) A statement that all analyses will be conducted by a laboratory accredited by the National Environmental Laboratory Accreditation Program (NELAP) and certified by the Florida Department of Health.
 - (3) A table of proposed constituents, matrices, and analytical methods.
 - (4) A table of proposed purging and sampling methods.
 - (5) A statement that all records of monitoring information shall include all required items in Chapter 62-160, F.A.C., and Part I.13.c.
 - (6) A statement that all laboratory data will be submitted using the ADaPT quality assurance software.
 - (7) A statement that the sampling crew will follow the Department's most recent Standard Operating Procedures (SOPs) or other sampling program approved pursuant to Chapter 62-160, F.A.C.

- f. The EMP must describe how investigation derived wastes will be managed.
 - g. The EMP shall include provisions for maintaining well integrity (well repair and redevelopment) and well security including locks for each well. The Permittee may demonstrate that facility security provisions negate the need for locks at a well(s), subject to Department written approval. All wells beyond the facility property boundary must be kept secure and locked when unattended.
 - h. The EMP shall include a schedule for periodic submission of Environmental Monitoring Reports.
4. Wells used as part of an approved EMP may be abandoned with Department approval. The Permittee shall abandon wells in accordance with the requirements of Subsection 62-532.500(4), F.A.C.
 5. The Permittee shall measure groundwater elevations every time any well is sampled as part of the approved EMP. All groundwater elevations must be measured within the same 24-hour period and prior to the sampling event. These data shall be used to determine the horizontal and vertical groundwater flow direction and flow rate for each monitoring period.
 6. Total depths of all sampled wells must be determined by physical measurement to the closest 0.01 foot increment in January for the former Polishing Pond and in December for the Miscellaneous Unit during each sampling event to determine if siltation has occurred in any well. Wells are to be redeveloped as necessary.
 7. The Permittee shall provide the Department with opportunities to observe groundwater sampling and split samples by providing notification either by telephone, letter, or electronically at least seven calendar days prior to each sampling event.
 8. In the event a well is damaged and requires repair (not maintenance), the well shall be repaired or replaced before the next sampling event.
 9. All groundwater analyses shall be performed on unfiltered groundwater samples. Analyses on filtered samples may be performed by the facility, but only for its own use, unless shown to be more representative of groundwater conditions [Subsection 62-520.310(5), F.A.C.].
 10. All laboratory data will be submitted using the ADaPT quality assurance software. All laboratory datasheets shall be submitted only in electronic format. ADaPT files shall accompany the electronic copy of the EMP, and shall be included in a separate folder labeled ADaPT files. The folder will contain a single Laboratory electronic data deliverable (EDD), a Field EDD, and a copy of the error log that contains all data covered by the Report. Additional information on ADaPT is available at the Department's website: <http://www.dep.state.fl.us>.
 11. The Permittee shall submit Environmental Monitoring Reports (EMR) in accordance with the schedule in the approved EMP. This report can be submitted in a combined document with any Remedial Action Status Report required in Part VI of this permit. The EMR should contain the following elements.

- a. A map showing all contaminated sites and associated monitoring wells and piezometers (including recovery or extraction, point of compliance, Temporary Point of Compliance, and background wells), surface water features pertinent to the contaminated site and surface water sampling locations, and any areas subject to soil or sediment sampling (*i.e.*, Part IV.A.3.a.).
- b. Reports of any necessary repairs or redevelopment of the wells since the last report.
- c. Maps of groundwater flow direction(s) and plume delineation(s) (if any) and a table of groundwater elevation data.
- d. An analysis and evaluation of the current analytical results, including maps, figures, graphs and tables.
- e. Field sampling logs.
- f. Laboratory analytical data sheets for the sampling event(s) (electronic copy only).
- g. An analysis and evaluation of the comprehensive effectiveness of the environmental monitoring program including recommendations to enhance and refine the EMP (*e.g.*, the addition or deletion of wells from the plan, changes in sampling frequency at a well, or changes in contaminants of concern).
- h. An updated table(s) containing the information in Part IV.A.3.d. The table shall also indicate the recommendations made in Part IV.A.11.g.
- i. ADaPT quality assurance electronic files per Part IV.A.10.

Part IV Subpart B-Specific Monitoring Conditions

1. The Permittee shall conduct HSWA corrective action for the Potential Sources of Contamination (PSCs), SWMUs and AOCs identified in Appendices A.1, A.2, A.3, and A.4 under an approved Site Management Plan (SMP) or any site-specific workplan. The Permittee will perform the activities and comply with the schedules in the approved SMP or workplan, which take precedence over activities and schedules otherwise established in this permit. The SMP may be revised with written Department approval and not require a permit modification. HSWA corrective action requirements, implementation and oversight are deferred to the Department's Federal Facilities Program.

Part IV Subpart C-Specific Groundwater Monitoring Requirements for RCRA Regulated Units (former Polishing Pond)

1. The Permittee shall meet the requirements of 40 CFR 264.97 and comply with the detection and compliance monitoring requirements of 40 CFR 264.98, 264.99 and 264.100. The Permittee shall determine the nature and composition of groundwater contamination by determining the concentration of each constituent from 40 CFR 264 Appendix IX, less those demonstrated by affidavit to not be present, derived from or resulting from the wastestream. This sampling shall be conducted at the point-of-compliance well or wells most representative of groundwater quality, as approved by the Department based on the groundwater monitoring conducted pursuant to this part.
2. The Waste Management Area shall be designated by an imaginary line(s) circumscribing the former Polishing Pond, indicated in Figure D-1 of the Permit Application.
3. The Point of Compliance shall be the northern and eastern side(s) of the former Polishing Pond (Waste Management Area).

4. The Point-of-Compliance (POC) wells shall be NAS 42-5R and NAS 42-8-2R. The assessment well shall be NAS-42-9R and the background well shall be NAS-4-9. If groundwater elevations indicate a change in groundwater flow direction of the surficial or any other affected aquifer, the Department may require the installation of additional monitoring wells and revisions to the groundwater monitoring program.
5. Upon permit issuance, the facility shall be in compliance monitoring in accordance with 40 CFR 264.99.
6. The Compliance Period is the number of years equal to the active life of the former Polishing Pond including any waste management activity prior to permitting, and the closure period. Compliance monitoring began April 13, 1990. If the Permittee is engaged in a corrective action program at the end of the Compliance Period, the Compliance Period is extended until the Permittee can demonstrate that the applicable cleanup target levels have not been exceeded for a period of three consecutive years.
7. All POC wells and background wells shall be sampled, analyzed, and results reported in accordance with the schedule as specified in the approved Environmental Monitoring Plan required by Subpart A of this Part until the Department accepts the Certification of Post-Closure.

