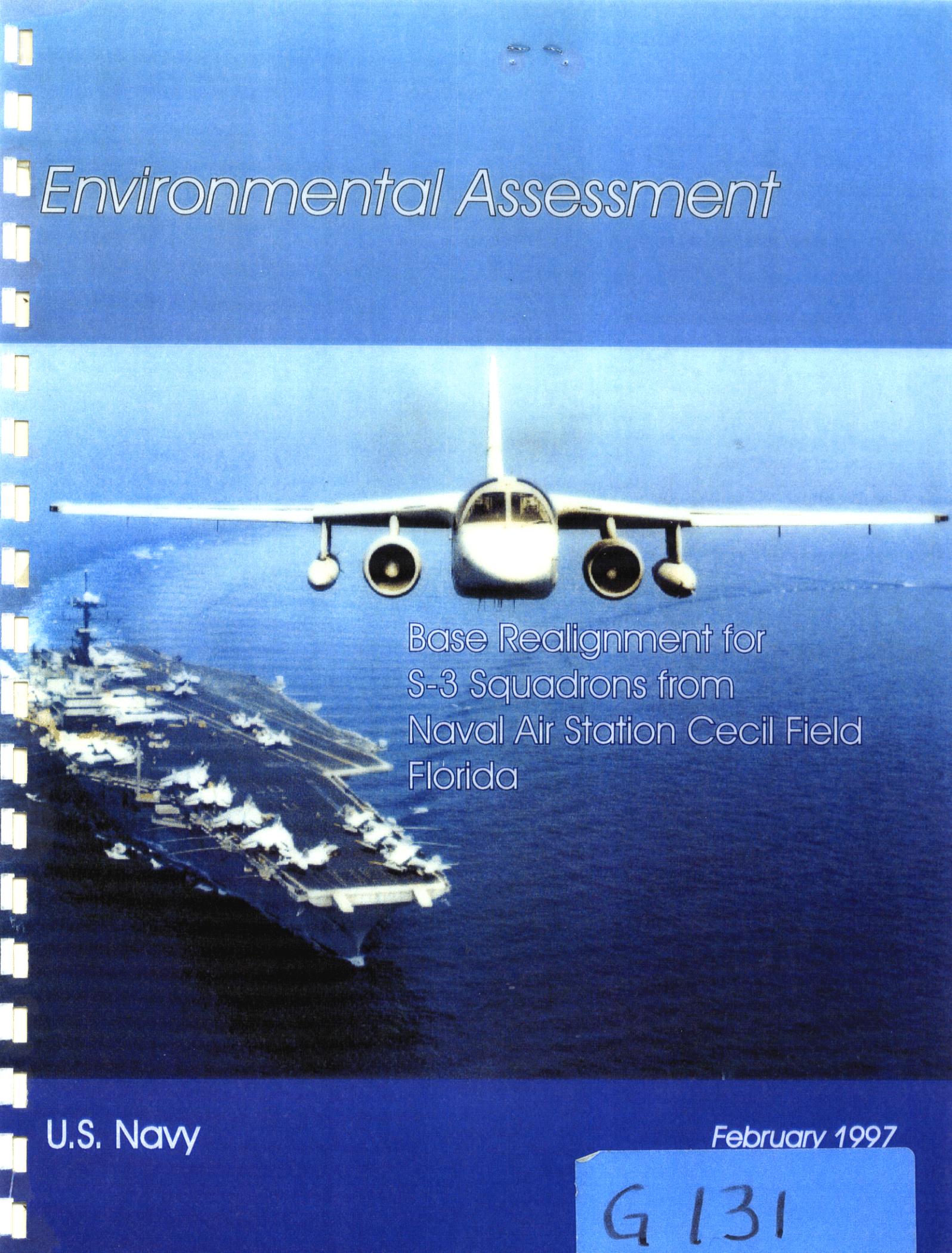


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NAS CECIL FIELD, FL
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ENVIRONMENTAL ASSESSMENT BASE REALIGNMENT FOR S-3 SQUADRONS NAS
CECIL FIELD FL
2/1/1997
U S NAVY

Environmental Assessment



Base Realignment for
S-3 Squadrons from
Naval Air Station Cecil Field
Florida

U.S. Navy

February 1997

G 131

DEPARTMENT OF DEFENSE
DEPARTMENT OF THE NAVY

FINDING OF NO SIGNIFICANT IMPACT FOR REALIGNMENT OF S-3 AIRCRAFT
SQUADRONS FROM NAVAL AIR STATION CECIL FIELD, JACKSONVILLE, FLORIDA

Pursuant to Council on Environmental Quality Regulations (40 CFR Parts 1500-1508) implementing procedural provisions of the National Environmental Policy Act, the Department of the Navy gives notice that an environmental assessment (EA) has been prepared and an environmental impact statement is not required for the realignment of six S-3 aircraft squadrons from Naval Air Station (NAS) Cecil Field to NAS Jacksonville, Florida.

The proposed action is the relocation of six S-3 squadrons (a maximum of forty-eight aircraft) from NAS Cecil Field to NAS Jacksonville. The six squadrons include five S-3B Viking squadrons (40 carrier-based antisubmarine warfare airplanes) and one ES-3A Shadow squadron (8 carrier-based electronic reconnaissance airplanes). One of the five S-3 squadrons and two of the eight ES-3 aircraft will be forward-deployed to aircraft carriers on a rotating basis. Flight activities of the squadrons at NAS Jacksonville would comprise approximately 17,331 operations annually, with 518 operations (approximately 3 percent) occurring at night (10:00 P.M. to 7:00 A.M.). An estimated 20,736 operations would continue to take place each year at Outlying Landing Field (OLF) Whitehouse, with 622 operations (approximately 3 percent) occurring at night. The six squadrons have a combined complement of 2,180 military personnel, and 94 civilian personnel. NAS Cecil Field and NAS Jacksonville are only twelve miles apart, and squadron personnel and their dependents already live in the Jacksonville area and would not need to relocate.

Relocating the six squadrons to NAS Jacksonville would require the new construction of a simulator training facility; and S-3 Tactical Support Center addition to Building 506; renovations to Hangars 1000 and 113; renovation to an existing high-power runway pad; and internal modifications to Buildings 850, 848, 851, and 858.

The proposed action is directed by the Defense Base Realignment and Closure process (BRAC) of 1993, which listed NAS Cecil Field for closure, and BRAC 1995, which directed the relocation of the S-3 squadrons at NAS Cecil Field to other air stations including NAS Oceana, VA, Marine Corps Air Station Beaufort, SC, NAS Jacksonville, FL, NAS Atlanta, GA or other air stations with suitable capacity and support infrastructure. Although BRAC-95 did not designate specific receiving sites for the squadrons to be relocated from NAS Cecil Field, the findings recognized the operational advantages of carrier-based anti-submarine warfare (ASW) aircraft with land-based ASW aircraft at NAS Jacksonville.

A screening analysis was conducted to identify potential receiving locations for the six S-3 squadrons. The analysis included three criteria consistent with recommendations of the BRAC-95 process: (1) relocation to a site with suitable capacity and support infrastructure for S-3 squadrons; (2) relocation to a site meeting the operational requirements of S-3 aircraft; and (3) collocation of carrier-based and land-based ASW aircraft.

East coast Navy and Marine Corps air stations were evaluated in relation to the three criteria listed above. Only NAS Jacksonville, FL, Naval Station (NAVSTA) Mayport, FL, and NAS Brunswick, ME have a primary mission to support either carrier or land-based ASW aircraft. NAS Brunswick could not meet operational requirements (excessive distance from S-3

training ranges) and did not have available support capacity or infrastructure (hangar and apron space) to accommodate the S-3 squadrons. Although close to training ranges, NAVSTA Mayport could not meet the need for available support capacity or infrastructure. Therefore, relocation of the six S-3 aircraft squadrons to NAS Jacksonville comprises the proposed action and will be the focus of the remaining discussion.

Impacts associated with the proposed relocation of six S-3 squadrons to NAS Jacksonville are not expected to be significant. NAS Jacksonville is within the Duval County Air Quality Control Region (AQCR), and area which is classified by the Environmental Protection Agency (EPA) as being "in maintenance" for ozone. The proposed action will cause a minor increase in air emissions, including the precursors of ozone (nitrogen oxides and volatile organic compounds) as a result of construction activities. These increases in emissions would not exceed *de minimis* levels of 100 tons per year, and therefore, would be in conformance with EPA's General Conformity Rule for air quality and would not violate the State Implementation Plan.

In comparison to the 1978 Air Installation Compatibility Use Zone study of NAS Jacksonville aircraft operations, the off-station land area within the day-night average noise level (DNL) of 65 A-weighted decibels (dBA) and higher would decrease by 1,398 acres and the impacted population would decrease by an estimated 3,995 persons under the proposed action. Compared to the existing (1994) conditions, the land area within the 65 DNL dBA contour would increase by 77 acres, and the number of homes subjected to that level of noise is expected to increase by 19 homes in the Azalea and Airbase Mobile Home Parks. Population estimates within the modeled contour would increase by 41 persons compared to the 1994 noise contours. The land area within the 70 DNL dBA contour would increase by 25 acres, and the number of homes subjected to that level of noise would increase by 39 homes in the Justiss and Azalea Mobile Home Parks. Approximately 89 more people would be exposed to 70 DNL dBA noise levels. According to the Federal Interagency Committee on Noise, residential land use is compatible with airfield operations producing noise levels between 65 and 75 dBA DNL, because current construction practices provide between 15 and 25 dBA attenuation, with windows open or closed, respectively. No additional dwellings will be subjected to DNL noise levels greater than 75 dBA as a result of the proposed action..

The proposed action would produce DNL 65 dBA noise contours partially across the St. Johns River to within about 2,500 feet of the St. Johns community. Although these noise contours do not specifically account for the effects of noise propagation over water (the appropriate analytic methodology is not currently available), initial data and field observations suggest that residential development along the St. Johns River will continue to be compatible with the proposed aircraft operations.

Noise levels related to S-3 operations at OLF Whitehouse would not change, because the S-3s will continue to operate as before at the airfield. Overall, however, noise levels are expected to decrease when the F/A 18 aircraft are relocated as part of the BRAC actions.

The existing hazardous waste management facilities at NAS Jacksonville would be adequate to handle regulated waste products generated by the operation and maintenance of the additional aircraft. S-3 generated hazardous waste would constitute a 4.9 percent increase in waste generation over that currently handled at NAS Jacksonville (512,845 pounds to 538,012 pounds).

Commitment of land resources at NAS Jacksonville for construction of the proposed simulator training facility and the addition to Building 506 would not significantly impact the long-term biological resources of the area. Construction of the simulator training facility and adjacent parking area would result in the clearing of less than two acres of oak and pine trees. No terrestrial plant or animal species listed as threatened or endangered by either federal or state agencies would be affected by the proposed action. No habitat critical for the continued existence of any listed species is known to be present at the proposed construction sites.

The six S-3 squadrons have a combined complement of approximately 2,274 military and civilian personnel. Personnel and their dependents already live in the Jacksonville area and, therefore, would not need to relocate. Impacts to public facilities and services, such as schools, police protection, and fire and emergency services, would be negligible. Impacts to transportation and utility systems would be negligible. The roadways accessing NAS Jacksonville (Roosevelt Blvd., I-295, and Timuquana Rd.), have sufficient capacity to handle the additional peak hour traffic that would be generated from the relocated Navy employees. Adequate sewer and water capacity is available to accommodate the new employees and maintenance activities at NAS Jacksonville. No known archeological sites would be impacted under the proposed action. Proposed construction and renovation activities within and adjacent to historic structures would be completed in accordance with the Secretary of Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings.

Based on information gathered during preparation of the EA, the Navy finds that the relocation of six S-3 squadrons to NAS Jacksonville, Florida, will not significantly impact human health or the environment.

The EA addressing this action may be obtain from: Commanding Officer, Southern Division, Naval Facilities Engineering Command, P.O. Box 190010, North Charleston, South Carolina 29419-9010 (Attention: Mr. Darrell Molzan, Code 064DM); telephone (803) 820-5796.

19 February 1997

Dated

Thomas J. Peeling

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Special Assistant for Environmental Planning

Environmental Protection, Safety and Occupational Health Division

Deputy Chief of Naval Operation (Logistics)

Environmental Assessment

for

**Base Realignment for S-3 Squadrons
from Naval Air Station Cecil Field, Florida**

U.S. Navy

**February 1997
96-5280-20**

Cover Sheet

RESPONSIBLE AGENCY

Southern Division Naval Facilities Engineering Command, North Charleston, South Carolina

TITLE OF REPORT

Base Realignment for S-3 Squadrons from Naval Air Station Cecil Field, Florida

CONTACT FOR FURTHER INFORMATION

Department of the Navy

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TYPE OF REPORT

Environmental Assessment (EA)

ABSTRACT

This EA analyzes the potential environmental impacts from the relocation of six S-3 squadrons (a maximum of forty-eight aircraft) currently located at Naval Air Station (NAS) Cecil Field, Florida. Three alternative locations were considered: NAS Jacksonville, Florida; Naval Station Mayport, Florida; and NAS Brunswick, Maine. Of the three alternatives considered, NAS Jacksonville is the preferred receiving site.

The six squadrons include five S-3B Viking squadrons (carrier-based antisubmarine warfare aircraft) and one ES-3A Shadow squadron (carrier-based electronic reconnaissance aircraft). On a rotating basis, one of the five S-3 squadrons and two of the eight ES-3 aircraft will be forward-deployed to carriers. The flight activities of the six squadrons at NAS Jacksonville would equate to approximately 17,331 operations annually, with 518 operations (approximately 3 percent) occurring at night (10:00 P.M. to 7:00 A.M.). At Outlying Landing Field Whitehouse, an estimated 20,736 operations would take place each year, with 622 operations (approximately 3 percent) occurring at night. The six squadrons have a combined complement of 2,180 military and 94 civilian personnel. Personnel from the squadrons and their dependents already live in the Jacksonville area and would not need to change their place of residence since NAS Cecil Field and NAS Jacksonville are only 12 miles apart.

Relocating the six squadrons to NAS Jacksonville would require the construction of a simulator training facility and an S-3 Tactical Support Center addition to Building 506, renovations to a high-power runway pad and Hangars 1000 and 113, and internal modifications to Buildings 850 (offices), 848, 851, and 858 (maintenance training).

The proposed relocation of the six squadrons to NAS Jacksonville would not result in significant air quality or noise impacts. No wetlands or federal- or state-listed threatened or endangered species would be impacted. The relocation would have a negligible impact on the economy, infrastructure, and services in Duval County since squadron personnel and their dependents already reside in the area. The undertaking would cause no significant adverse effects on archaeological resources at the station. Proposed construction and renovation activities within and adjacent to historic structures would be completed in accordance with the applicable federal guidelines and coordinated with the State Historic Preservation Office. This EA concludes that the proposed action would result in no potentially significant adverse effects on the environment.

Summary

1 TYPE OF REPORT

- () Draft
(X) Final

This document is an environmental assessment (EA) that has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969; the President's Council on Environmental Quality regulations implementing NEPA procedures (40 Code of Federal Regulations [CFR] 1500-1508); and the Environment and Natural Resources Program Manual (Chief of Naval Operations Instruction 5090.1B).