Part IV Subpart D-Cleanup Target Levels

1. Final cleanup target levels at each site are designated at the time a final remedy is approved. For final remedies approved after issuance of this permit, a permit modification shall be submitted by the Permittee and the table updated to apply the most current CTLs or approved alternate CTLs as per 62-777, F.A.C.
2. Where the Practical Quantitation Limit (PQL) for a particular contaminant is greater than a calculated health-based protective concentration, the PQL will serve as the CTL. The PQL is the lowest level that can be reliably measured during routine laboratory operating conditions within specified limits of precision and accuracy in accordance with the approved EMP. PQLs only represent final CTLs where analytical methods do not improve prior to completion of site rehabilitation. Where laboratory methods improve (to more closely approach or achieve the health-based CTL), the EMP must be amended and within 30 days of Department direction a permit modification according to Condition I.22 shall be submitted to update this Permit and the table in Part IV.D.3. The PQL listed below is considered routinely achievable but may differ slightly between laboratories and individual sampling events.
3. Cleanup Target Levels

CAS #	Contaminant of Concern	CTL (µg/L)	Media
7440-38-2	Arsenic	10	Groundwater
7440-39-3	Barium	2000	Groundwater
7440-43-9	Cadmium	5	Groundwater
7440-47-3	Chromium	100	Groundwater

7439-92-1	Lead	15	Groundwater
7439-97-6	Mercury	2	Groundwater
7782-49-2	Selenium	50	Groundwater
7440-22-4	Silver	100	Groundwater

Part IV Subpart E-Specific Groundwater Monitoring Requirements for Miscellaneous Units (Building 101)

1. The Permittee shall continue quarterly inspections. Inspections shall be performed in January, April, July and October. Inspection reports shall be electronically submitted to the Department within the same month as the inspection.
2. The Permittee shall continue the Interim Groundwater Monitoring Program in Part II.I.7 of the permit application until replaced by a final Record of Decision (ROD) for Operable Unit 3 (OU-3).
3. Groundwater monitoring shall occur in December of each year. Groundwater monitoring reports shall be submitted to the Department no later than the last day of February of each year.

PART V-CORRECTIVE (REMEDIAL) ACTION CONDITIONS

Subpart A-General Corrective Action Conditions

1. The Conditions of this Part apply to the following.
 - a. The PSCs, SWMUs and AOCs identified in Appendix A.
 - b. Any additional SWMUs or AOCs discovered during the course of groundwater monitoring, field investigations, environmental audits, or other mean. As used in this Part, the terms “discover”, “discovery”, or “discovered” refer to the following.
 - (1) The date the Permittee visually observes evidence of a new SWMU or AOC.
 - (2) The date the Permittee visually observes evidence of a previously unidentified release of contaminant(s) to the environment.
 - (3) The date the Permittee receives information from a credible source of the presence of a new release of contaminant(s) to the environment.
 - c. Contamination that has migrated beyond the facility boundary, if applicable.
2. The Permittee shall comply with the notification requirements for the discovery of a new SWMU in Part I.12.c.
3. Upon notification by the Department, the Permittee shall prepare and submit a Confirmatory Sampling (CS) Work Plan for known, suspected, or newly discovered sites. The Work Plan shall be submitted within 60 calendar days of notification by the Department unless the notification letter establishes a different time frame.

- a. The CS Work Plan shall include schedules for implementation and completion of specific actions necessary to determine whether or not contamination has occurred in any potentially affected media. In order to partly or wholly satisfy the CS requirement, previously existing data may be submitted with the work plan for the Department's consideration.
 - b. In accordance with the schedule in the approved CS Work Plan, or no later than 60 calendar days after Department's written approval of a CS Work Plan, the Permittee shall submit a Confirmatory Sampling Report identifying those sites that are contaminated and those sites that are not contaminated. The CS Report shall include an analysis of the analytical data to support all determinations. Based on the results of the CS Report, the Department will determine the need for further investigation at sites covered in the CS Report and notify the Permittee in writing.
4. De Minimis discharge is a release of a contaminant(s) that is removed from the soil, sediment, surface water, and groundwater to cleanup target levels or background concentrations within 30 days of discovery of the release. If the Permittee intends to treat a discharge under the De Minimis discharge provision of Rule 62-780.550 or Rule 62-780.560 F.A.C., the Permittee must meet the notification requirements of Part I.12.c, and inform the Department that a De Minimis action is underway. A De Minimis Remediation Report must be submitted to the Department within 90 days of discovery of the release. The report must include a description of all actions taken in response to the discharge and the information required by the Interim Source Removal Report pursuant to Subsection 62-780.500(7)(a), F.A.C.
 5. If contamination is confirmed by the Confirmatory Sampling Report, the Department will notify the Permittee to commence site rehabilitation in accordance with Rule 62-730.225 and Chapter 62-780, F.A.C., for all SWMUs and/or AOCs ("contaminated sites") identified in the notification. The Permittee shall commence and complete site assessment in the manner and within the time limits set forth in Rule 62-780.600, F.A.C., unless the notification letter specifically establishes a different time frame to commence or complete site assessment. An alternative schedule can be implemented with written Department approval.

Cleanup of petroleum product was started and continues in accordance with the Florida Petroleum Contamination Agreement of October 1990 between the Florida Department of Environmental Regulation and the U.S. Navy. The Agreement continues to apply to cleanup of all sites contaminated solely by discharge of petroleum, but does not extend to regulation, operation or maintenance of underground storage tanks.

6. The Permittee shall conduct Emergency Response Actions in accordance with Subsections 62-730.225 and 62-780.500, F.A.C. The Permittee may, or upon notification by the Department, shall conduct an Interim Source Removal action in accordance with Subsections 62-730.225 and 62-780.500 F.A.C. for any release, SWMUs, or AOCs determined necessary to minimize or prevent further migration of contaminants or to limit human or environmental exposure to contaminants.

7. If the Department or the Permittee at any time determines that any approved work plan no longer satisfies the requirements of Rule 62-730.225 or Chapter 62-780, F.A.C. or this permit for prior or continuing releases of contaminant(s) to the environment, the Permittee shall submit an amended work plan to the Department within 60 calendar days of such determination.

PART VI-REMEDY SELECTION AND IMPLEMENTATION

Part VI Subpart A-General Remedy Selection and Implementation Conditions

1. Within 90 calendar days of Department approval of a Site Assessment Report (Site Investigation Report) or Site Assessment Report Addendum (SIR Addendum) the Permittee shall submit a Remedial Action Plan developed in accordance with Chapters 62-780 and 62-730, F.A.C. Remedial Action Plans may be performance based, including remediation options to be implemented based on changing conditions at the site.
2. The Permittee shall apply for a permit modification in accordance with Part I.22. of this permit within 30 days of a Department approved final remedy unless an alternative permit modification schedule has been approved by the Department. Final approval of remedial action which is achieved through interim measures shall be in accordance with this condition.
3. The Remedial Action Plan shall include a provision for the Permittee to submit periodic Remedial Action Status Reports in accordance with Subsection 62-780.700(12), F.A.C. The intent to implement a different approved remedy in a performance based Remedial Action Plan can be provided in the Remedial Action Status Report. Proposals to modify a previously approved remedy in a performance based Remedial Action Plan can be provided in the Remedial Action Status Report and implemented with written Department approval. The Remedial Action Status Reports may be combined with any Environmental Monitoring Report required by Part IV.
4. When site rehabilitation (remedial action) is complete, the Permittee shall submit to the Department a Site Rehabilitation Completion Report in accordance with Subsection 62-780.750(6), F.A.C. Site Rehabilitation Completion Reports can be part of a combined document with the Remedial Action Status Report.
5. For site rehabilitation involving the cleanup of groundwater contaminated by a release from a designated regulated unit, the Permittee must demonstrate that the concentration of constituents of concern remain below cleanup goals for three consecutive years after active remediation has ceased as per 40 CFR 264.100.(f).
6. When appropriate, the Department will approve completion of site rehabilitation by inclusion in a permit renewal, permit modification, or separate Site Rehabilitation Completion Order.

Part VI Subpart B-Selected Remedies

1. Selected Remedy at Fuel Farm Steam Pit, PSC 6

An NFRAP designation was recommended for PSC 6 based on information that indicated that there has never been a release, nor is there potential for a release of hazardous substances due to the fuel leak in the valve pit. The only potential contaminant was a petroleum product, which is not a hazardous substance as defined by CERCLA Section 101(14). Because it contained water, the valve pit was most likely sealed. The fuel that leaked floated on top of the water, which indicates that no fuel escaped the valve pit. It is highly probable that all of the fuel was recovered and that no fuel was discharged to the environment. Therefore, it was not recommended that PSC 6 be addressed under Chapter 62-770, FAC, or other State codes. Regulatory documents are cited below:

USEPA Region IV, Martha Berry on September 11, 1995 concurred with the NFRAP recommendation.

FDEP, Jorge R. Caspary on November 15, 1994 concurred that based on the information that there is no visual evidence or reported discharges of hazardous substances in the valve pit, the proposed course of action of No Further Action was acceptable under CERCLA.

FDEP, John Mitchell, Natural Resource Trustee on October 12, 1994 concurred with the NFRAP recommendation.

2. Solvent and Paint Waste Disposal Area, PSC 15 (part of OU 3)

An RI/FS for OU 3, which includes PSC 15, was completed and the ROD was signed and implemented. The ROD specified NFRAP with Industrial Land Use Controls based on no unacceptable risk to human or ecological receptors in an industrial setting. The final RI/FS report for OU 3 was completed in April 2000. Based on the findings of the RI/FS a proposed plan and ROD were developed. Regulatory documents are cited below:

USEPA Region IV, Richard D. Green, Director Waste Management Division, on September 25, 2000 concurred with the findings and the selected remedy presented in the ROD.

FDEP, Kirby B. Green, III, Deputy Secretary on October 23, 2000: FDEP concurred with the Record of Decision (ROD) for Operable Unit 3 at Naval Air Station Jacksonville.

3. Black Point Storm Sewer Discharge: PSC 16 (part of OU 3)

On September 25, 2000 a Record of Decision was signed for OU 3, which included PSC 16. As documented in the Record of Decision, the preferred remedial action for PSC 16 was the physical removal of tar balls from the upper six inches of sediment by using a raking device at the PSC 16 storm water outfall area. Background study of the river found contaminant levels at PSC 16 were no higher than the rest of the river near NAS JAX. Regulatory documents are cited below:

USEPA Region IV, Richard D. Green, Director Waste Management Division on September 25, 2000 concurred with the findings and the selected remedy presented in the ROD.

FDEP, Kirby B. Green, III, Deputy Secretary on October 23, 2000 concurred with the Record of Decision (ROD) for Operable Unit 3 at Naval Air Station Jacksonville.

4. Casa Linda Lake

The remedies selected in the ROD were monitoring with institutional and passive habitat controls. Institutional Controls consist of use restrictions and advisory signs, currently enforced by NASJAX for Casa Linda Lake. Control of habitats in the vicinity of Casa Linda Lake is implemented via passive habitat control as specified in the ROD. This consists of mowing of herbaceous growth on the shoreline and placement of predator bird and animal figures to discourage habitat utilization by piscivorous birds and predatory mammals.

5. Old Main Registered Disposal Area, PSC 26 (part of the LNAPL Area of OU 1)

A focused RI/FS was prepared for the LNAPL area of OU 1 in 1993. Subsequently a proposed plan and interim ROD was completed for this site in 1994. The interim ROD called for construction and operation of a passive recovery system for LNAPL, recovery and offsite treatment and disposal of LNAPL, and temporary onsite stockpiling of soil excavated during construction. The system is still in operation, however, it is being "optimized" by NAVFACSE. Active LNAPL is completed. Oil will be removed from the wells quarterly. The final RI/FS report for OU 1, which includes PSC 26, was completed in March 1996. The ROD was subsequently signed and implemented. The ROD specified that contaminated soil from surrounding properties and sediment from the unnamed stream, and its tributaries, be excavated and placed on PSC 26 after which the landfill would be capped and covered. In addition to soil and sediment, groundwater within the plume area will be treated using intrinsic bioremediation (natural attenuation). Regulatory documents are cited below:

FDEP, Virginia B. Wetherall, Secretary on October 17, 1997 agreed with the Navy's selected alternative for OU 1.

USEPA, Region IV, Richard D. Green, Director Waste Management Division on August 3, 1998 concurred with the findings and the selected remedy presented in the ROD.

6. Ex-PCB Transformer Storage Area, PSC 27 (part of the LNAPL Area of OU 1)

A focused RI/FS was prepared for the LNAPL area of OU 1 in 1993. Subsequently a proposed plan and interim ROD was completed for this site in 1994. The interim ROD called for construction and operation of a passive recovery system for LNAPL, recovery and offsite treatment and disposal of LNAPL, and temporary onsite stockpiling of soil excavated during construction. The system is still in operation, however, it is being "optimized" by NAVFACSE.

An RI/FS for OU 1, which includes PSC 27, was completed and the ROD was signed and implemented. The ROD specified that PCB-contaminated sediments in the tributary (located along the south side and to the east of PSC 27) be excavated and placed under the landfill cap at PSC 26. The contaminated soils at PSC 27 were covered with 18 inches of compacted soil and over which was placed a 6-inch vegetative soil cover for a total soil cover of 2 feet. For more details on the RI/FS findings and the selected remedial alternative, see the OU 1 RI/FS report (ABB-ES, 1996) and the ROD (ABB-ES, 1997).

The final RI/FS report for OU 1 was completed in March 1996. Based on the findings of the RI/FS, a proposed plan and ROD were developed. Regulatory documents are cited below:

FDEP, Virginia B. Wetherell, Secretary on October 17, 1997 agreed with the Navy's selected alternative for OU 1.