- 2 TYPE OF ACTION Administrative (X) Legislative ()

3 DESCRIPTION OF ACTION

The proposed action is the relocation of six S-3 squadrons currently located at Naval Air Station (NAS) Cecil Field, Florida. The six squadrons include five S-3B Viking squadrons (carrier-based antisubmarine warfare [ASW] aircraft) and one ES-3A Shadow squadron (carrier-based electronic reconnaissance aircraft). Each squadron will have eight aircraft. On a rotating basis, one of the five S-3 squadrons and two of the eight ES-3 aircraft will be forward-deployed to carriers. The six squadrons have a combined complement of 2,180 military and 94 civilian personnel. Personnel and their dependents would not need to relocate to the area since NAS Cecil Field and NAS Jacksonville are only 12 miles apart.

S-3 air operations in the vicinity of the selected station would include ground control approach landing and departure patterns, touch-and-go patterns, field carrier landing practice patterns, and less frequent departures to and arrivals from aircraft carriers. Training also would be conducted both onshore and offshore within established military operating areas or at established target ranges.

4 ALTERNATIVES CONSIDERED

The proposed action is directed by the Defense Base Closure and Realignment Commission of 1993 (DBCRC-93), which listed NAS Cecil Field for closure, and the Defense Base Closure and Realignment Commission of 1995 (DBCRC-95), which redirected the relocation of the S-3 squadrons at NAS Cecil Field to other air stations, including NAS Oceana, Virginia; Marine Corps Air Station Beaufort, South Carolina; NAS Jacksonville, Florida; NAS Atlanta, Georgia; or other air stations with suitable capacity and support infrastructure. Although the NAS Cecil Field recommendations section of the DBCRC-95 report (Defense Base Closure and Realignment Commission 1995) did not designate specific receiving sites for each of the squadrons to be relocated from NAS Cecil Field prior to its closure, the findings (background

information) section of the report for NAS Cecil Field states that the recommendations provide several operational advantages, including the collocation of carrier-based ASW aircraft with land-based ASW aircraft at NAS Jacksonville.

A screening analysis was conducted to identify potential receiving installations for the six S-3 squadrons from NAS Cecil Field. The screening analysis considered three criteria: (1) consistency with the direction provided by DBCRC-95, (2) relocation to a site that meets the operational requirements of the S-3 aircraft, and (3) relocation to a facility with the necessary support for S-3 squadrons.

In applying Criterion 1, all the east coast Navy and Marine Corps air installations that do not support either the carrier or the land-based ASW mission were eliminated from further consideration. The only three naval facilities in the eastern United States that have a primary mission to support either carrier or land-based ASW aircraft are NAS Jacksonville, Naval Station Mayport, and NAS Brunswick.

In applying Criterion 2, the Navy further evaluated NAS Jacksonville, Naval Station Mayport, and NAS Brunswick to determine if each had the necessary operational requirements to support the six S-3 squadrons. An important operational advantage of relocating to NAS Jacksonville is the available excess hangar capacity to accommodate the six squadrons. Additional considerations favoring NAS Jacksonville include relatively low new construction requirements and proximity to ranges for training. The Navy concluded that NAS Jacksonville was the preferred receiving site for the six squadrons to be relocated from NAS Cecil Field.

The 1990 Defense Base Closure and Realignment Act exempts from the NEPA process the inclusion of the no-action alternative in an EA. The action of DBCRC-93 and DBCRC-95 directs the relocation of the six S-3 squadrons from NAS Cecil Field. Failure to relocate the aircraft to NAS Jacksonville or another receiving site would be in conflict with the intent of the 1990 Defense Base Closure and Realignment Act.

5 ENVIRONMENTAL CONSEQUENCES

The impact analysis focuses on components of the physical, biological, and socioeconomic environment susceptible to direct or indirect impacts and addresses only those aspects of the environment that are necessary to understand and evaluate the potential effects of the proposed action. Topics examined include air quality, noise, hazardous waste management, soils, surface waters and wetlands, the biological environment, and features of the socioeconomic environment, including population, economy, land use, housing, transportation, potable water, wastewater, safety, and archaeological and cultural resources. Other environmental components are not discussed as they are not considered to have the potential to be significantly affected by the proposed action.

Flight activity of the six squadrons relocated to NAS Jacksonville would consist primarily of takeoffs and landings at NAS Jacksonville and Outlying Landing Field Whitehouse. The forty-

eight aircraft would generate approximately 17,331 operations each year at NAS Jacksonville, with 518 operations (approximately 3 percent) occurring at night (10:00 P.M. to 7:00 A.M.). No FCLP operations are planned to be conducted at NAS Jacksonville. However, in inclement weather, FCLP operations may be conducted at NAS Jacksonville because OLF Whitehouse lacks approach radar. Approximately 138,000 aircraft operations were flown at NAS Jacksonville in 1994. Approximately 20,736 S-3-related operations would take place each year at Outlying Landing Field Whitehouse, with 622 operations (approximately 3 percent) taking place at night (10:00 P.M. to 7:00 A.M.).

AIR QUALITY—Duval County currently is designated as a *maintenance area* for ozone. The de minimis levels for the precursors to ozone formation—volatile organic compounds and nitrogen oxides—in maintenance areas are 100 tons (91 metric tons) each per year. An applicability analysis performed under the General Conformity Rule (40 CFR Part 93) determined that annual NO_x and VOC direct and indirect emissions under federal control from sources resulting from the proposed relocation would be well below de minimis levels of 100 tons (91 metric tons) per year for the project's duration. This includes the period of overlap between construction activities and operational activities. Total NO_x emissions resulting from the proposed relocation would be highest in 1997, at 2.98 tons (2.70 metric tons) per year, and would be 2.19 tons (1.98 metric tons) per year under full operational conditions with no construction (1999 and subsequent years). Total VOC emissions would be highest in 1998, estimated at 7.01 tons (6.36 metric tons) per year, and would be 2.67 tons (2.43 metric tons) per year under full operational conditions with no construction (1999 and subsequent years). Since these totals are less than the de minimis levels, the action is presumed to conform to the state implementation plan and, under the General Conformity Rule, a conformity determination is not required. All necessary permits for new sources would be obtained in accordance with state regulations.

NOISE—Noise exposures for S-3 aircraft under 1978 Air Installation Compatible Use Zones (AICUZ) and 1994 conditions were compared to those under the proposed action. Consistent with the NEPA process, noise from the maximum foreseeable air operations at NAS Jacksonville was modeled. These included 2,000 field carrier landing practice (FCLP) operations. FCLP operations are not planned for NAS Jacksonville and therefore are unlikely, but in inclement weather FCLP operations may be conducted at NAS Jacksonville because OLF Whitehouse lacks approach radar. Compared to 1978 AICUZ conditions, the overall off-station land area within the DNL 65 dBA contour would decrease by approximately 1,398 acres (560 hectares) and the population would decrease by approximately 3,995. Compared to existing (1994) conditions, the overall off-station land area within the DNL 65 dBA contour would increase by 77 acres (31 hectares) and the population would increase by approximately 41. Noise from construction of the proposed facilities and renovations to the high-power runway pad, Hangar 1000, Hangar 113, and Buildings 848, 850, 851, and 858 would be temporary and would occur only during normal daylight working hours.

HAZARDOUS WASTE MANAGEMENT—The existing hazardous waste management facilities at NAS Jacksonville would be adequate to handle regulated waste products generated by the operation and maintenance of the additional aircraft. S-3-generated hazardous waste would increase from the 512,843 pounds (233,110 kilograms) generated at NAS Jacksonville in 1995 to 538,012 pounds (244,551 kilograms), or 4.9 percent.

SURFACE WATERS AND WETLANDS—The simulator training facility and the addition to Building 506 would be constructed in previously developed areas of NAS Jacksonville. Construction of the proposed facilities would disturb approximately 2 acres (0.8 hectare) of existing soils and would increase the amount of impervious surface at NAS Jacksonville. Construction of these facilities could cause temporary localized impacts to surface waters. Stormwater management and control systems would be required during construction and operation of any new facilities. The design of the stormwater management systems would meet the requirements of the St. Johns River Water Management District, as outlined in Chapter 40C of the Florida Administrative Code (FAC).

Possible resurfacing of the existing high-power runway pad on the northeast side of Runway 14-32 would not be expected to significantly impact nearby surface waters or wetlands. All necessary permits would be obtained from the Florida Department of Environmental Protection prior to any renovation of the pad.

No significant adverse impacts to surface water resources at NAS Jacksonville or OLF Whitehouse would occur as a result of operational discharges from the proposed action. Any new discharges would comply with the requirements of the National Pollutant Discharge Elimination System program administered by the U.S. Environmental Protection Agency, as well as with state regulations, including Chapter 62-4 (Permits) FAC, and any applicable local regulations.

BIOLOGICAL ENVIRONMENT—Commitment of land resources at NAS Jacksonville for construction of the proposed simulator training facility and the addition to Building 506 would not significantly impact the long-term biological resources of the area. The areas proposed for the construction of these facilities are developed areas in which most of the native vegetation has been removed. Construction of the simulator training facility and adjacent parking area would result in the clearing of less than 2 acres (0.8 hectares) of oak and pine trees. Construction activities and associated noise would disturb and temporarily displace the limited wildlife in the immediate work area, but these impacts would be very minor. No terrestrial plant or animal species listed as threatened or endangered by either federal or state agencies would be affected under the proposed action. No habitat critical for the continued existence of any listed species is known to be present at the proposed construction sites.

SOCIOECONOMIC ENVIRONMENT—The six S-3 squadrons have a combined complement of approximately 2,274 military and civilian personnel. Personnel and their dependents already live in the Jacksonville area and therefore would not need to relocate. Impacts to public

facilities and services, such as schools, police protection, and fire and emergency services, would be negligible. The construction projects would be consistent with the Base Master Plan and would not affect off-site land uses. The new traffic at NAS Jacksonville should not cause the level of service on any of the roads accessing the station to fall below the adopted standard. Adequate sewer and water capacity is available to accommodate the new employees at NAS Jacksonville. Impacts to transportation and utility systems would be negligible. No known archaeological sites would be impacted under the proposed action. Proposed construction and renovation activities within and adjacent to historic structures would be completed in accordance with the applicable federal guidelines and coordinated with the State Historic Preservation Office. In summary, potential socioeconomic impacts are not significant.

6 STATEMENT OF IMPACT SIGNIFICANCE

This EA concludes that the proposed action would result in no potentially significant adverse effects on the environment. No previous or current controversy concerning the action is known.

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Abbreviations

AADT	annual average daily traffic
AAQS	ambient air quality standards
ACLS	automatic carrier land system
AICUZ	Air Installation Compatible Use Zones
AIMD	Aircraft Intermediate Maintenance Department
ASW	antisubmarine warfare
ATAA	Air Traffic Activity Analyzer
AUTEC	Atlantic Undersea Test and Evaluation Center
BEBR	Bureau of Economic and Business Research
CFR	Code of Federal Regulations
CO	carbon monoxide
dBA	A-weighted decibels
DBCRC-93	Defense Base Closure and Realignment Commission of 1993
DBCRC-95	Defense Base Closure and Realignment Commission of 1995
DNL	Day-night average sound level
EA	environmental assessment
ESQD	Explosive Safety Quantity Distance
FAC	Florida Administrative Code
FCLP	field carrier landing practice
FDOT	Florida Department of Transportation
FGFWFC	Florida Game and Fresh Water Fish Commission
FICON	Federal Interagency Committee on Noise
FNAI	Florida Natural Areas Inventory
F.S.	Florida Statutes
HAP	hazardous air pollutant
I-10	Interstate Highway 10
I-95	Interstate Highway 95
I-295	Interstate Highway 295
ITE	Institute of Transportation Engineers
JRB	Joint Reserve Base
kg	kilogram(s)
LAMPS	Light Airborne Multipurpose System
LOS	level of service
MCAS	Marine Corps Air Station
mgd	million gallons per day
MHP	mobile home park
MSA	metropolitan statistical area
mtpy	metric tons per year

NAS	Naval Air Station
NAVSTA	Naval Station
NEPA	National Environmental Policy Act
NORTHNAVFACENGCOM	Northern Division Naval Facilities Engineering Command
NPDES	National Pollutant Discharge Elimination System
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
n.p.	no publisher
OLF	Outlying Landing Field
OPNAVINST	Office of the Chief of Naval Operations Instructions
PAPI	precision approach path indicator
PCB	polychlorinated biphenyl
PM	particular matter
PSC	potential source of contamination
RCRA	Resource Conservation and Recovery Act
SCS	Soil Conservation Service
SO ₂	sulfur dioxide
SOUTHNAVFACENGCOM	Southern Division Naval Facilities Engineering Command
TACAN	Tactical Air Navigation System
tpy	tons per year
TSC	Tactical Support Center
USC	U.S. Code
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UTM	Universal Transverse Mercator
VOC	volatile organic compound

1

Introduction

Introduction

This environmental assessment provides an analysis of the potential environmental impacts of the realignment of six S-3 squadrons from Naval Air Station (NAS) Cecil Field. It is prepared in accordance with the National Environmental Policy Act of 1969 (NEPA), the President's Council on Environmental Quality regulations implementing NEPA procedures (40 Code of Federal Regulations [CFR] 1500-1508); and the Environment and Natural Resources Program Manual Chief of Naval Operations Instruction 5090.1B (Department of the Navy 1994), which implements both NEPA and the regulations of the Council on Environmental Quality within the Navy.

1.1 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the proposed action is to relocate six S-3 squadrons from NAS Cecil Field. Closure of NAS Cecil Field and realignment of its assets to other locations is required by the recommendations of the Defense Base Closure and Realignment Commission of 1993 (DBCRC-93), which were amended further by DBCRC-95. The proposed action is part of the Navy's larger purpose to eliminate excess capacity by retaining only the infrastructure needed to support its future force structure. The relocation objectives are to identify an East Coast military air station with the necessary capacity, equipment, and operational support to accommodate the S-3 squadrons in support of antisubmarine warfare (ASW) operations.

DBCRC-93 recommended the closure of NAS Cecil Field and the relocation of its "aircraft along with dedicated personnel, equipment, and support to Marine Corps Air Station, Cherry Point, North Carolina; Naval Air Station, Oceana, Virginia; and Marine Corps Air Station, Beaufort, South Carolina." The recommendations of DBCRC-95 changed the receiving sites to "other naval air stations, primarily Naval Air Station, Oceana, Virginia; Marine Corps Air Station, Beaufort, South Carolina; Naval Air Station, Jacksonville, Florida; and Naval Air Station, Atlanta, Georgia; or other Navy or Marine Corps Air Stations with the necessary capacity and support infrastructure." Although the recommendations section of the DBCRC-95 report did not designate specific receiving sites for each of the squadrons to be relocated from NAS Cecil Field, the findings (background information) section of the report states that "the recommendation also provides several operational advantages including the collocation of carrier-based ASW aircraft with land-based ASW aircraft at NAS Jacksonville."

1.2 OPERATIONAL REQUIREMENTS

Six S-3 squadrons currently are located at NAS Cecil Field, Florida. The six squadrons include five S-3B Viking squadrons (carrier-based ASW aircraft) and one ES-3A Shadow squadron (carrier-based electronic reconnaissance aircraft). Each squadron will have eight

aircraft assigned. On a rotating basis, one of the five S-3 squadrons and two of the eight ES-3 aircraft will be forward-deployed. This arrangement will require permanent hangar facilities for only five squadrons at the receiving site. The six S-3 squadrons have a combined personnel complement of approximately 2,274 military personnel and civilian employees. Dependents of military personnel and civilian employees are estimated to be 2,795 persons. Personnel and their dependents already reside in the Jacksonville area and would not need to relocate.