USEPA Region IV, Richard D. Green, Director Waste Management Division on August 3, 1998 concurred with the findings and the selected remedy presented in the ROD.

7. Base Dry Cleaner, PSC 48 (part of OU 3) -

The final RI/FS report (HLA, 2000a) for OU 3 was completed in April 2000. Based on the findings of the RI/FS a proposed plan and ROD were developed. In accordance with the Record of Decision, the air sparge and soil vapor extraction system installed during the IRA at PSC 48 should continue operations through the next five-year review for the station. When the remediation is complete, this attachment should be updated to reflect the new information and results of the removal program. The selected remedy is currently under review. Regulatory documents are cited below:

USEPA Region IV, Richard D. Green, Director Waste Management Division on September 25, 2000 concurred with the findings and the selected remedy presented in the ROD.

FDEP Kirby B. Green, III, Deputy Secretary on October 23, 2000 concurred with the Record of Decision (ROD) for Operable Unit 3 at Naval Air Station Jacksonville.

8. WWTP Ex-sludge Disposal Area, PSC 3 (part of OU 2)

The final RI report for OU 2 was completed in January 1998. Based on the findings from the RI and risk assessment, a proposed plan and ROD were developed. The ROD specified that No Further Action was required at PSC 3, except for the implementation of Land Use Controls (LUCs). LUCs restricting groundwater use and land use at OU 2 have been implemented. Regulatory documents are cited below:

USEPA Region IV, Richard D. Green, Director Waste Management Division on March 19, 1999 concurred with the findings and the selected remedy presented in the ROD.

FDEP, David B. Struhs, Secretary on March 18, 1999 agreed with the Navy's selected remedial alternatives for OU 2, PSCs 2, 3, 4, 41, 42, and 43 at NAS Jacksonville.

9. Pine Tree Planting Area, PSC 4 (part of OU 2)

The final RI report for OU 2 was completed in January 1998. Based on the findings from the RI and risk assessment, a proposed plan and ROD were developed. The ROD specified that No Further Action was required at PSC 3, except for the implementation of Land Use Controls (LUCs). LUCs restricting groundwater use and land use at OU 2 have been implemented. Regulatory documents are cited below:

USEPA Region IV, Richard D. Green, Director Waste Management Division on March 19, 1999 concurred with the findings and the selected remedy presented in the ROD.

FDEP, David B. Struhs, Secretary on March 18, 1999 agreed with the Navy's selected remedial alternatives for OU 2, PSCs 2, 3, 4, 41, 42, and 43 at NAS Jacksonville.

10. Shoreline Fill West of Fuel Barge Dock, PSC 5 (OU5)

PSC 5 is located in an isolated area of the flightline at NAS Jacksonville. Because of engineering controls (an electronic gate to a fenced area) and natural vegetation, the site is almost inaccessible except by boat or by the occasional site worker. There is no land use for PSC 5, and the adjacent area is limited location of antenna. The groundwater at PSC 5 is not used for drinking; there are no wells in the area. Therefore, screening surface soil against industrial screening values provides an appropriate level of safety for current land use. Residential screening values for surface soil and groundwater are appropriate for potential land use.

Based on the inaccessibility of the site, the limited current land use, and lack of groundwater use, there is no current risk to human health at PSC 5 unless site workers should come in contact with surface soil. If, as at PSC 18, signs were added warning of the radioactive contamination, the limited potential exposure should be eliminated. Should the land use change so that industrial activities were performed at PSC 5, further evaluation of the radioactive contamination would become necessary. Also, should the land use change to allow residential use of PSC 5, remediation of surface soil would become necessary.

Based on information gathered and evaluated by HLA and previous consultants, NFRAP with implementation of LUCs is recommended based on risk screening, which demonstrates acceptable risk for current site workers and the need for further evaluation of risks if land use were to change.

Revision 2 of the RRDS, dated October 14, 1998, recommended NFRAP with expansion of existing Land Use Controls (LUCs) for PSC 5. Regulatory documents are cited below:

FDEP, Jorge R. Caspary, Remedial Project Manager on December 28, 1998 concurred with the recommendation for NFRAP with expansion of existing LUCs.

USEPA Region IV, Martha Berry, Remedial Project Manager, Federal Facilities Branch, on July 19, 1999 stated that because radiological contaminants were detected in the groundwater, the USEPA ecological risk assessment specialist suggested that a sediment sample be taken directly offshore and analyzed for radiological parameters. If the daily dose is less than 0.1 rad/day, then the site poses no ecological risk and the proposed recommendation is acceptable. If the daily dose is higher than 0.1 rad/day, then additional steps must be taken. The radiological sampling required by the USEPA was completed in 2001 and yielded negative results and the site is now in the LUC program.

11. DRMO Yard, OU 7, PSC 46

The ROD is the final selected remedy for PSC 46. Remedial Investigation (RI) Human Health Risk Assessment (HHRA), an Ecological Risk Assessment (ERA) Focused Feasibility Study (FFS), and Proposed Plan have also been approved for PSC 46. The selected remedy eliminates unacceptable exposures to polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), metals, and radium-226 in soil and sediment and chlorinated solvents and arsenic in groundwater. The selected remedy for PSC 46 includes excavation of soil/sediment in storm water ditches; monitored natural attenuation (MNA) for groundwater; and restriction of site access through land use controls (LUCs) to prevent exposure to surface soil, prevent any residential reuse activities, and prevent extraction or consumption of groundwater from taking place at this location. LUCs include both institutional controls and engineering controls. The selected remedy was determined based on evaluation of the site conditions, site-related risks, future land use, applicable or relevant and appropriate requirements (ARARs), and Remedial Action Objectives (RAOs). The major components of the selected remedy are as follows:

LUCs will be monitored, implemented, reported on, and maintained by the Navy for PSC 46 to ensure that the site continues to operate as an industrial area. The LUCs will be maintained until the concentrations of hazardous substances in the soil and groundwater are at such levels to allow for unrestricted use and exposure.

12. Area A, OU 3

The ROD is the final action for OU 3 Area A groundwater. A Remedial Investigation (RI), Human Health Risk Assessment (HHRA), an Ecological Risk Assessment (ERA), Feasibility Study (FS), RI/FS Addendum, and Proposed Plan have also been prepared for OU 3 Area A. The selected remedy for remediating the surficial aquifer contamination at OU 3 Area A addresses the surficial aquifer contamination by controlling exposure (reducing risk) through land use controls, monitored natural attenuation (MNA), and long-term monitoring.

13. South Antenna Field Firefighting Training Area, OU 5 PSC 51 -

The ROD is the final action for PSC 51. A Remedial Investigation (RI), Human Health Risk Assessment (HHRA), an Ecological Risk Assessment (ERA), Feasibility Study (FS), and Proposed Plan have also been prepared for PSC 51. The selected remedy for soil contamination addresses the restriction of site access through institutional controls to prevent exposure to soil at PSC 51, which contains aluminum, antimony, arsenic, barium, chromium, copper, iron, lead, mercury, nickel, and vanadium. The selected remedy for remediating the surficial aquifer groundwater contamination at PSC 51 addresses the reduction of petroleum and chlorinated solvent compounds through natural attenuation, monitoring, and institutional controls. The selected remedy also includes the monitoring of surface water near PSC 51 to assure that surface water is not impacted by petroleum and chlorinated solvent compounds found in the groundwater at PSC 51.

14. The Permittee may modify the previously approved remedial technologies with written Department approval. Designs for modification must be signed and sealed by a Professional Engineer and submitted to the Department at least 60 days prior to proposed implementation.
15. Clean-up of petroleum product was started and continues in accordance with the Florida Petroleum Contamination Agreement of October 1990 between the Florida Department of Environmental Regulation and the U.S. Navy.

APPENDIX A-SUMMARY OF FACILITY SITES-SOLID WASTE MANAGEMENT UNITS (SWMUs), AREAS OF CONCERN (AOCs), POTENTIAL SOURCES OF CONTAMINATION (PSCs) AND PETROLEUM CONTAMINATION AREAS (PCAs)

A.1 List of SWMUs / AOCs requiring Confirmatory Sampling				
SWMU/AOC Number/Letter	SWMU/AOC Name	SWMU/AOC Comment and Basis for Determination	Dates of Operation	Potentially Affected Media
There are no units identified as requiring Confirmatory Sampling at this time pursuant to this permit.				

A.2 List of PSCs/SWMUs / AOCs requiring a Site Assessment (a/k/a RCRA Facility Investigation [RFI]) or a Risk Assessment (Site Investigation (SI) or Remedial Investigation/ Feasibility Study (RI/FS))				
SWMU/AOC Number/Letter	SWMU/AOC Name	SWMU/AOC Comment and Basis for Determination	Dates of Operation	Potentially Affected Media
PSC 58	Carbon tetrachloride site	Carbon tetrachloride found when investigating a nearby site		Groundwater
OU-11 (PSC 5)	Shoreline Fill West of Fuel Barge Dock	Disposal of paint, solvents, concrete runway debris. Located in an isolated area	1945-1946	Soil & groundwater

		of the flightline. Radioactive contamination was determined to be present in surface soil and groundwater, but human receptors are limited to occasional site workers and groundwater is not used for drinking water.		
OU-11 (PSC 8/ 55)	Vacant Lot – Fuel Farm Area/Paint Sludge Disposal	Industrial wastewater sludges disposed. Used for aircraft parking in 1976. Grit blast also found in deteriorated plastic bags. Boundary of PSC 8 was expanded to include PSC 55. The two PSCs share the same contaminants.	1942-1972	Soil & groundwater
OU-11 (PSC 9)	Old Disposal Area East of Fuel Farm	Disposal of garbage, construction debris and a few 55-gallon drums that were disposed from 1977-1978	1949-1972	Soil & groundwater
OU-11 (PSC 29)	Organic Disposal Area	Disposal of wood, grass, crushed drums, and metal. Soil impacted by PAHs. Groundwater impacted by iron and manganese.		Soil & groundwater
OU-11 (PSC 31)	Asphalt Mixing Area	Equipment storage, junk vehicles, drum of asphalt mixing material.		Soil & groundwater
OU-11 (PSC 32)	Ex-Base Landfill	Beryllium and benzo(a)pyrene and Aroclor-1260 in surface and subsurface soil. Iron and manganese exceeded secondary standards for groundwater.		Soil & groundwater
OU-12 (PSC 38)	Torpedo Rework Facility	Discharge of waste in septic tank.	1957-1983	Soil & groundwater
OU-9 (PSC 45)	Building 200 Wash Rack Disposal Pit	Covered washrack with drain to French drain system that went to oil water separator. Overflow leached to subsurface soil. COCs manganese & PAHs		Groundwater
OU-11 (PSC 50)	East side Waste Water Treatment Sludge Disposal	After the east WWTP was demolished the sludge was placed in a pit and buried		Groundwater
PSC 57	High Powered Run-Up Pad	Petroleum program contamination	Pre-1978	
UXO1/PSC 22 (Part of OU-10)	Fort Dix	Former disposal of small arms ammunition. Located in and around the golf range.		Groundwater and Soil

UXO2/PSC 23a (Part of OU-10)	.50 Caliber Range	Located in and around the golf range.		Groundwater and Soil
UXO3/PSC 23b (Part of OU-10)	Old Skeet Range	Located in and around the golf range.		Groundwater and Soil
UXO4/(Part of OU-10)	Akron Road Range	Located in and around the golf range.		Groundwater and Soil
UXO5 part of OU-10	.30 Caliber Range	Located in and around the golf range.		Groundwater and Soil
UXO6/PSC 58 (Part of OU-10)	Trap Ranges	Located in and around the golf range.		Groundwater and Soil
UST26/PCA 26	New Kemen Test Cell	In 2010 a 25,000 gallon JP5 tank was removed leaving behind soil and groundwater contamination.		Groundwater and Soil
PCA 17/PSC 69	High Power Turn Up Pad	Petroleum program contamination.	Pre 1978	Groundwater and soil

A.3 List of PSCs/SWMUs / AOCs requiring a Remedial Action Plan or Natural Attenuation with Monitoring Plan (a/k/a RCRA Corrective Measures Study [CMS])				
SWMU/AOC Number/Letter	SWMU/AOC Name	SWMU/AOC Comment and Basis for Determination	Dates of Operation	Potentially Affected Media
Hanger 101S	Hanger 101S	Groundwater will be addressed with OU-3 ROD	Currently operational	Groundwater and soils
There are no units identified at this time requiring a Remedial Action Plan or a Natural Attenuation with Monitoring Plan.				