The proposed relocation would be to a naval air station in the eastern United States with the necessary capacity and support infrastructure to support S-3 operations. S-3 air operations in the vicinity of the selected station would include ground control approach landing and departure patterns, touch-and-go patterns, field carrier landing practice (FCLP) patterns, and less frequent departures to and arrivals from aircraft carriers. Training also is conducted at both onshore and offshore training areas within established military operating areas or at established target ranges.

In accordance with DBCRC-95, a primary consideration in the selection process is the "collocation of carrier-based ASW aircraft with land-based ASW aircraft at NAS Jacksonville." Additional considerations include a runway that is at least 8,000 feet (2,438 meters) long, hangar space for five squadrons, proximity to target and torpedo practice ranges, and the ability to conduct air operations at the primary field or an outlying landing field (OLF). The airfield must have the capacity to accommodate normal aircraft operations while S-3 aircraft are conducting FCLP operations. Typically this can be accomplished if the airfield has parallel runways to accommodate simultaneous operations. If the airfield is configured with a single runway or when normal operations are at a tempo that could not support FCLP operations, a nearby OLF is required.

**Alternatives Including the
Proposed Action**

Alternatives Including the Proposed Action

The executive summary of the 1995 Defense Base Closure and Realignment Commission (DBCRC) Report to the President states the following:

Base closures must be undertaken to reduce our nation's defense infrastructure in a deliberate way that will improve long-term military readiness and ensure that taxpayer dollars are spent in the most efficient way possible. The Commission's challenge was to develop a list of base closures and realignments that allows the Defense Department to maintain readiness, modernize our military, and preserve the force levels needed to maintain our security.

DBCRC-93 recommended the closure of NAS Cecil Field. DBCRC-95 changed the receiving sites to "other naval air stations, primarily Naval Air Station, Oceana, Virginia; Marine Corps Air Station, Beaufort, South Carolina; Naval Air Station, Jacksonville, Florida; and Naval Air Station, Atlanta, Georgia; or other Navy or Marine Corps Air Stations with the necessary capacity and support infrastructure."

Public Law 101-510 (the Defense Base Closure and Realignment Act of 1990) does not require the Department of Defense to consider the following in its environmental documentation:

- The need for closing or realigning the military installation that has been recommended for closure or realignment by the Defense Base Closure and Realignment Commission
- The need for transferring functions to any military installation that has been selected as the receiving installation
- Alternative military installations to those recommended or selected

The National Defense Authorization Act for Fiscal Year 1996, Section 2837—Lease Back of Property Disposed From Installations Approved for Closure or Realignment—provides for the lease back of all or a portion of NAS Cecil Field, but only by other federal agencies. The law specifies that the Navy cannot lease back any portion of a naval facility affected by base closure. Lease back of the property for the same purpose for which NAS Cecil Field was used would defeat the purpose of closure and would be contrary to the recommendations and intent of the DBCRC-95.

2.1 SELECTION OF ACTION ALTERNATIVES

A screening analysis was conducted to identify potential receiving installations for the six S-3 squadrons from NAS Cecil Field. The screening analysis considered three criteria:

(1) consistency with the direction provided by the 1995 Defense Base Closure and

Realignment Commission (DBCRC-95), (2) relocation to a site meeting the operational requirements of the S-3 aircraft, and (3) relocation to a site with the necessary support for S-3 squadrons.

Aircraft currently based at NAS Cecil Field include F/A-18 and S-3 aircraft. As discussed in Chapter 1, the DBCRC-95 report recommended that the receiving sites for NAS Cecil Field aircraft, personnel, equipment, and support were "other naval air stations, primarily Naval Air Station, Oceana, Virginia; Marine Corps Air Station, Beaufort, South Carolina; Naval Air Station, Jacksonville, Florida; and Naval Air Station, Atlanta, Georgia; or other Navy or Marine Corps Air Stations with the necessary capacity and support infrastructure" (Defense Base Closure and Realignment Commission 1995). Although the recommendations section of the DBCRC-95 report did not designate specific receiving sites for each of the squadrons to be relocated from NAS Cecil Field, the findings (background information) section of the report states that "the recommendation also provides several operational advantages including the collocation of carrier-based ASW aircraft with land-based ASW aircraft at NAS Jacksonville." The DBCRC-95 report also gives the Secretary of Defense's justification for recommending a change in the receiving sites for squadrons from NAS Cecil Field: the change in receiving sites "permits collocation of all fixed-wing carrier-based ASW air assets in the Atlantic Fleet with the other aviation ASW assets at NAS Jacksonville and [Naval Station] Mayport and support for those assets."

Because the DBCRC-95 did not direct S-3 aircraft from NAS Cecil Field to any particular site, a three-part screening process was conducted to identify alternative installations with necessary capacity and infrastructure to accommodate the S-3 aircraft, which consists of six squadrons for a total of forty-eight aircraft. Only east coast installations were considered as possible siting locations because Atlantic Fleet S-3 squadrons must be homeported close to Atlantic Fleet operational bases to facilitate deployment and access to east coast training areas. This serves to maximize training and minimize costs. As was mentioned above, three criteria were used for the screening process. Criterion 1 considerations included identifying installations that support the ASW mission, Criterion 2 considerations included identifying which installations satisfy S-3 operational requirements, and Criterion 3 considerations identified installations with excess capacity.

In applying Criterion 1, all east coast Navy and Marine Corps air installations were evaluated to determine which ones currently support either the carrier or land-based ASW mission. Table 2-1 presents each installation considered for the relocation of the S-3 aircraft and each installation's primary mission. Only three installations, NAS Jacksonville, Naval Station (NAVSTA) Mayport, and NAS Brunswick have a primary mission to support either carrier or land-based ASW aircraft (Figure 2-1).

Once the installations with an ASW mission were identified, these three installations were evaluated under Criterion 2 to determine which best meets the particular operational and training needs of the S-3 aircraft. The specific criteria provided by Commander, Naval Air

Table 2-1. East Coast Navy/Marine Corps Air Installations and Primary Missions

Mission Type	Installation
Fighter/Attack Aircraft	NAS Oceana, Virginia MCAS Cherry Point, North Carolina MCAS Beaufort, South Carolina NAS Key West, Florida
Patrol Aircraft	NAS Brunswick, Maine* NAS Jacksonville, Florida*
Patrol/Attack Helicopters	MCAS New River, North Carolina NAVSTA Mayport, Florida*
Reserve Aircraft	NAS Atlanta, Georgia NAS New Orleans, Louisiana JRB Fort Worth, Texas NAS Willow Grove, Pennsylvania
Research and Development	NAS Patuxent River, Maryland
Student Pilot Training	NAS Meridian, Mississippi NAS Whiting Field, Florida NAS Pensacola, Florida NAS Corpus Christi, Texas
Logistics and Surveillance	NAS Norfolk, Virginia MCAS Quantico, Virginia

* ASW bases

NOTES: JRB = Joint Reserve Base
MCAS = Marine Corps Air Station
NAS = Naval Air Station
NAVSTA = Naval Station

SOURCE: SOUTHNAVFACENGCOM 1997.

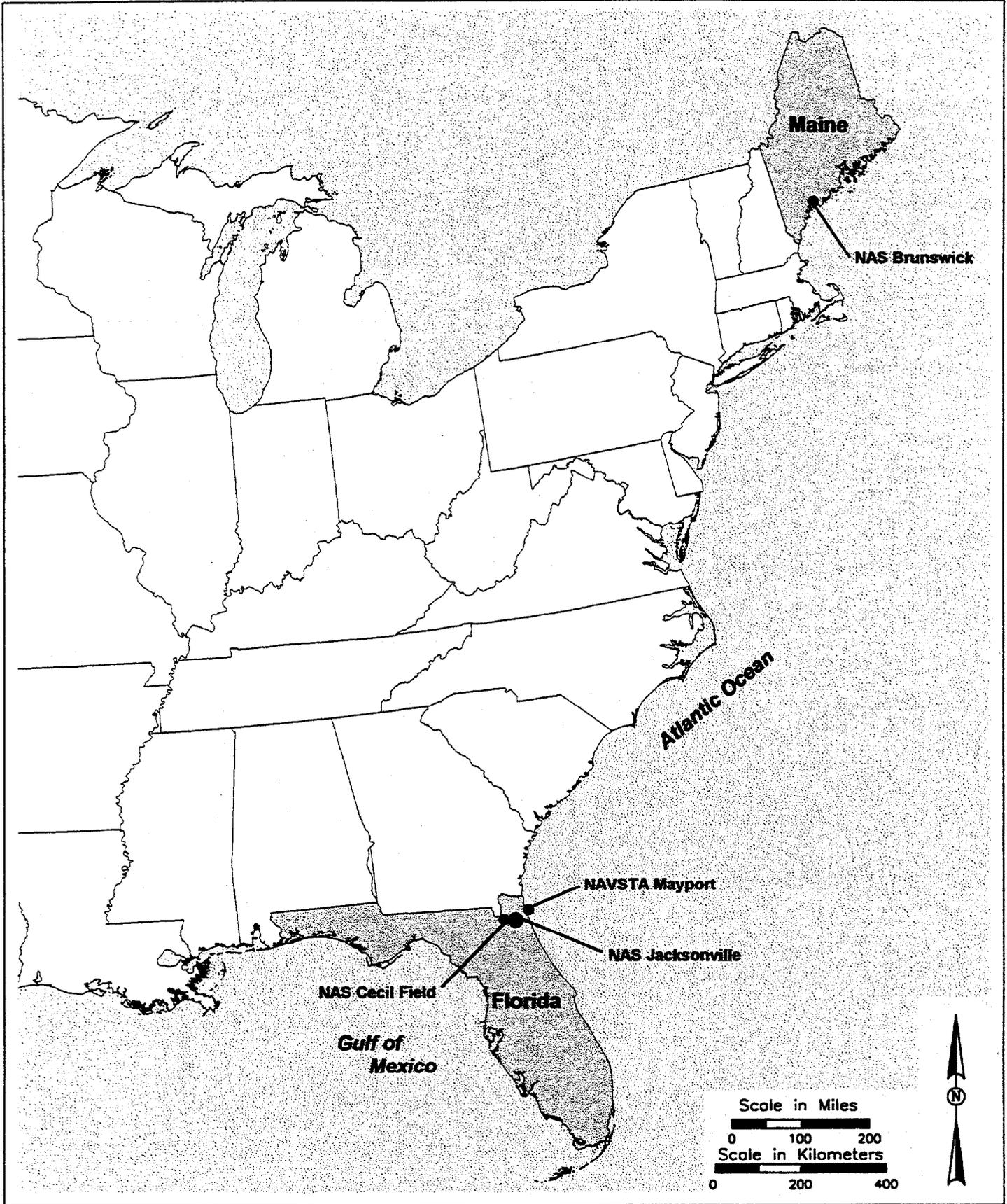


Figure 2-1.
Alternative Receiving Installations Considered for
S-3 Squadrons from NAS Cecil Field

Source: Caliper Corporation 1995.

Environmental Assessment for
Base Realignment for
S-3 Squadrons from
Naval Air Station Cecil Field
Florida

Force Atlantic (COMNAVAIRLANT), which related to the specific characteristics and requirements of the S-3 aircraft, included the following:

- Maximum distance from installation to target ranges: 150 nautical miles (278 kilometers)
- Maximum distance from installation to torpedo range: 450 nautical miles (834 kilometers) (Distance to a torpedo range can exceed that of the target range because when conducting torpedo operations the S-3 can be equipped with under-wing drop-tanks that significantly increase its effective range.)
- Minimum primary runway length: 8,000 feet
- OLF within 50 nautical miles (93 kilometers) or the ability to conduct FCLP operations at the installation in conjunction with other flight operations.

NAS Jacksonville and NAVSTA Mayport meet all COMNAVAIRLANT criteria. However, for NAS Brunswick, the nearest torpedo range (Andros Island in the Bahamas) was more than 1,400 miles away. This exceeds the capabilities of the S-3 aircraft and conflicts with COMNAVAIRLANT criteria. In addition, NAS Brunswick does not have a target range within 150 nautical miles (278 kilometers). Therefore, NAS Brunswick was not considered further as a viable site for relocating S-3 aircraft.

Based on the results of the ASW and operational screening, which identified NAS Jacksonville and NAVSTA Mayport as potential S-3 receiving stations, these two installations were evaluated to determine if each has the facilities capacity to support the aircraft. Two indicators of capacity at air stations are hangar and apron space. Hangar and apron space identify how many aircraft can be supported with existing facilities. These indicators, more than any other, limit the number of aircraft that can be maintained, parked, or maneuvered safely. Other support facilities (e.g., aircraft maintenance, training, personnel support) are generally dependent upon the hangar and apron capacity. Therefore, either excess hangar capacity or excess apron space can be used to indicate existing air station capacity to support additional aircraft. Since a primary goal of DBCRC-95 was to use existing infrastructure to accommodate the necessary realignment from NAS Cecil Field, excess hangar and apron space are suitable for assessing an installation's capacity to receive the relocating S-3 aircraft.

Excess hangar capacity at NAS Jacksonville and NAVSTA Mayport also was evaluated under Criterion 2 considerations to determine infrastructure capacity to support S-3 aircraft. NAS Mayport has no excess hangar capacity since its existing three hangars are dedicated to supporting its five homeported SH-60B squadrons. NAS Jacksonville has sufficient excess hangar capacity to support all six of the relocating S-3 squadrons. This excess capacity results from three P-3 squadrons and one helicopter squadron being decommissioned since 1993.

Other less critical infrastructure support requirements for the operation of S-3 aircraft evaluated under Criterion 3 considerations include availability of facilities to house the various operational and administrative support functions (including a headquarters, weapons school, and simulator) and the availability of aviation support equipment (including Automated

Carrier Landing System [ACLS], Fresnel lens, and arresting gear). The cost of modifying existing facilities or procuring new facilities (if required) to provide the required infrastructure support to meet these requirements is comparatively lower than the costs associated with constructing runways, outlying or auxiliary air fields, hangars, parking apron, and other related infrastructure. Therefore, no installation was excluded from consideration as a potential receiving site for the S-3 aircraft because it lacked operational and administrative facilities.

Table 2-2 provides a summary of the three-part screening process. Detailed screening information for second and third criteria evaluations is provided in the following sections.

2.1.1 Relocation to NAS Jacksonville

NAS Jacksonville is located within the city limits of Jacksonville in Duval County, Florida. The station is approximately 10 miles (16 kilometers) south of the downtown area on the west bank of the St. Johns River (Figure 2-2) and occupies approximately 3,821 acres (1,546 hectares). NAS Jacksonville's military and civilian personnel totaled 20,927 persons in 1995.