A.4 List of OUs/PSCs/SWMUs / AOCs implementing a Remedial Action Plan, Land Use Controls or Natural Attenuation Monitoring Plan (a/k/a Corrective Measures Implementation [CMI])				
SWMU/AOC Number/Letter	SWMU/AOC Name	SWMU/AOC Comment and Basis for Determination	Dates of Operation	Potentially Affected Media
OU-1/PSC 26	Old Main Registered Disposal Area	Vehicle graveyard prior to 1940. Used for disposal after that. Contamination found in 1978.		Groundwater
OU-1/PSC 27	Ex-PCB Transformer Storage Area	Transformer storage area. Vandalism in 1978.		Groundwater
OU-2/PSC 42/SWMU 2*	WWTP Effluent Polishing Pond (Former Regulated Unit)			Groundwater

OU-3 Area A	Area A			Groundwater
OU-3 Area B & G	Area B & G			Groundwater
OU-5/PSC 51	South Antenna Field Firefighting Training Area			Groundwater
OU-6/PSC 52	Hangar 1000 (Former Permitted Unit)	Disposal of paints and solvents to oil/water separator and tank until late 1980s.		Groundwater
OU-7/PSC 46	DRMO Yard	In 2007 and 2011, remedial actions implemented to eliminate unacceptable exposures to polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), metals, and radium- 226 in soil and sediment and chlorinated solvents and arsenic in groundwater.		Soil & groundwater
OU-8/PSC 47	Pesticide Shop- Building 536 and Disease Vector Ecology and Control Center (DVECC)-Building 937	In existence from 1949. Former DVECC was renamed the Naval Entomology Center of Excellence (NECE) in 2007		Groundwater
PSC 48 (Part of OU- 3)	Base Dry Cleaner	Remediation system removed.		Groundwater
Former Portion of Cecil Site 15	Yellow Water Housing	Cecil Field Site 15 ROD and LUC RD includes this site requires Land Use inspections. Site (SWMU) 15 is an MRP site, but the sliver only contained PAHs and lead. Soil was excavated and no UXO was found in the sliver.		
PCA 25	Tank 119	8/1/2004- contamination documented; GW : Land Use Control		

		(LUC) monitoring program		
UST 15/PCA 15/PSC 2	Former Fire Fighter Training Area	Identified in 1983 IAS; RRDS (May 28, 1999) OU2 ROD (October 1, 1996); EPA, Richard D. Green letter dated March 19, 1999; FDEP letter, David. B Struhs dated March 18, 1999; RAP for ASNE approved; RA implemented and discontinued. Remedy in place. Current Status: Transferred to petroleum program. Discontinued aggressive FP recovery. MNA in place for Soil/GW.		
UST 4/PCA 4/PSC 7	Gas Hill (aka PCA 4)	11 UST's used for JP5 storage. 1978 and 1979 explosions occurred. GW contamination has been defined at the southern perimeter. The tank farm has been demolished. Milestones: RRDS (12/28/95); EPA James Hudson, letter dated 11/14/94; FDEP Jorge Caspary, letter dated 10/18/94; SAR and addendums completed Treatability study evaluating enhanced bioremediation completed; Current Status: Site has been approved for LTM, and it is currently in LTM		
PCA 16	103rd Street Project-Hawkins Property	Milestones: Source removal completed and groundwater		

		<p>sampled; NFA 12/31/07 Current Status: Undergoing sampling and investigating source which may be from former surrounding gas stations. City of Jacksonville has interest in the property and is investigating details with surrounding property owners.</p>		
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A.5 List of PSCs/SWMUs / AOCs at which Site Rehabilitation Completion Determinations With Controls have been made

SWMU/AOC Number/Letter	SWMU/AOC Name	Unit Comment and Basis for NFA	Dates of Operation
PSC 3	WWTP Ex-Sludge Disposal Area	<p>Disposal of 20,000 tons of domestic and industrial sludge. Milestones: IAS 1983; RRDS (May 28, 1999); OU-2 ROD (October 1, 1996); EPA, Richard D. Green letter dated March 19, 1999; FDEP letter, David. B Struhs dated March 18, 1999; ROD Oct. 20, 1998 Controls: LUCs including groundwater restrictions.</p>	1962-1980
PSC 4	Pine Tree Planting Area	<p>Disposal of WWTP sludge, asbestos, oil and other petroleum products. Milestones: IAS 1983; RRDS (May 28, 1999); OU 2 ROD (October 1, 1996); EPA, Richard D. Green letter dated March 19, 1999; FDEP letter, David. B Struhs dated March 18, 1999; ROD Oct. 20, 1998 Controls: LUCs including groundwater restrictions.</p>	1968-1975
PSC 18	Fill Area	<p>Radium Paint Waste Milestones: Current Status: LUCs in place</p>	1950s

PSC 21 (Part of OU-4)	Casa Linda Lake	Fish kill caused by organophosphate nematicide application to surrounding areas. Milestones: 1999 RRDS May 28 1999; 2000-ROD signed September 11, 2002; EPA Region IV, Richard Green, September 28, 2000; -FDEP, Kirby Green, October 27, 2000; -FDEP, Jorge Caspary, November 2, 2000; Controls: LUCs (including passive habitat controls) and LTM in place.	1979
PSC 41*	Domestic Waste Sludge Drying Beds (Former Regulated Unit)	Controls: LUCs October 1, 1998	
PSC 43*	Industrial Waste Sludge Drying Beds (Former Regulated Unit)	Controls: LUCs October 1, 1998	
PSC 14	Battery Shop	Annual disposal of lead acid battery waste Milestones: RRDS 12/28/95; EPA Region IV, Richard D. Green, Director Waste Management Division, Letter 9/25/2000; FDEP, Kirby B. Green III, Deputy Secretary, Letter 10/23/2000; Controls: LUCs in place.	
PSC 15 (Part of OU-3)	Solvent and Paint Waste Disposal Area	Disposal of solvents and paints. Milestones: RRDS 12/28/95; RI/FS for OU3, which includes PSC 15 completed 4/2000; ROD 9/26/2000, Radiological soil contamination beneath the concrete pad or 3' below that remains in place; EPA Region IV, Richard D. Green, Director Waste Management Division, Letter 9/25/2000; FDEP, Kirby B. Green III, Deputy Secretary, Letter	1968 - 1978

		10/23/2000; Controls: LUCs and industrial use.	
*Regulated Unit			

A.6 List of SWMUs / AOCs at which Site Rehabilitation Completion Determinations Without Controls have been made			
SWMU/AOC Number/Letter	SWMU/AOC Name	Unit Comment and Basis for NFA	Dates of Operation
PCA 2	Building 873	Unit leaked oily wastewater on the ground. Basis for NFA: NFAP SRCO as of 24 June 1996; FDEP letter signed by John Ruddell	
PCA 3	OTC-10 old NADEP test cell with past petroleum	Old NADEP test cell with past petroleum Basis for NFA: NFA 1993; Transferred to IR as part of OU3	1976-1990
PCA 6	24 inch station line (line to Cecil Field)	1988 fuel spill that occurred within boundaries of PSC 1 which was NFRAP in 1994. An assessment of the 8-inch line running from the fuel farm to Cecil Field was conducted and determined to be NFA. Basis for NFA: NFA 2002; Site closed under petroleum program and transferred to IR	
PSC 6	Fuel Farm Steam Pit	Basis for NFA: RRDS (12/28, 1995); EPA, Martha Berry letter dated 11/14/91; FDEP, Jorge Caspary letter dated 11/15/94; John Mitchell letter dated 10/12/94; NFA 12/28/1995	
UST11/PCA 11	Hush House	Building in 1985. Petroleum contamination detected during Hush House installation next to the Kemen Test Cell. Basis for NFA: Jorge Caspary, EPA letter 8/12/02 Moved from petroleum program to Environmental	

		Restoration Program (ERP) Current Status: Site closed under petroleum program and transferred to IRP	
PSC 11	Building 101	Disposal of solvents. Under old floor boards. Fire under floor in 1975. Basis for NFA: -IAS 1983; RRDS (12/28/95); EPA, Richard Green letter dated 9/25/2000; FDEP, Kirby Green III, letter dated 10/23/2000; ROD 9/26/2000; NFA 9/26/2000	
UST12/PCA 12	Tank Site 1558 1 & 2	Vinyl chloride detected during screening activities under the petroleum program. NFA: Jorge Caspary EPA letter 8/12/02 Moved from petroleum program to ERP Current Status: Site closed under petroleum program and transferred to IRP	
PSC 12	Old Test Cell Building	Basis for NFA: RRDS (12/28/95); EPA, Richard Green letter dated 9/25/2000, FDEP; Kirby Green III, letter dated 10/23/2000; ROD 9/26/2000; NFA 9/26/2000	1976-unknown
PSC 13	Radium Paint Waste Disposal Pit	Basis for NFA: RRDS (12/28/95); EPA, Richard Green letter dated 9/25/2000, FDEP; Kirby Green III, letter dated 10/23/2000; ROD 9/26/2000; NFA 9/26/2000	WWI-1950s
PSC 16	Black Point Storm Sewer Discharge	Basis for NFA: ROD Sept 26, 2000; RA designated in the ROD has been completed; NFA projected 9/26/2000	
PSC 17	Glass Bead Disposal	Glass bead disposed in Mulberry Cover	1965-1981

		Basis for NFA 6/23/1999, EPA Letter, Martha Berry 9/25/1995, FDEP Letter, Jorge Caspary 5/31/1995	
PSC 28	Ex-Fire Training Area	Basis for NFA: NFA 1999, EPA Letter 1/31/2000; FDEP Letter 10/4/1999	
PSC 30	Old Drum Lot	Storage of 10,000 drums of raw material Basis for NFA: IAS 1983: Draft Sampling Event Report, 2/8/2008; NFA Letter 9/18/2009 from David Grabka	1955-1967
PSC 37	Ex-Power Barge Dock	Basis for NFA: EPA Brian Donaldson letter dated January 21, 2000& FDEP , Jorge Caspary letter dated July 21, 1999	
PSC 40	Ex-East Industrial WWTP Discharge Area	Basis for NFA: RRDS 7/6/99; EPA Brian Donaldson, letter dated 8/10/2000; FDEP Jorge Caspary letter dated 7/21/99; NFA 7/6/1999	1940-1972
AOC 64	AIMD Building 724 east side	Estimated 9 gallons release as result of severing of fuel line from 100 gallon fuel tank discovered on 3/18/2005. The affected areas were excavated and a confirmatory sample determined it to be non-hazardous.	

A.7 List of SWMUs / AOCs where No Further Action Determinations have been made based on no suspected or confirmed contamination (i.e. not ‘contaminated sites’ as defined by 62-780 F.A.C.)

SWMU/AOC Number/Letter	SWMU/AOC Name	Unit Comment and Basis for NFA	Dates of Operation

A.8 List of PCAs Undergoing Action Under Chapter 62-780 (Formerly 62-770), Florida Administrative Code (F.A.C.)

NOTE: These PCAs will be moved to one of the earlier appendices above, for final permit issuance, once their appropriate corrective action status is verified.

SWMU/AOC Number/Letter	SWMU/AOC Name	Unit Comment and Basis for NFA	Dates of Operation
PCA 1 (aka PSC 33)	NEX Exchange	See PSC 33 NFA 2002	
PSC 1	Patrol Road Turnaround	Disposal of construction debris and JP5 fuel line break. Milestones: Identified in 1983 during IAS; EPA Jim Hudson, letter dated 11/14/94; FDEP Jorge Caspary, Letter dated 10/18/94; NFA Nov. 14, 1994, EPA Letter, Jim Hudson 11/14/1994; FDEP Letter, Jorge Caspary 10/18/1994	
PCA 5	Power Plant-Building 650	Milestones: Source Removal via excavation and groundwater monitoring conducted; NFA 2005; FDEP Letter 1/10/2005	
PCA 7	Ready Tanks 119	Fuel/Lube/Oil Storage Milestones: All GW areas except D&F were NFA; D&F are in Station's LUC program; NFA 3/31/1998, FDEP Letter	1941
PCA 9	Flying Club	NFA 1997	
PCA 10	Hangar 115	NFA 1998	
PCA 13	Auto Hobby Shop	Milestones: Contamination Assessment conducted in March 1997; NFA 1997	
PCA 14 (aka PSC 19)	Old Gas Station	Found abandoned USTs. No known releases Milestones: Soil excavations in 2004; NFA 2005, FDEP Letter, Jim Cason 8/12/2005; Current Status: Groundwater being monitored to evaluate further action.	Built in 1957
PCA 17	S3 Run-Up Pad	Petroleum program contamination. Milestones: NFA in 2002	Pre 1978
PCA 18	Building 3900	Media: Soil NFA 2003	
PCA 19	Potable Water Plant	Media: Soil and Groundwater	

		NFA 2002	
PCA 20	Building 669	NFA 2002	
	Army Reserve Center	NFA 1996	
	Navy Health Care Support Office	NFA 1995	
	AIMD Test Cell	NFA 1998	
	OLF Whitehouse	NFA 1998	
PCA 21	Building 197	NFA 2002	
PCA 22	Family Quarters I, J and 1150	NFA 2002 Soil and 2003 Groundwater	
PCA 23	Hangar 1000	NFA 2003	
PCA 24	Building 9	NFA 2002	
PSC 33	Base Service Station	Milestones: -EPA, Martha Berry, Letter June 21, 1995; RRDS December 29, 1995; FDEP, Jorge Caspary, Letter; NFA 2002	1965-1980

Issued July 22, 2014

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION



**TIM BAHR, ACTING PROGRAM ADMINISTRATOR
 PERMITTING AND COMPLIANCE ASSISTANCE PROGRAM**

Filing and Acknowledgment

Filed on this date, pursuant to Section 120.52 Florida Statutes, with the designated Clerk, receipt of which is acknowledged.