NAS Jacksonville is a multiple-mission facility that hosts more than 100 tenant commands. The station is a master air and industrial base charged with providing support to United States and allied forces worldwide. The station specializes in ASW and training. NAS Jacksonville aircraft and personnel are deployed to virtually all corners of the globe aboard Navy surface combatants, aircraft carriers, and at-shore bases. Aircraft activity at NAS Jacksonville is dominated by P-3C Orion long-range, antisubmarine reconnaissance, and maritime patrol aircraft. NAS Jacksonville currently has five P-3 squadrons (one reserve, one training, and three active squadrons) with a total of approximately sixty-six aircraft. Other types of fixed-wing aircraft operating at the station include C-12 and C-9 (Skytrain II) aircraft. Helicopter activity primarily consists of one reserve and five active Seahawk squadrons conducting ASW helicopter operations. The six squadrons currently have thirty-eight SH-60F and SH-60H helicopters, including six helicopters in the reserve unit. One reserve squadron of six SH-3H Sea King helicopters also is based at the station. Transient aircraft include the F/A-18 Hornet, the AV-8 Harrier, and the T-2 Buckeye. A naval aviation depot at NAS Jacksonville employs more than 3,000 people and conducts maintenance, repair, and modifications on various aircraft, engines, and aeronautical components, including S-3B Viking, ES-3A Shadow, A-7 Corsair II, P-3 Orion, EP-3E Aries II, T-2 Buckeye, F/A-18 Hornet, F-14 Tomcat, and EA-6B Prowler. Additionally, Naval Aviation Depot Jacksonville is the Cognizant Field Activity for the TF-34 engine, which is used exclusively on S-3 and ES-3 aircraft.

Except for the capacity to conduct FCLP events at the station, NAS Jacksonville satisfies all of the Criterion 2 factors (Table 2-2). The airfield at NAS Jacksonville is 22 feet (6.7 meters) above mean sea level and has two intersecting runways (Figure 2-3). Runway 09-27 is oriented east-west, is 8,000 feet (2,438 meters) long, and primarily is used by fixed-wing military aircraft. Runway 14-32 is oriented northwest-southeast, is 5,977 feet (1,822 meters) long, rarely is used by military fixed-wing aircraft, but frequently is used for pattern work by

Table 2-2. Criteria Considered for Support of the Relocation of Six S-3 Squadrons from NAS Cecil Field

	NAS Jacksonville	NAVSTA Mayport	NAS Brunswick
Criterion 1 Considerations			
ASW primary mission	yes	yes	yes
Criterion 2 Considerations			
Runway minimum 8,000 feet	yes	yes	yes
Excess hangar/apron capacity	yes*	no	no
Within maximum target range 150 nautical miles (278 kilometers)	yes	yes	no
Within maximum torpedo range distance 450 nautical miles (834 kilometers)	yes	yes	no
OLF within 50 nautical miles (93 kilometers)	yes	yes	no
Conduct FCLP operations at station	no†	no	yes
Airspace available	yes	yes	yes
Criterion 3 Considerations			
Ordnance storage available	yes	no	yes
Construction required			
Maintenance support area	no	yes	yes
High-power runway pad	no	yes	yes
Simulator training facility	yes	yes	yes
S-3 tactical support center	yes‡	yes	yes
AIMD support present	yes§	no	no
Arresting gear present, quantity	three	two	one
Fresnel lens present, quantity	one	one	none
TACAN present	yes	yes	yes
ACLS present	no	no	no

* A Defense Base Closure and Realignment Commission project has been approved for internal modifications to Hangar 1000.

† No FCLP are planned to be conducted at NAS Jacksonville. FCLPs would only be conducted at NAS Jacksonville during periods of inclement weather.

‡ Addition required.

§ The infrastructure for maintenance is available with minor modifications, but additional maintenance personnel would be needed.

|| Additional space, personnel, and equipment would be required to support the S-3 aircraft.

NOTE: ACLS = automatic carrier landing system
 AIMD = Aircraft Intermediate Maintenance Department
 OLF = outlying landing field
 NAS = naval air station
 TACAN = tactical air navigation system

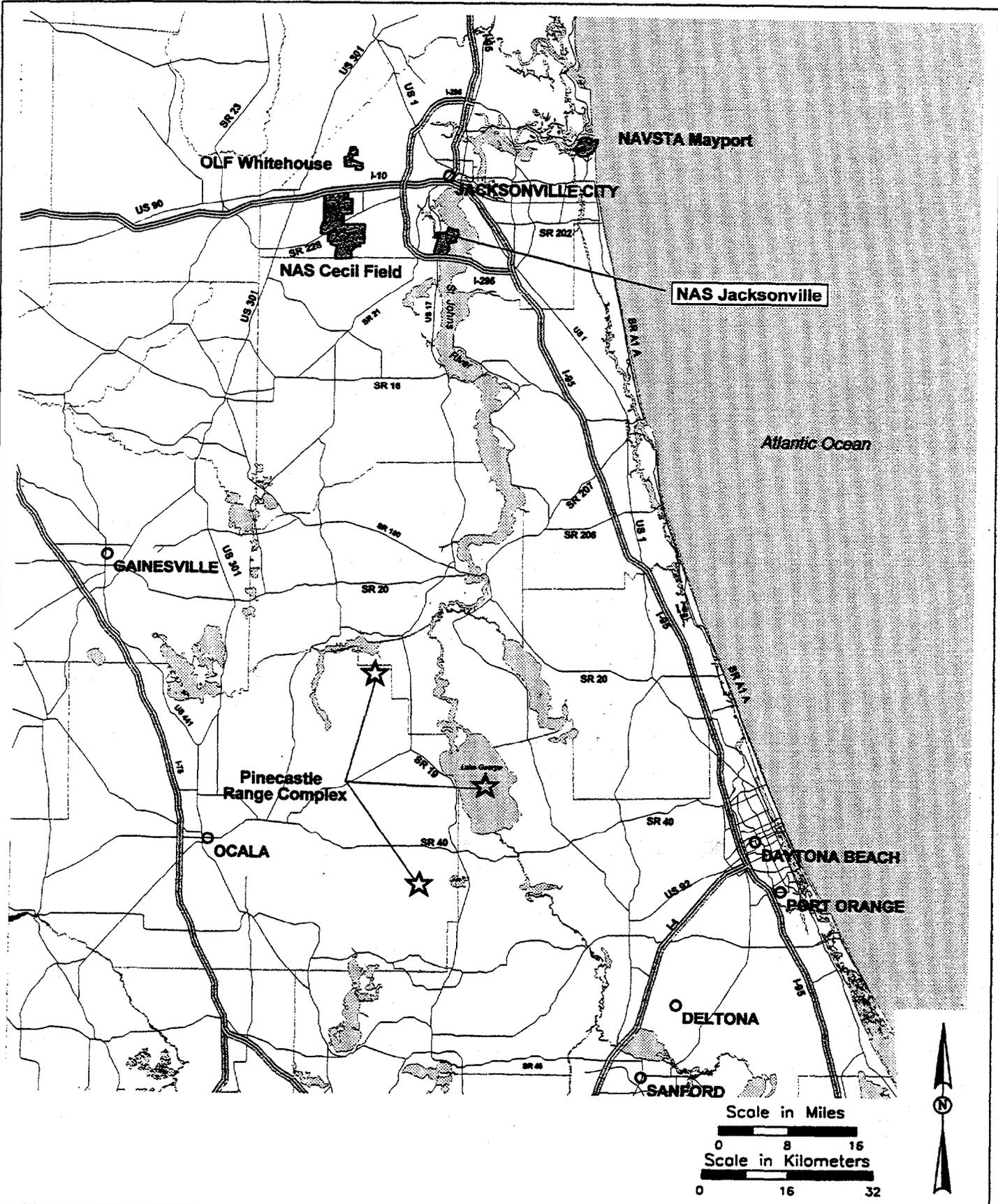


Figure 2-2.
Regional Location of NAS Jacksonville, NAS Cecil Field, OLF Whitehouse, and Pinecastle Range Complex

*Environmental Assessment for
Base Realignment for
S-3 Squadrons from
Naval Air Station Cecil Field
Florida*

Source: Caliper Corporation 1995.

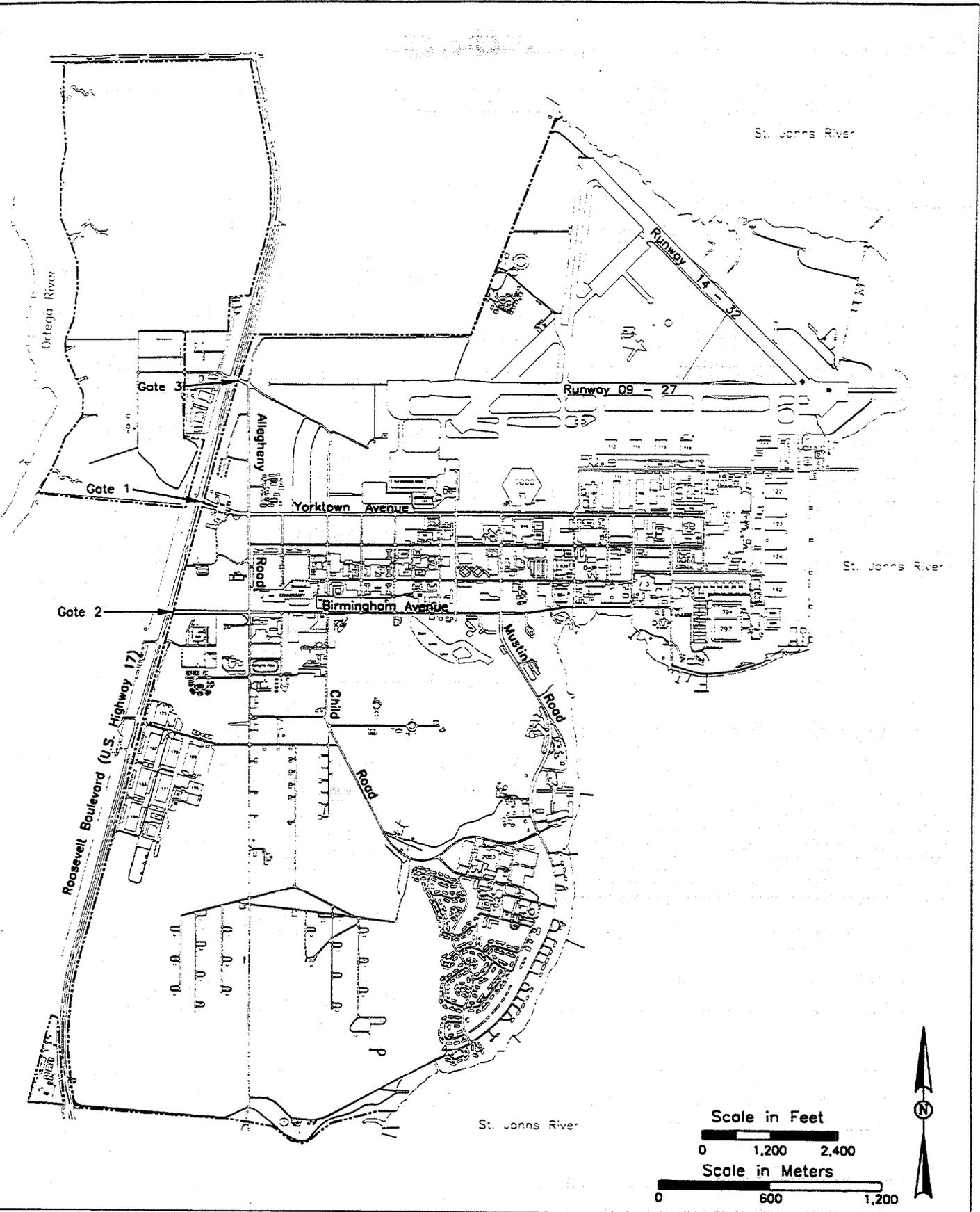


Figure 2-3.
Layout of NAS Jacksonville

Source: NAS Jacksonville 1996.

*Environmental Assessment for
Base Realignment for
S-3 Squadrons from
Naval Air Station Cecil Field
Florida*

helicopters. NAS Jacksonville's primary runway configuration meets S-3 operational requirements for runway length. The hangar capacity of NAS Jacksonville is adequate to support the six S-3 squadrons.

S-3 squadrons would continue to use the Pinecastle Range Complex approximately 70 miles (115 kilometers) south of Jacksonville for land-based target range training and the Atlantic Undersea Test and Evaluation Center (AUTEK) range near Andros Island, Bahamas, for a torpedo range. S-3 squadrons relocated to NAS Jacksonville would continue to use OLF Whitehouse, located approximately 15 miles (24 kilometers) northwest of NAS Jacksonville (Figure 2-2), for FCLP patterns. However, in inclement weather, FCLP operations by the S-3 squadrons may be flown at NAS Jacksonville because OLF Whitehouse lacks an approach radar. This will occur only during periods of required training when the weather ceilings are below 1,000 feet (304.8 meters).

NAS Jacksonville satisfies most of the Criterion 3 factors. The capacity of NAS Jacksonville in terms of maintenance and ordnance storage capabilities is adequate to support the six S-3 squadrons, with minor renovations and upgrades required to the hangars and to a high-power runway pad. Planned improvements to Hangars 113 and 1000 would provide NAS Jacksonville with adequate hangar capacity and maintenance support for the S-3 aircraft. An Aircraft Intermediate Maintenance Department (AIMD) facility is present at NAS Jacksonville, but additional personnel and equipment would be required to support S-3 aircraft. AIMD support is considered important because S-3 aircraft are no longer in production and the limited availability of spare parts often requires AIMD maintenance to ensure that squadrons are airworthy. Available space in Hangar 1000 would be renovated to accommodate the S-3 AIMD requirements. NAS Jacksonville would require the construction of an S-3 simulator training facility and an S-3 tactical support center addition to Building 506.

The airfield at NAS Jacksonville has a Tactical Air Navigation System (TACAN) and an arresting gear at each end of the primary runway (1,200 feet [366 meters] from the end of Runway 09 and 2,000 feet [610 meters] from the end of Runway 27). A third arresting gear is at the midway point on Runway 14-32. The station has one Fresnel lens on the south end of Runway 14-32, but three Fresnel lenses are required to support S-3 operations at NAS Jacksonville—one on Runway 09, one on Runway 27, and the backup on Runway 14-32. The station currently does not have an ACLS.

2.1.2 Relocation to Naval Station Mayport

NAVSTA Mayport is located within the city limits of Jacksonville in Duval County, Florida (Figure 2-1). The station is approximately 17 miles (27 kilometers) east of the downtown area near the mouth of the St. Johns River (Figure 2-2) and occupies approximately 3,400 acres (1,376 hectares). NAVSTA Mayport has a base population of approximately 18,000 active-duty military and civilian personnel.

Supported activities at NAVSTA Mayport include assigned and transient surface and aviation operating units of the Commander in Chief Atlantic Fleet and more than sixty tenant activities. Homeported units at the station include one aircraft carrier, twenty-five surface combatants, five squadrons of SH-60B (Seahawk) helicopters (a total of approximately sixty-five to seventy helicopters), and one C-12 aircraft. The SH-60B, better known as the LAMPS (Light Airborne Multipurpose System) Mk III helicopter, provides all-weather capability for detection, classification, localization, and interdiction of ships and submarines. Its secondary missions include search and rescue, medical evacuation, vertical replenishment, fleet support, and communications relay.

Except for hangar capacity and capacity to conduct FCLP events at the station, NAVSTA Mayport satisfies all of the Criterion 2 factors (Table 2-2). NAVSTA Mayport has a single runway (designated Runway 5-23) that is 8,000 feet (2,438 meters) long and 200 feet (61 meters) wide. The runway is oriented northeast-southwest and primarily is used by the helicopters based at the station. NAVSTA Mayport's runway configuration meets S-3 operational requirements for runway length.

NAVSTA Mayport has three aircraft hangars. The largest is used by the five helicopter squadrons at the station, one hangar is used for helicopter predeployment workups, and the third and smallest hangar is used by the C-12 aircraft. NAVSTA Mayport has no excess hangar capacity or maintenance areas to accommodate S-3 squadrons.

S-3 squadrons would continue to use the Pinecastle Range Complex (approximately 75 miles [120 kilometers] south of the station) for land-based target range training and the AUTEK range near Andros Island, Bahamas, for a torpedo range. The distance to each of the ranges and offshore military operating areas from NAVSTA Mayport is approximately the same as that from NAS Jacksonville. S-3 squadrons relocated to NAVSTA Mayport would continue to use OLF Whitehouse for FCLP patterns and would conduct touch-and-go operations at NAVSTA Mayport. No FCLP operations are planned for NAVSTA Mayport. However, in inclement weather FCLP operations by the S-3 squadrons may be flown at NAVSTA Mayport because OLF Whitehouse lacks an approach radar. This would occur only during periods of required training when the weather ceilings are below 1,000 feet (304.8 meters).

NAVSTA Mayport does not satisfy a majority of the Criterion 3 factors. NAVSTA Mayport's maintenance and ordnance storage capabilities are not adequate to handle the six S-3 squadrons. The AIMD facility at NAVSTA Mayport is equipped for maintaining and repairing helicopters, but additional personnel, space, and equipment would be required to support S-3 aircraft. Existing ordnance storage capacity is used for ship and helicopter supply. NAVSTA Mayport would require the construction of an S-3 simulator training facility and an S-3 tactical support center. A TACAN is present at the station and an arresting gear is present at each end of the runway. The station has one Fresnel lens, but it is being replaced by a PAPI (precision approach path indicator) system. An ACLS is not present at the station.

2.1.3 Relocation to NAS Brunswick

NAS Brunswick is located on the south coast of Maine (Figure 2-1). NAS Brunswick lies completely within the town limits of Brunswick, Cumberland County, which is approximately 27 miles (43 kilometers) northeast of Portland and 31 miles (50 kilometers) south of Augusta, the state capital. Brunswick has a population of approximately 20,000. NAS Brunswick consists of approximately 15,800 acres (6,394 hectares); the main property consists of 3,091 acres (1,251 hectares), with the rest located at various remote areas (NORTHNAVFACENGCOM 1996).

The mission of NAS Brunswick is to provide facilities, services, and materiel to support the various activities of its tenants and supported units. Four active-duty squadrons of P-3C Orion aircraft (thirty-six aircraft) are based at the station. Two additional naval reserve squadrons also are based at the station. The reserve squadron aircraft include nine P-3C aircraft and four C-130T cargo planes. The station also supports two UH-1 search-and-rescue helicopters and a C-12 aircraft. Currently, approximately 2,500 active-duty personnel and 800 reservists train at NAS Brunswick. The reservists primarily train in staggered groups (several hundred at a time) on weekends and once a year for a two-week period.

NAS Brunswick does not meet four of the seven Criterion 2 factors required for the relocation of the S-3 squadrons. The airfield at NAS Brunswick has two active, parallel runways oriented north-south and an abandoned, crosswind runway that cuts across the north end of the parallel runways. The active runways are both 8,000 feet (2,438 meters) long and 200 feet (61 meters) wide with 700 feet (213 meters) between their centerlines. Therefore, NAS Brunswick's runway configuration meets the S-3 operational requirements for runway length.

The station's excess hangar capacity is limited and could provide partial support for only one S-3 squadron. Relocating S-3 aircraft to NAS Brunswick would require substantial new construction of hangar modules for at least four S-3 squadrons and one ES-3 squadron.

The squadrons would use the range at Fort Drum, New York (300 miles [480 kilometers] southwest of the station), for land-based target practice and the AUTEK range near Andros Island, Bahamas, for a torpedo range. Distance to both of these ranges exceeds the Criterion 2 range requirements. S-3 aircraft operations at NAS Brunswick would not require an OLF for touch-and-go and FCLP patterns. With the dual 8,000-foot runways present at the station, S-3 patterns could be conducted on one runway while the other is used for arriving and departing flights.

NAS Brunswick does not satisfy a majority of the Criterion 3 factors (Table 2-2). NAS Brunswick presently has the capability to provide intermediate-level maintenance and supply support for the five P-3C squadrons and the C-130T squadron stationed there. Additional personnel, space, and equipment would be required to provide intermediate-level maintenance service for S-3 power plants, ejection seats, and aviation life-support systems specific to S-3 aircraft. To support S-3 operations at NAS Brunswick, construction of an S-3 simulator

training facility and an S-3 tactical support center would be required. Only the north end of Runway 01-19 is equipped with an emergency arresting gear that can be raised or removed as needed. Although the airfield does have a TACAN, it does not have a Fresnel lens or an ACLS.

2.1.4 Summary of Screening Analysis

Table 2-2 summarizes in detail the three sites considered to receive the six S-3 squadrons from NAS Cecil Field. NAS Jacksonville, NAVSTA Mayport, and NAS Brunswick have at least the minimal runway length required for S-3 aircraft and available airspace for S-3 operations. NAS Jacksonville has adequate hangar capacity for the squadrons with only minor renovations required to convert portions of Hangar 1000 and Hangar 113 for S-3 and ES-3 use. NAVSTA Mayport would require the construction of additional hangars to accommodate all six of the squadrons. NAS Brunswick would require the construction of additional hangars to accommodate at least four of the squadrons.

S-3 squadrons relocated to NAS Jacksonville would use OLF Whitehouse, the Pinecastle Range Complex in Florida, the AUTECH range near Andros Island, Bahamas, and training areas off the coasts of Florida, Georgia, and North Carolina. Relocating the squadrons to NAVSTA Mayport would have the same results. Relocating the squadrons to NAS Brunswick would require excessive transit time to torpedo and target ranges and would significantly impact squadron operations and readiness.

As summarized in Table 2-2, evaluation of Criterion 3 factors indicated that all three stations would require the construction of an S-3 simulator training facility and an S-3 tactical support center, the installation of an arresting gear on at least one runway, additional Fresnel lenses, and an ACLS. All three stations also would require the construction of an S-3 tactical support center. Additional personnel and equipment would be required to provide maintenance on equipment specific to S-3 aircraft. Although each installation has an ordnance storage area, NAVSTA Mayport has no excess ordnance storage capacity.

Based upon the criteria discussed in Section 2.1 and the available capacity, equipment, and operational support at the potential receiving installations, NAS Jacksonville is identified as the receiving site for the six squadrons to be relocated from NAS Cecil Field. NAVSTA Mayport and NAS Brunswick are not operationally or economically feasible alternatives and are not considered further. This environmental assessment evaluates potential environmental or socioeconomic impacts that may result from NAS Jacksonville being the receiving site for the proposed action.

2.2 PROPOSED ACTION—RELOCATION TO NAS JACKSONVILLE

The proposed action is the relocation of six S-3 squadrons from NAS Cecil Field to NAS Jacksonville. NAS Jacksonville is located approximately 15 miles (24 kilometers) east of NAS Cecil Field. The six squadrons will total forty-eight aircraft and have a combined complement of approximately 252 officers, 1,928 enlisted personnel, and 94 civilians. Dependents of

squadron personnel are estimated to total 2,795 persons. Personnel and their dependents already live in the Jacksonville area and therefore would not need to relocate. Approximately 315 of the 2,180 military personnel being transferred would be deployed to carriers with the one S-3 squadron and two of the eight ES-3 aircraft that would be forward-deployed. Relocating the squadrons to NAS Jacksonville would result in minimal relocation costs. The proposed action includes two components:

- proposed construction and renovation of facilities to support the relocation of the S-3 aircraft
- proposed operational changes, primarily related to flight operations around NAS Jacksonville

The closure of NAS Cecil Field and the relocation of the squadrons to NAS Jacksonville would require personnel presently serving with the squadrons at NAS Cecil Field to relocate or commute to the new location. Assuming that the majority of the personnel currently live within Duval County, relocation of the squadrons to NAS Jacksonville would result in a relatively small number of people moving closer to NAS Jacksonville and nominal moving expenses for the personnel involved.

2.2.1 Proposed Construction

In order to support the maintenance and operation of five S-3 squadrons and one ES-3 squadron proposed to be relocated to NAS Jacksonville, two construction projects, three renovation projects, and four building modification projects are proposed (Figure 2-4). Descriptions of these projects are provided below.

- Construction of a simulator training facility—The S-3 simulator training facility would include all functions related to flight training, including two full-motion simulators, two weapons trainers, computer support space, and pump rooms. Administration, classrooms, training laboratories, and secure spaces for classified equipment also would be contained within this facility. The proposed facility would be a one-story structure approximately 155 feet × 184 feet (24,370 square feet [47 meters × 56 meters {2,264 square meters}]) and would include a high bay area to support the two full-motion simulators. An associated parking lot would be constructed to accommodate at least sixty-five vehicles.
- Construction of an S-3 TSC addition to Building 506—Building 506 is currently the P-3 TSC. A new facility for the S-3 TSC was considered, but using available space in Building 506 and constructing a small addition to accommodate the S-3 TSC requirements was found to more cost effective. The S-3 TSC would use 1,040 square feet (97 square meters) of the existing building, and the remaining space would continue to be used for the P-3 TSC. The proposed addition would provide a 2,800-square-foot (260-square-meter) elevated addition to the second level at the south end of the existing building. Part of the existing parking lot would be demolished to construct the addition, and the adjacent parking area would be modified.

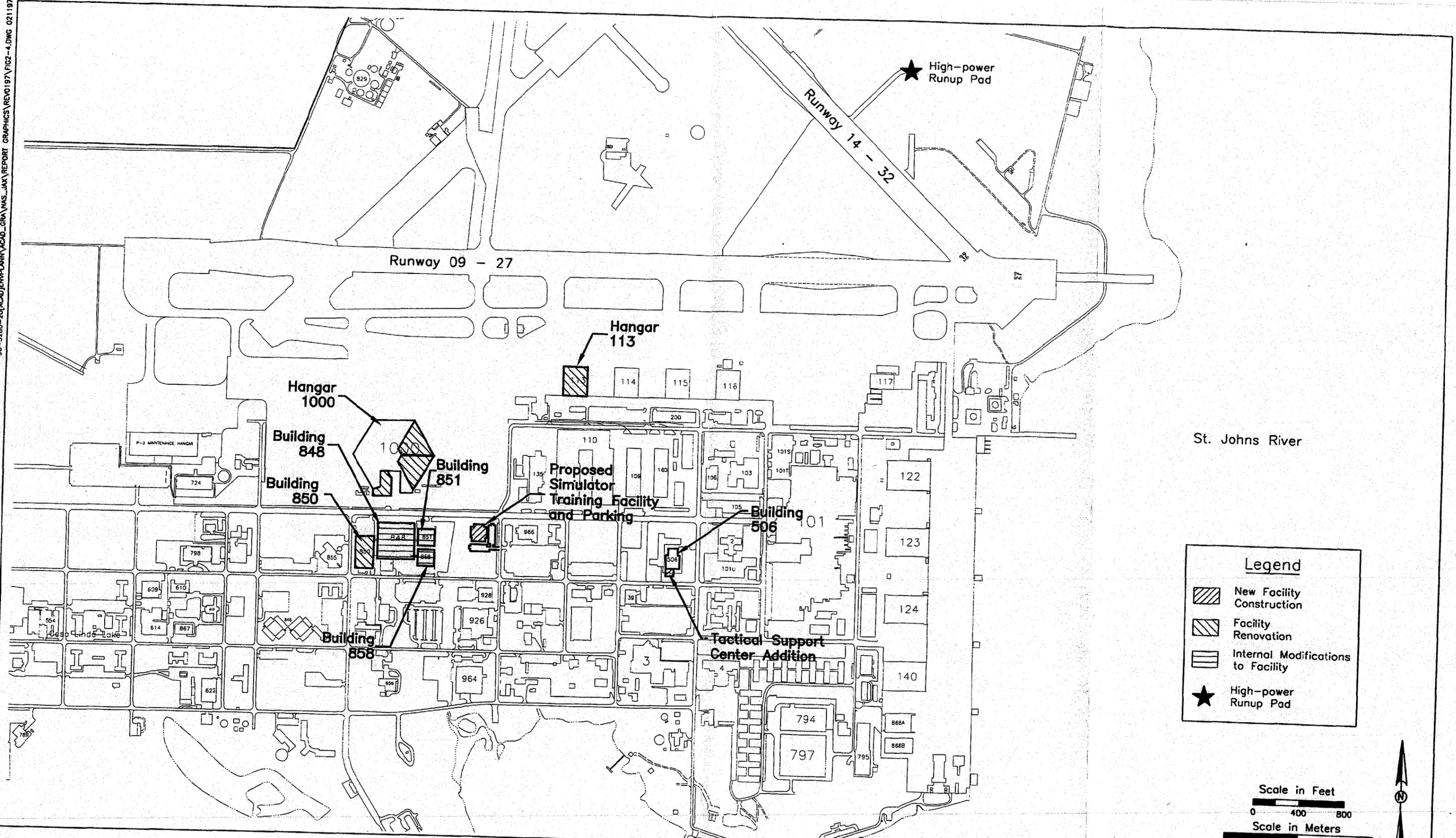


Figure 2-4.
Proposed Facilities to be Constructed, Renovated, or Modified
at NAS Jacksonville

Source: NAS Jacksonville 1996.

Legend

-  New Facility Construction
-  Facility Renovation
-  Internal Modifications to Facility
-  High-power Runup Pad

Scale in Feet
 0 400 800

Scale in Meters
 0 200 400

*Environmental Assessment for
 Base Realignment for
 S-3 Squadrons from
 Naval Air Station Cecil Field
 Florida*

- Renovation of a high-power runup pad—An existing high-power runup pad northeast of Runway 14-32 would be used when specific S-3 aircraft engine maintenance is performed. Aircraft on the pad would be oriented with the nose of the aircraft to the north, and a blast deflector would be located at the south end of the pad. The pad may be renovated by resurfacing. It is located approximately 1,150 feet (350 meters) from the St. Johns River.
- Renovation to Hangar 113—Internal modifications would be made to Hangar 113 to accommodate the ES-3 squadron. Modifications would include an upgrade to the electrical distribution system and replacement of existing chillers. Repairs also would be made to the pavement near the hangar.
- Renovation to Hangar 1000—Four S-3 squadrons would be relocated to Hangar 1000, with all required spaces located within present hangar space. All S-3 AIMD shops would be housed in Hangar 1000 alongside the current AIMD. All maintenance-related functions would be located on the first level, and administrative functions would be on the second level. In addition to renovation and modification, some new construction would be required on the first level on each side of the hangar bays to accommodate the shop requirements. The second level would require more extensive renovation, modification, and some new construction. A liquid-oxygen servicing structure is the only requirement that would be located outside of Hangar 1000; it would be located in an existing structure adjacent to the hangar and would store liquid-oxygen carts (TMU-70) and liquid-oxygen converters near the flight line.
- Modifications to Building 850—Interior modifications would be made to 12,500 square feet (1,161 square meters) of Building 850 to accommodate the administrative functions for the S-3 squadrons. Building 850 is a one-story structure (approximately 45,260 square feet [4,205 square meters]). The remaining space in the building would continue to be used for P-3 training. The film library at the north end of the building would be modified to create administrative spaces. Demolition would be kept to a minimum, adding walls to modify the space.
- Modifications to Buildings 848, 851, and 858—Minor internal renovations would be made to Buildings 848, 851, and 858 to accommodate maintenance training functions for the six S-3 squadrons.