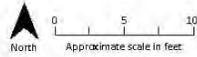
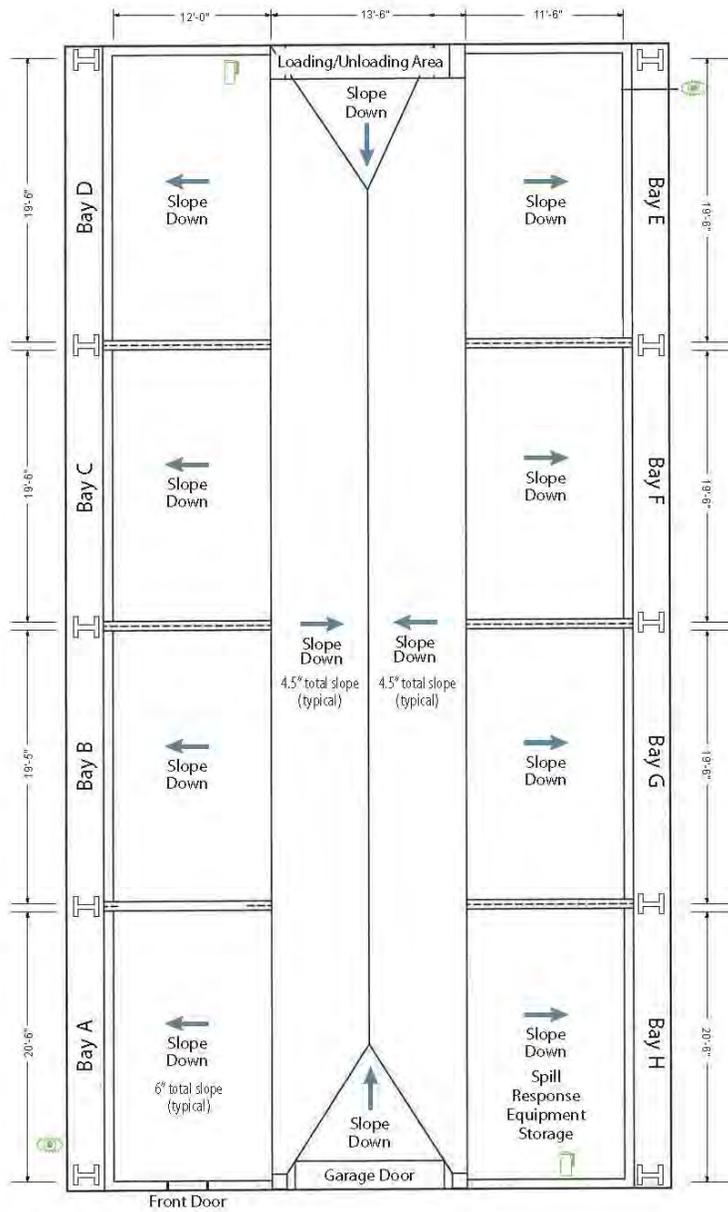
CLERK

July 22, 2014
 DATE

ATTACHMENT A-PROPERTY BOUNDARY UNDER THE CONTROL OF THE PERMITTEE



ATTACHMENT B-BUILDING 144 LAYOUT



LEGEND

- Emergency Shower/
Eye Wash Station
- Fire Extinguisher

NOTE

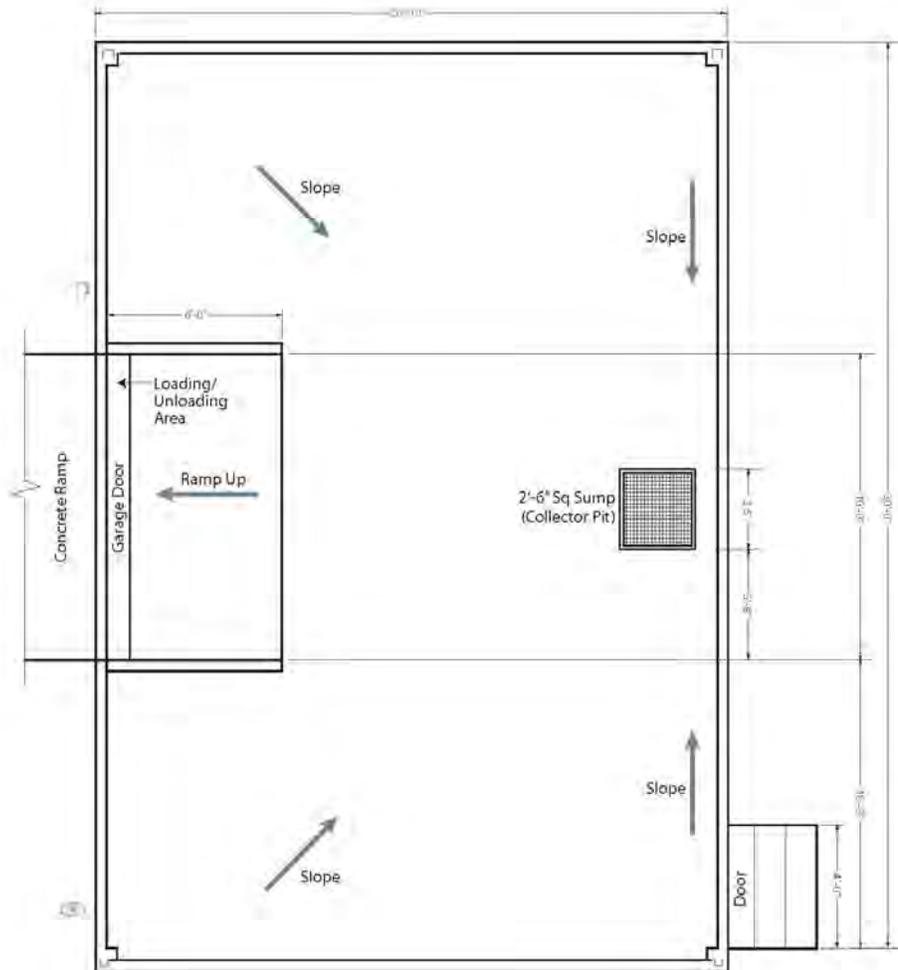
Concrete Berm slopes from approximately
 2 inches at center aisle to approximately
 6 inches along outer wall

FIGURE A-9
HWSF Layout, Building 144
 NAS Jacksonville
 Jacksonville, FL

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ATTACHMENT C-BUILDING 762 LAYOUT



North

LEGEND

-  Emergency Shower/
Eye Wash Station
-  Fire Extinguisher

FIGURE A-10
HWSF Layout, Building 762
NAS Jacksonville
Jacksonville, FL

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ATTACHMENT D-PERMITTED WASTE CODES FOR STORAGE

Building 144

D001 through D040, D042, D043;

F001 through F009, F019;

P001, P003, P004, P008, P012, P015, P016, P022, P029, P030, P048, P050, P059, P063, P088, P098, P104 through P106; P119, P122, P123 and

U002 through U004, U010, U012, U019, U021, U022, U029 through U031, U035, U041, U042, U044, U045, U056, U058, U060, U061, U069 through U072, U075, U077-U082, U095, U102, U103, U108, U109, U112, U115, U117, U118, U121, U122, U127, U129, U134, U138, U140, U144, U150, U151, U154, U158 through U162, U167, U169, U170, U188, U190, U192, U196, U201, U202, U210, U211, U213, U220, U226, U227, U228, U234, U235, U239, U278, U359 and U404.

Building 762

Waste OTTO fuel with waste code D003 and contaminated rags with waste codes D006 and D008