2.2.2 Proposed Operational Changes

Relocating the five S-3 squadrons and one ES-3 squadron to NAS Jacksonville from NAS Cecil Field retains S-3 flight training and operation within the southeast United States. The six squadrons would conduct an estimated 17,331 operations each year (with touch-and-go patterns counted as two operations) at NAS Jacksonville. Flight tracks for touch-and-go and FCLP operations at NAS Jacksonville would be smaller (closer to the airfield) than those for P-3 and C-9 aircraft. S-3 aircraft would conduct high-power engine maintenance runups at the existing high-power runup pad northeast of Runway 14-32 and low-power maintenance runups

at the S-3 flight lines. FCLP operations normally would be performed at OLF Whitehouse. They would be conducted at NAS Jacksonville on an unanticipated schedule only when weather conditions are poor and visibility is degraded, with ceilings less than 1,000 feet (304.8 meters) above ground level. This would be necessary because OLF Whitehouse lacks approach radar. For planning purposes, 2,000 FCLP operations representing 1,000 events (each FCLP event consists of a landing and a take-off) were included in the noise modeling for NAS Jacksonville to account for these potential operations (Wyle Laboratories 1996). The 2,000 FCLP operations are based upon current operations at NAS Cecil Field.

S-3 squadrons based at NAS Jacksonville also would continue to conduct operations at OLF Whitehouse (Figure 2-5). S-3 aircraft would use Runway 11 and Runway 29 approximately 70 percent and 30 percent of the time, respectively. Typically, an S-3 aircraft operating at OLF Whitehouse would arrive along prescribed approach routes, enter the local pattern, conduct seven FCLPs, and return to NAS Jacksonville. No actual full-stop landings or engine maintenance run-ups would be performed at OLF Whitehouse (Wyle Laboratories 1996). The total number of S-3 aircraft operations at OLF Whitehouse is estimated to be 20,736 each year, with each FCLP pattern counted as two operations. Approximately 3 percent (622) of the S-3 operations at OLF Whitehouse would take place at night (10:00 P.M. to 7:00 A.M.).

S-3 squadrons at NAS Cecil Field currently use military warning and restricted areas off the coasts of Florida, Georgia, and North Carolina for training exercises. The squadrons also use the AUTEK range off Andros Island, Bahamas, to conduct torpedo training and use the Pinecastle Range Complex as a target range. The S-3 squadrons would continue to use these training areas following their relocation to NAS Jacksonville.

2.3 NO-ACTION ALTERNATIVE

Under the no-action alternative, NAS Cecil Field would not be closed and the six S-3 squadrons would not be relocated. Air operations and land uses at NAS Cecil Field would remain as they are under existing conditions. However, failure to close NAS Cecil Field and relocate its air squadrons to other air stations would be inconsistent with the intent of the DBCRC-93 and the DBCRC-95. The Defense Base Closure and Realignment Act of 1990 also exempts the no-action alternative for base closure from the National Environmental Policy Act process and its inclusion in the environmental assessment process. The no-action alternative, which would involve not relocating the S-3 squadrons from NAS Cecil Field, is not a reasonable alternative because the closure is mandated. Therefore, a detailed consideration of the no-action alternative has not been included in this document and is dismissed from further consideration.

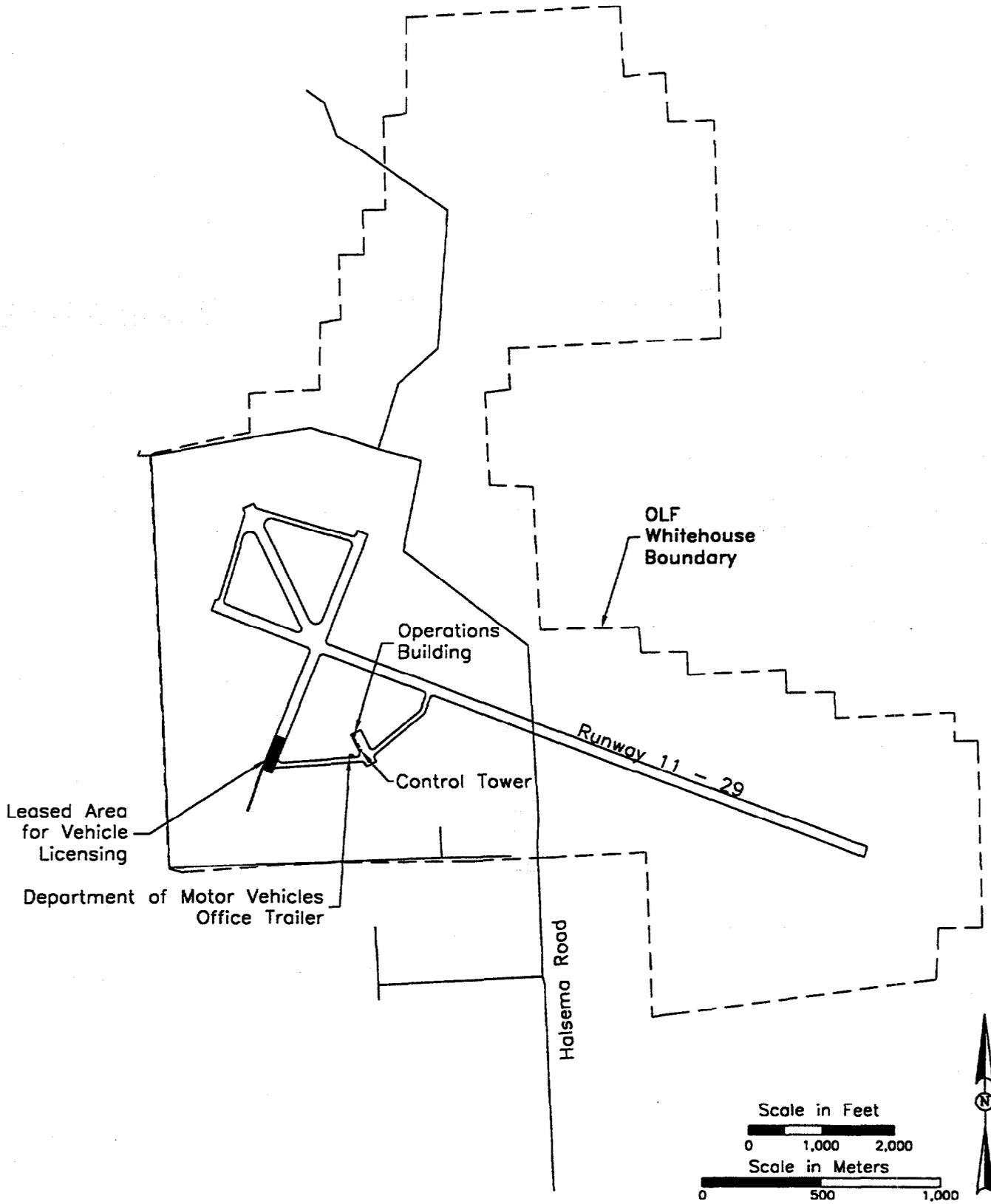


Figure 2-5.
Layout of OLF Whitehouse

*Environmental Assessment for
Base Realignment for
S-3 Squadrons from
Naval Air Station Cecil Field
Florida*

3

Existing Environment

Existing Environment

3.1 AIR QUALITY

NAS Jacksonville is located in Duval County, which is currently in attainment of national ambient air quality standards (AAQS) for all criteria pollutants except ozone. Since 1994, Duval County has been designated as a *maintenance area* for ozone. Areas designated as maintenance areas are former nonattainment areas that have reduced pollutant concentrations successfully and now have maintenance plans to keep air pollutant concentrations within applicable standards.

The state and national AAQS for ozone is a one-hour concentration of 0.12 parts per million, not to be exceeded on more than an average of one day per year over a three-year period. Duval County had no monitored exceedances of the ozone AAQS from 1990 to 1994. However, an exceedance was reported in 1995 at monitoring station 12-031-0070, which is located at NAS Jacksonville (Building 203). No other exceedances of monitored pollutants (i.e., lead, carbon monoxide [CO], sulfur dioxide [SO₂], nitrogen dioxide [NO₂], ozone, and particulate matter [PM] less than 10 micrometers in effective diameter) have been reported in Duval County since 1990 (AIRS 1996).

A Navy-contracted air emissions inventory for NAS Jacksonville was completed in 1994 and updated in 1995. The purpose of this inventory was to identify applicability to the Clean Air Act Title V program, as defined in Chapter 62-213 of the Florida Administrative Code (FAC), Operation Permits for Major Sources of Air Pollution. The applicability of Title V was determined by comparing the thresholds for regulated and hazardous air pollutants (HAPs) provided in the federal regulation (40 CFR 70) to the results of the emission inventory. The threshold for HAPs is a potential to emit 10 tons (9 metric tons) of any single HAP per year or 25 tons (23 metric tons) of any combination of HAPs per year. The threshold for regulated air pollutants is a potential to emit 100 tons (91 metric tons) per year.

Major sources of air pollutants at NAS Jacksonville include external combustion equipment, internal combustion engines, surface coating operations, solvent use, fuel storage tanks, and other miscellaneous operations. Annual 1995 emissions of regulated air pollutants and HAPs from stationary-source emissions at NAS Jacksonville are provided in Table 3-1.

As listed, potential emissions of NO_x, SO₂, CO, PM, and volatile organic compounds are 294.2 tons (267 metric tons) per year, 43.1 tons (39.1 metric tons) per year, 198.2 tons (179.8 metric tons) per year, 102.2 tons (92.7 metric tons) per year, and 423.4 tons (384.1 metric tons) per year, respectively. The primary sources of volatile organic compound

Table 3-1. Annual Stationary-Source Emissions at NAS Jacksonville, 1995

Source Category	NO _x		SO ₂		CO		PM		VOC		HAP	
	(tpy)	(mtpy)	(tpy)	(mtpy)	(tpy)	(mtpy)	(tpy)	(mtpy)	(tpy)	(mtpy)	(tpy)	(mtpy)
External combustion equipment	92.7	84.2	6.5	5.9	23.2	21.1	4.9	4.4	1.9	1.7	0.4	0.4
Internal combustion engines	112.6	102.2	9.5	8.6	37.9	34.4	5.5	5.0	7.2	6.5	0.2	0.2
Surface coating operations	NA	NA	NA	NA	NA	NA	8.9	8.1	113.5	103.0	25.5	23.1
Solvent use operations	NA	NA	NA	NA	NA	NA	NA	NA	185.8	168.7	94.7	86.0
Storage tanks and related operations	NA	NA	NA	NA	NA	NA	NA	NA	26.5	24.1	0.8	0.7
Miscellaneous operations	88.9	80.7	27.1	24.6	137.2	124.6	82.8	75.2	88.6	80.4	16.6	15.1
Total	294.2	267.1	43.1	39.1	198.3	180.1	102.1	92.7	423.5	384.4	138.2	125.5

- NOTES: (1) Stationary-source emissions are based on "the potential to emit" determination.
- (2) CO = carbon monoxide
HAP = hazardous air pollutant
mtpy = metric tons per year
NA = not applicable
NO_x = nitrogen oxides
PM = particulate matter
SO₂ = sulfur dioxide
tpy = tons per year
VOC = volatile organic compound
- (3) External combustion equipment includes generators.
- (4) Stationary internal combustion engines include steam plants, furnaces, and boilers.
- (5) Surface coating operations include plating shop and spray booths.
- (6) Solvent use operations include cleaning shop, solvent supply lockers, bearing shop, and paint strip hangar.
- (7) Storage tanks and related operations include Stage I gasoline dispensing.
- (8) Miscellaneous operations include abrasive blast booths, dry cleaning, aircraft engine test stands and test cells, firefighting training, glue application booth, and other miscellaneous operations.

SOURCE: Pipkin 1996.

emissions are from solvent use, paint spray booths, and gasoline dispensing. Major sources of NO_x emissions include the main steam plant, aircraft engine test cells, and backup generators. Potential emissions of HAPs at NAS Jacksonville are estimated at 138.2 tons (125.4 metric tons) per year. Based on these estimated emissions, NAS Jacksonville submitted a Title V permit to the Florida Department of Environmental Protection in June 1996.

State permitting requirements for air quality control are codified in the Chapter 62-4 FAC permits. Under the state permitting program, NAS Jacksonville (including naval aviation depot and the Public Works Center) has thirteen permits to operate air pollution emissions units and six construction permits on file. All permitted sources at NAS Jacksonville comply with the applicable emission standards (Pipkin 1996).

3.2 NOISE

Noise represents one of the most prominent environmental issues associated with civilian and military airfield operations. In recognition of the need to prevent incompatible development of land adjacent to military airfields, the U.S. Department of Defense has initiated the Air Installation Compatible Use Zones (AICUZ) program. The purpose of the AICUZ program is to protect public health, safety, and welfare and to prevent civilian off-station land-use encroachment from degrading the operational capability of military air installations.

In June 1996, NAS Jacksonville completed an aircraft noise study (Wyle Laboratories 1996) that determined noise exposure contours reflecting existing (1994) aircraft operations at NAS Jacksonville and that forecasted noise exposure contours for calendar year 1998. The following discussion addresses existing (1994) aircraft operations and noise contours. The aircraft noise report (Wyle Laboratories 1996) is not an AICUZ report; however, its results will be used to update the 1978 AICUZ.

State-of-the-art methodology in aircraft noise modeling assumes the terrain surrounding a runway is flat and has normal impedance properties affecting the propagation of noise. This assumption is adequate for most aircraft noise analyses, but for airports in hilly terrain or close to water the noise impact analysis could be overstated or understated. Sound travels over water more efficiently than over land, where fields, trees, varying terrain, and buildings affect the propagation of noise. There is presently no accepted methodology for measuring noise propagation over water. The U.S. Department of Defense is investigating the phenomenon of the propagation of noise over water, and initial efforts indicate the sound propagation theories are complex and require a better understanding of various factors such as the meteorological conditions above the surface of the water (e.g., wind, temperature, humidity).

Recently, the Federal Interagency Committee on Noise (FICON) reviewed the current metrics for evaluating aircraft noise. FICON concluded that the day-night average sound level (DNL) was an appropriate metric for describing long-term noise exposure at both civilian and military airports. In addition, FICON continued to endorse the current land use planning guidelines for evaluating land use compatibility in the vicinity of airports. Residential

development is compatible with airfield operations producing noise levels between DNL 65 and 75 dBA. On a nationwide average, current construction standards provide 15 to 25 dBA of sound attenuation with windows open or closed, respectively.

Aircraft activity at NAS Jacksonville is dominated by P-3C Orion operations. Other aircraft activity varies widely and includes both rotary- and fixed-wing arrivals, departures, and patterns, as well as maintenance operations. Table 3-2 summarizes the operations (including overflights) at NAS Jacksonville in 1990 through 1994 based on the air traffic control tower's air traffic activity reports (ATAR). The number of flight operations at NAS Jacksonville ranged from 79,671 in 1993 to 137,675 in 1994. Runway 09-27 was closed for repairs for an extended period during 1993. This resulted in a significant reduction (27 percent) in total operations for that year compared to those during 1992.

Runway 14-32 rarely is used by fixed-wing military aircraft. It is used primarily by general aviation (Flying Club) aircraft and for pattern work by helicopters. This runway is used more frequently when Runway 09-27 is closed for repair such that no aircraft operations can be conducted. Routine annual maintenance is conducted on Runway 09-27 during three weeks each year, two weeks at Christmas and one week at another time during the year when runway usage is lower. Major runway maintenance takes place every twelve to fifteen years and last occurred for Runway 09-27 in 1993. Given this maintenance schedule, the next major maintenance on Runway 09-27 would occur between 2005 and 2008.

Fixed-wing operations on Runway 14-32 (5,589 operations for 1994) were not counted in the noise modeling since only 26 of these were by military jet aircraft. The contribution of these military jet operations to the noise modelling was considered insignificant when compared to the overall noise environment. This is also consistent with the previous noise survey. The touch-and-go operations for the H-3 and H-60 helicopters totalled 10,978 operations in 1994 and were modeled based on use of Runway 14-32.

Table 3-3 summarizes 1994 aircraft operations by aircraft category at NAS Jacksonville. The totals in Table 3-3 differ from the totals in Table 3-2 primarily because of differences between the two sources used for the tables. Table 3-2 is based on the ATAR, and Table 3-3 is based on the Air Traffic Activity Analyzer (ATAA). Differences between the two sources (ATAR and ATAA) are mainly attributable to differences in overflight operations counts. The ATAA most accurately reflects actual airfield operations (Wyle Laboratories 1996). Fixed-wing operations on Runway 14-32 totalled 109,848 airfield operations. Approximately 3 percent of the total operations occurred at night (10:00 P.M. to 7:00 A.M.). Fixed-wing aircraft operations were dominated by the P-3C Orion, and helicopter operations were dominated by the H-3 and H-60. Jet aircraft operations accounted for 7 percent of the total airfield operations in 1994.

Based on the noise contribution and level of activity for the aircraft listed in Table 3-3, seven types of fixed-wing aircraft and two types of helicopters were modeled to determine the

Table 3-2. Annual Aircraft Flight Operations at NAS Jacksonville, 1990-1994

Year	Military		Civil		Total
	Navy/Marine	Other Military	Air Carrier	General Aviation	
1990	108,747	5,887	2,457	15,252	132,343
1991	77,486	4,413	2,747	13,270	97,916
1992	90,493	2,624	2,928	13,843	109,888
1993*	64,953	1,612	1,740	11,366	79,671
1994	117,604	2,244	2,505	15,322	137,675

NOTE: These data include aircraft overflights at NAS Jacksonville.

* Runway 09-27 closed for repairs for an extended period in 1993.

SOURCE: Wyle Laboratories 1996.

Table 3-3. Existing Annual Flight Operations at NAS Jacksonville, 1994

Aircraft Category	Day	Night	Total
P-3	69,570	1,660	71,230
C-12*	2,597	52	2,649
Navy/Marine Jet [†]	2,323	30	2,353
Air Carrier	708	187	895
C-9	3,152	190	3,342
Navy/Marine Propeller*	805	13	818
Other Military Jet*	730	44	774
Other Military Propeller*	378	14	392
General Aviation*	6,072	267	6,338
H-3/H-60	18,691	665	19,356
Navy/Marine Helicopter*	679	15	694
Other Military Helicopter*	508	15	523
Navy Depot (A-7) [‡]	484	0	484
Total [§]	106,697	3,151	109,848

* Aircraft not modeled during existing and proposed aircraft noise analysis.

[†] 13 percent of this category was not attributable to any particular aircraft type and thus were not modeled.

[‡] Annualized operations provided by NAS Jacksonville Air Traffic Control.

[§] Excludes 5,589 operations on Runway 14-32, 1,118 of which were conducted by fixed-wing military aircraft, 26 of which were conducting military jet aircraft. The total also excludes any overflights that occurred in 1994.

SOURCE: Wyle Laboratories 1996.

existing (1994) noise conditions. A list of the modeled aircraft is presented in Table 3-4 along with the number, type (e.g., overhead break arrival, touch and go), and time (day or night) of flight operations per year. Overall, approximately 89 percent, or 97,349, of the 109,848 operations presented in Table 3-3 were modeled; 3 percent occurred at night. As indicated in the aircraft noise study, the remaining 11 percent of aircraft operations would have an insignificant impact on the noise contours (Wyle Laboratories 1996).

Estimated aircraft noise contours are expressed as the day-night average sound level (DNL) in units of decibels weighted on the A-scale (dBA). The DNL is the average sound level generated by all aviation-related operations during an average or busy 24-hour period, with sound levels of nighttime noise events (those between 10:00 P.M. and 7:00 A.M.) emphasized by adding 10 dBA. The DNL is recognized as the best measure of long-term community reaction to transportation noises, especially aircraft noise (Wyle Laboratories 1996). Flight activities are based on an average day at airfields for which operations generally adhere to a fixed schedule (most commercial airports) and on a typical busy day at airfields for which operations vary from day to day or between weekdays and weekends (most military airfields). Aircraft noise surveys conducted by the Navy require the number of operations on an average busy day, or a typical day when the airfield is in full operation and the total number of operations is at least 50 percent of the annual average daily operations. The average busy-day number of operations then is determined by calculating the mean of the operations on all of the busy days over a period of one year. For 321 days of ATAA data for 1997, 213 days were busy; adjusting this number for 365 days of operation yields 242 busy days per year.

Figure 3-1 compares average busy-day DNL noise contours for existing (1994) aircraft operations at NAS Jacksonville with the noise contours from the 1978 AICUZ report; the 1978 contours are the basis for land use policies in the City of Jacksonville. The 1978 AICUZ report DNL 65 dBA noise contour encompasses a land area of 1,685 off-station acres (421 hectares) (excluding water) compared to 210 off-station acres (84 hectares) for the existing (1994) DNL 65 dBA noise contour. The estimated population within the 1978 AICUZ land area is 4,332 compared to 296 for the existing (1994) population. Table 3-5 lists the acreage, estimated population, and dwelling units within the 1978 AICUZ and the existing (1994) noise contours in 5 dBA increments around NAS Jacksonville.

When assessing aircraft noise exposure in communities surrounding airfields, aircraft flight tracks are an important component. Flight tracks are the established air routes that aircraft use to approach and depart an airfield. Typically, military airfields define additional flight tracks to accommodate training maneuvers (e.g., touch-and-go, FCLP, ground control approach box). For the NAS Jacksonville aircraft noise study, flight tracks for existing conditions were derived from an analysis of NAS Jacksonville radar data and were verified by the NAS Jacksonville air traffic control tower. Figures 3-2 through 3-4 illustrate the existing modeled flight tracks at NAS Jacksonville. Tables 3-6 and 3-7 summarize runway and flight track use for NAS Jacksonville under existing conditions.

Table 3-4. Modeled Annual Aircraft Flight Operations for Existing Conditions at NAS Jacksonville (Page 1 of 2)

Aircraft Type	Operation Type	Day	Night	Total
P-3	Departures to north	1,039	24	1,063
	Departures to south	1,862	9	1,871
	Departure straight-out*	2,215	48	2,263
	GCA departures	4,693	133	4,826
	Straight-in arrivals	11,557	497	12,054
	Overhead arrivals	285	2	287
	Touch and gos	47,919	946	48,865
C-9	Departures to north	290	13	303
	Departures to south	106	2	108
	Departure straight-out*	475	13	488
	GCA departures	233	5	238
	Straight-in arrivals	962	123	1,085
	Overhead arrivals	3	1	4
	Touch and gos	1,083	34	1,117
Air Carrier (C-9)	Departures to north	81	44	125
	Departures to south	43	0	43
	Departure straight-out*	145	65	210
	GCA departures	63	0	63
	Straight-in arrivals	364	78	442
	Overhead arrivals	0	0	0
	Touch and gos	14	0	14
AV-8 (Navy/Marine Jet)	Departures to north	8	0	8
	Departures to south	56	1	57
	Departure straight-out*	49	1	50
	GCA departures	157	2	159
	Straight-in arrivals	259	5	264
	Overhead arrivals	38	0	38
	Touch and gos	130	0	130
F/A-18 (Navy/Marine Jet)	Departures to north	10	0	10
	Departures to south	75	1	76
	Departure straight-out*	65	1	66
	GCA departures	210	2	212
	Straight-in arrivals	344	6	350
	Overhead arrivals	51	0	51
	Touch and gos	173	0	173
T-2 (Navy/Marine Jet)	Departures to north	4	0	4
	Departures to south	32	0	32
	Departure straight-out*	27	1	28
	GCA departures	89	1	90
	Straight-in arrivals	147	3	150

Table 3-4. Modeled Annual Aircraft Flight Operations for Existing Conditions at NAS Jacksonville (Page 2 of 2)

Aircraft Type	Operation Type	Day	Night	Total
A-7	Overhead arrivals	21	0	21
	Touch and gos	73	0	73
	Departures to north	0	0	0
	Departures to south	128	0	128
	Departure straight-out*	114	0	114
	GCA departures	0	0	0
	Straight-in arrivals	0	0	0
	Overhead arrivals	242	0	242
H-60/H-3	Touch and gos	0	0	0
	Departures to north	0	0	0
	Departures to south	3,403	111	3,514
	Departure straight-out*	0	0	0
	GCA departures	535	73	608
	Arrivals	3,892	365	4,257
	Overhead arrivals	0	0	0
	Touch and gos	10,862	116	10,978
Summary	P-3	69,570	1,660	71,230
	C-9	3,152	190	3,342
	Air carrier (C-9)	709	187	896
	AV-8	697	9	706
	F/A-18	928	10	938
	T-2	392	6	398
	A-7	484	0	484
	H-60/H-3	18,692	663	19,357
	Total	94,624	2,725	97,349

NOTES: (1) Touch and go patterns counted as two operations.
(2) Totals do not sum due to rounding.

* Runway 27 departures to a 300-degree heading were considered "straight-out."

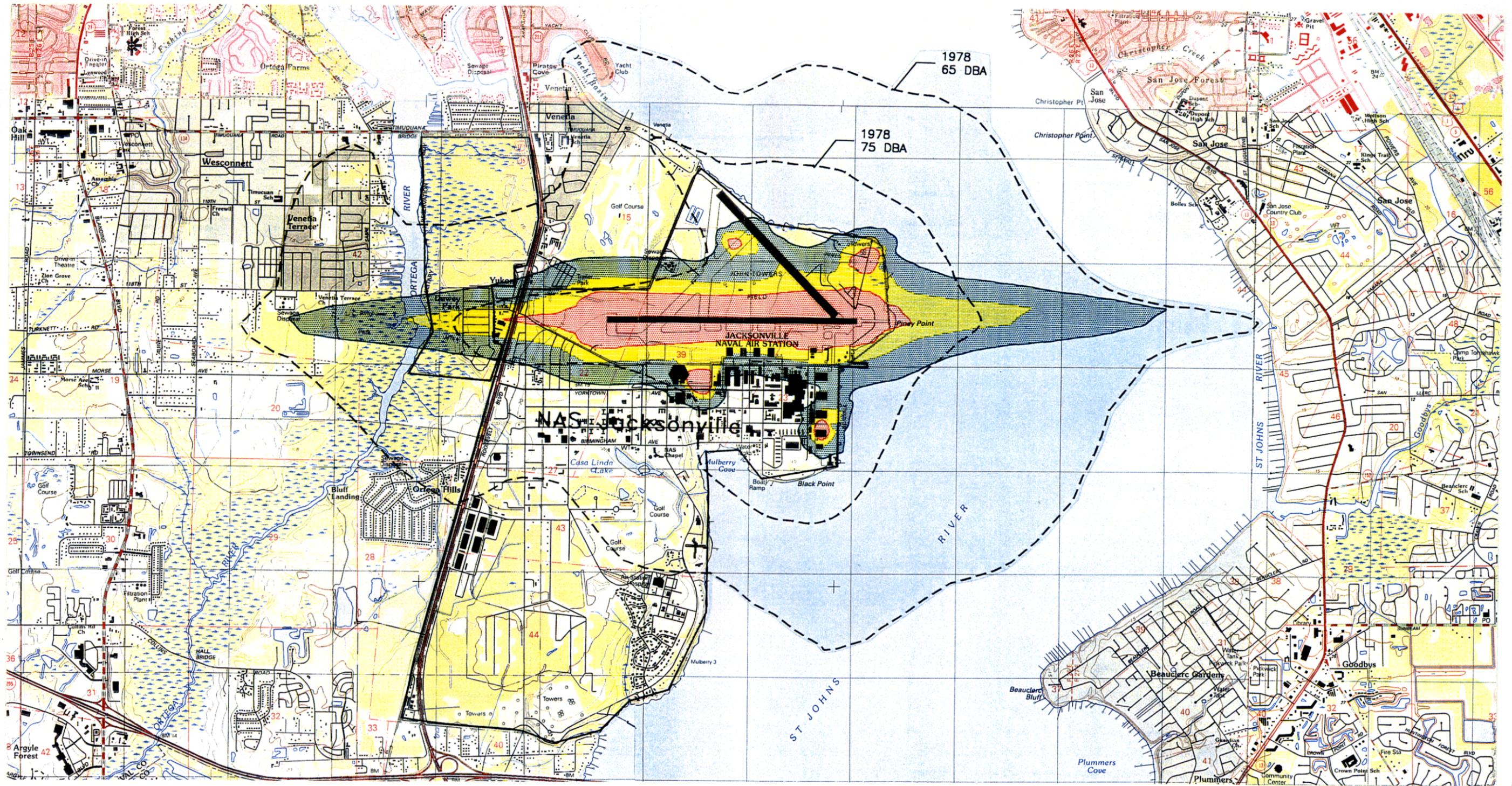
SOURCE: Wyle Laboratories 1996.

Table 3-5. Comparison of Off-Station Area, Dwelling Units, and Population within Aircraft Noise Exposure Contours under the 1978 AICUZ and Existing (1994) Conditions at NAS Jacksonville

DNL Contour (dBA)	Area				Dwelling Units		Population	
	AICUZ		Existing		AICUZ	Existing	AICUZ	Existing
	acres	hectares	acres	hectares				
65	1,685	682	210	85	1,863	137	4,332	296
70	NA	NA	30	12	NA	2	NA	4
75	52	21	0	0	66	0	146	0
80	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0

- NOTES: (1) NAS Jacksonville and water bodies not included in the total area.
 (2) DNL = day-night average noise level
 dBA = A-weighted decibels
 NA = not available
 AICUZ = Air Installation Compatible Use Zones

SOURCE: Wyle Laboratories 1996.



Legend

- 65-70 dBA
- 70-75 dBA
- > 75 dBA

Scale in Feet
0 1,600 3,200

Scale in Meters
0 800 1,600



Figure 3-1.
Day-Night Average Sound Level Contours for 1978 AICUZ and Existing (1994) Average Busy-Day Airfield Operations at NAS Jacksonville

Sources: Wyle Laboratories 1996; USGS 1963, 1964b, 1993a, 1993b.

*Environmental Assessment for
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Florida*

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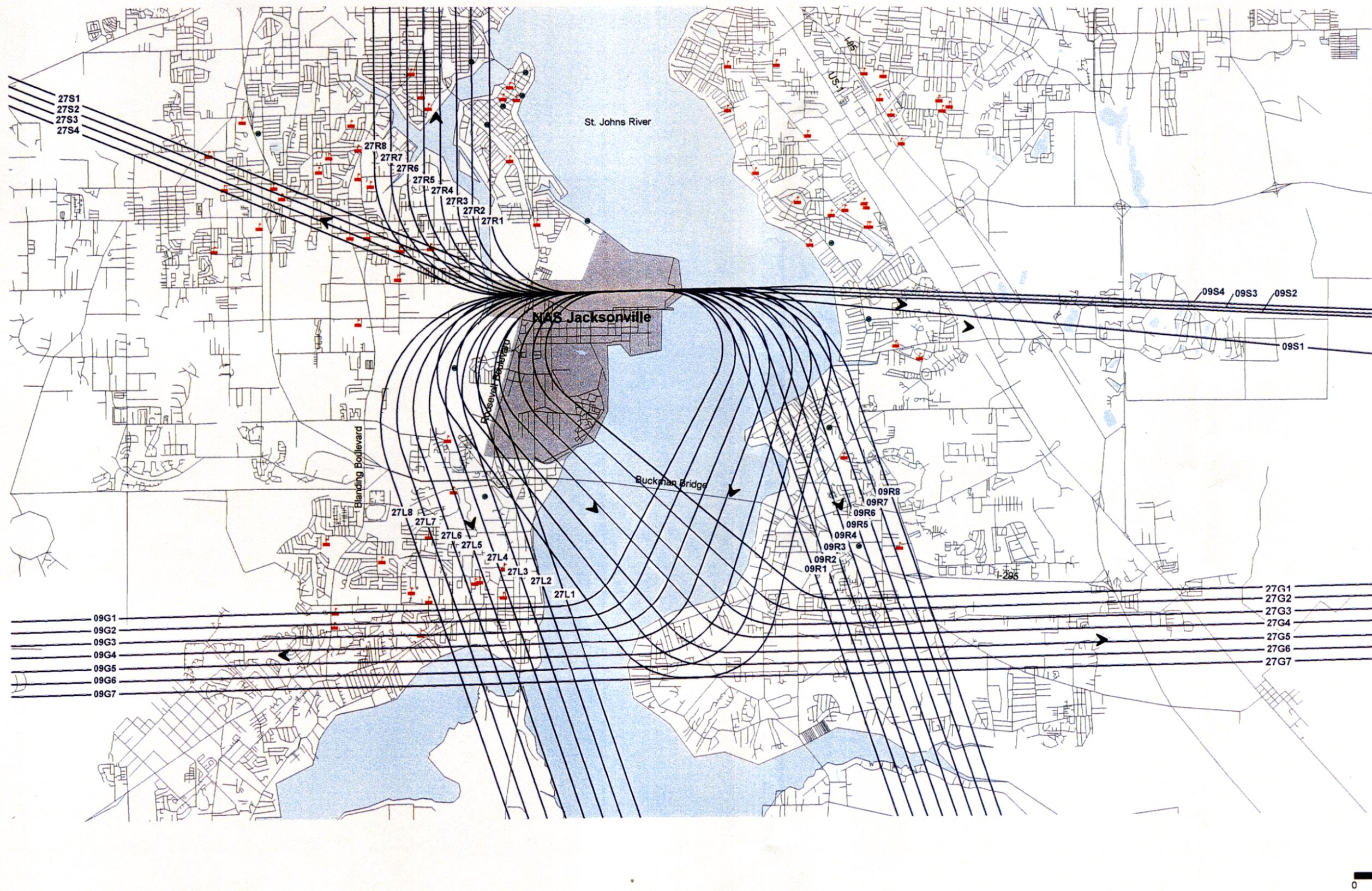
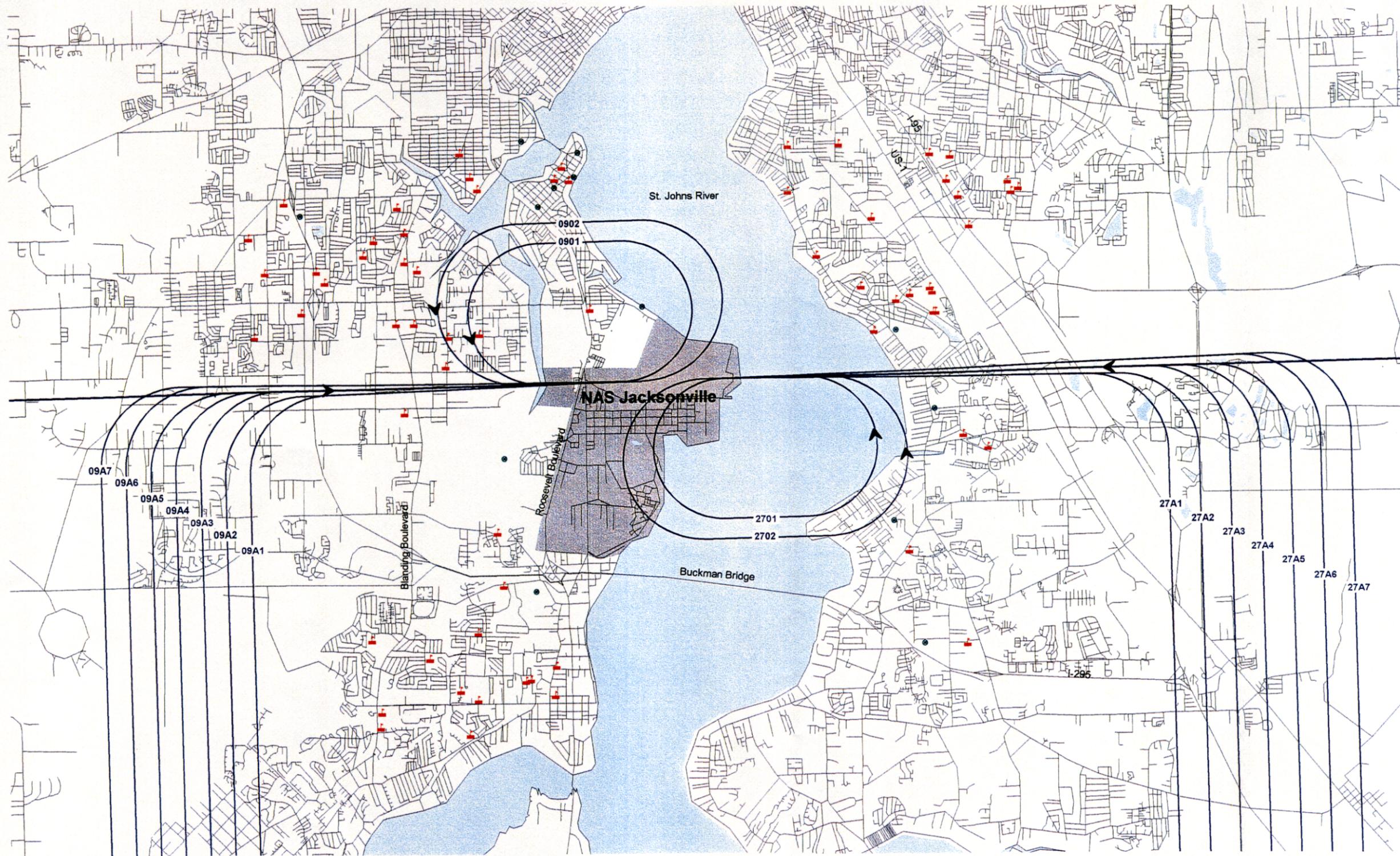


Figure 3-2.
Existing Aircraft Departure Flight Tracks at NAS Jacksonville

Sources: Wyle Laboratories 1996; Caliper Corporation 1995.

Environmental Assessment for
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Florida



Legend

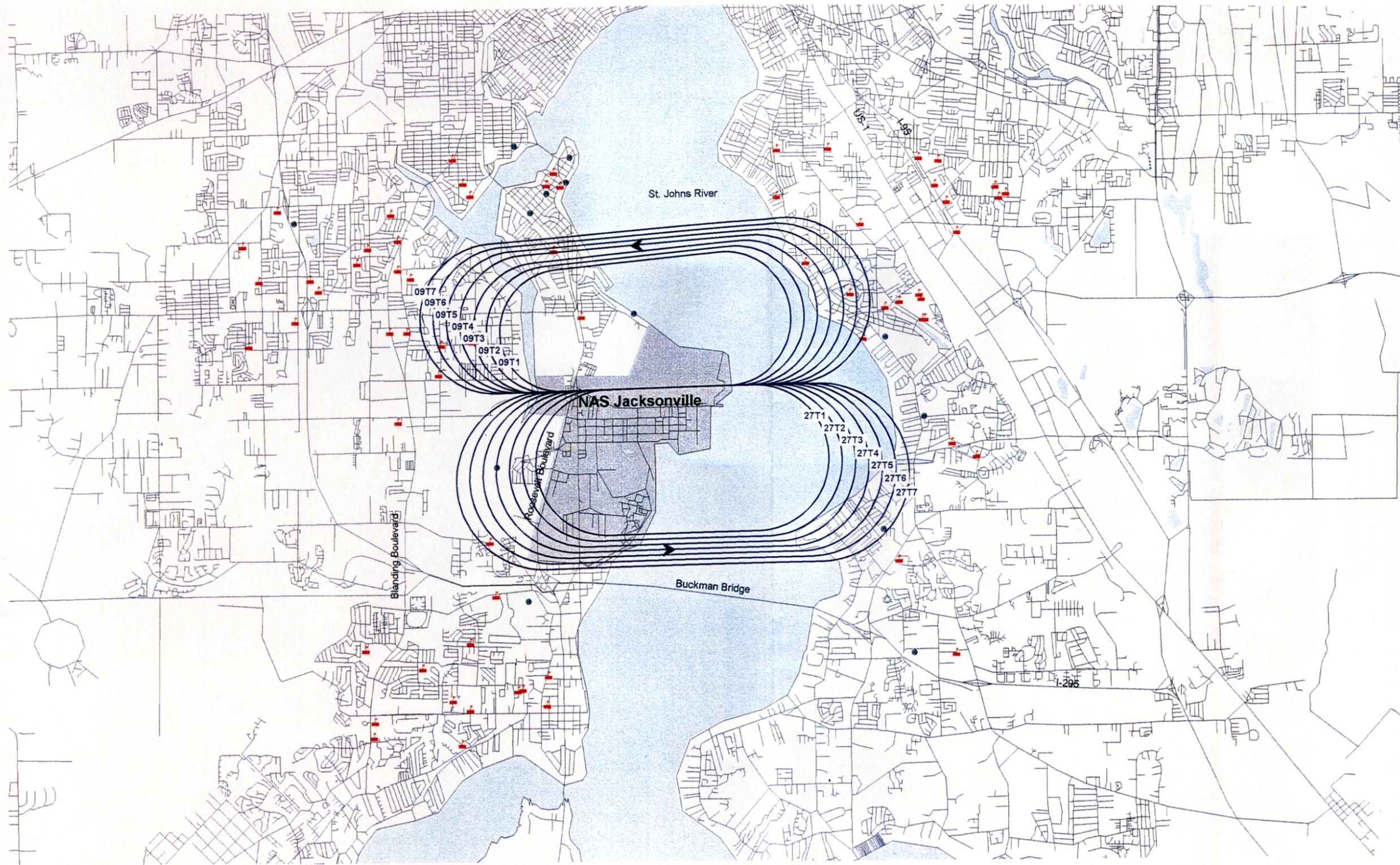
- Streets
- Flight Tracks
- Schools
- Parks

Scale in Feet
 0 4,000 8,000
 Scale in Meters
 0 1,000 2,000

Figure 3-3.
Existing Aircraft Arrival Flight Tracks
at NAS Jacksonville

Sources: Wyle Laboratories 1996; Caliper Corporation 1995.

*Environmental Assessment for
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 Naval Air Station Cecil Field
 Florida*



Legend

- Streets
- Flight Tracks
- Schools
- Parks

Scale in Feet
 0 4,000 8,000
 Scale in Meters
 0 1,000 2,000

Figure 3-4.
 Existing Aircraft Touch-and-Go Flight
 Tracks at NAS Jacksonville

Sources: Wyle Laboratories 1996; Caliper Corporation 1995.

*Environmental Assessment for
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Table 3-6. Runway Use for Modeled Existing Aircraft Operations at NAS Jacksonville

Aircraft	Runway	Departures		Ground Control Approach Departures		Straight-In Arrivals*		Overhead Arrivals		Touch-and-Go	
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
P-3	9	53%	65%	48%	66%	53%	57%	60%	0%	58%	67%
	27	47%	35%	52%	34%	47%	43%	40%	100%	42%	33%
C-9	9	50%	46%	54%	50%	55%	67%	33%	0%	50%	47%
	27	50%	54%	46%	50%	45%	33%	67%	100%	50%	33%
Air Carrier (C-9)	9	42%	59%	62%	65%	56%	63%	—	65%	83%	65%
	27	58%	41%	38%	—	44%	37%	—	—	17%	—
AV-8	9	46%	0%	57%	50%	54%	75%	61%	65%	53%	65%
	27	54%	100%	43%	50%	46%	25%	39%	—	47%	—
F/A-18	9	46%	0%	57%	50%	54%	80%	60%	65%	53%	65%
	27	54%	100%	42%	50%	46%	20%	40%	—	47%	—
T-2	9	44%	0%	57%	0%	54%	66%	61%	65%	53%	65%
	27	56%	100%	43%	100%	46%	33%	39%	—	47%	—
A-7	9	53%	65%	48%	65%	—	65%	53%	65%	—	65%
	27	47%	—	—	—	—	—	47%	—	—	—
H-3/H-60	Pad 2 (to East)	13%	—	—	—	—	—	—	—	—	—
	Pad 4 (to East)	52%	1%	—	—	14%	17%	—	—	—	—
	Pad 2 (to West)	—	—	—	—	18%	17%	—	—	—	—
	Pad 4 (to West)	35%	38%	—	—	67%	66%	—	—	—	—
	9†	—	—	57%	69%	57%	—	—	—	—	—
	27†	—	—	43%	31%	43%	—	—	—	—	—
	14	—	—	—	—	—	—	—	—	44%	88%
	32	—	—	—	—	—	—	—	—	56%	12%

* All Fixed-Wing Straight-In Arrivals include ground control approach arrivals.

† All helicopter arrivals to Runway 09-27 are ground control approach arrivals.

SOURCE: Wyle Laboratories 1996.

Table 3-7. Flight Track Utilization for Modeled Existing Aircraft Operations at NAS Jacksonville

Track	Departures						Straight-In Arrivals			Overhead Arrivals			GCA Pattern						Touch-and-Gos				
	Runway		Runway		Runway		Runway			Runway			Runway		Runway		Runway		Runway		Runway		
	09	27	Track	09	27	Track	09	27	Track	09	27	Track	09	27	Track	09	27	Track	09	27	Track	09	27
L1	16%		S1	25%	25%	R1	16%	16%	A1	10%	8%	01	67%	67%	G1	8%	8%	A1	8%	8%	T1	16%	16%
L2	16%		S2	25%	25%	R2	16%	16%	A2	14%	14%	02	33%	33%	G2	14%	14%	A2	14%	14%	T2	18%	18%
L3	16%		S3	25%	25%	R3	16%	16%	A3	17%	18%				G3	18%	18%	A3	18%	18%	T3	22%	22%
L4	16%		S4	25%	25%	R4	16%	16%	A4	18%	18%				G4	18%	18%	A4	18%	18%	T4	18%	18%
L5	16%					R5	16%	16%	A5	17%	18%				G5	18%	18%	A5	18%	18%	T5	10%	10%
L6	10%					R6	10%	10%	A6	14%	16%				G6	16%	16%	A6	16%	16%	T6	8%	8%
L7	5%					R7	5%	5%	A5	10%	8%				G7	8%	8%	A7	8%	8%	T7	8%	8%
L8	5%					R8	5%	5%															
Totals	100%			100%	100%		100%	100%		100%	100%		100%	100%		100%	100%		100%	100%		100%	100%

NOTES: GCA = ground control approach
 FCLP = field carrier landing practice

SOURCE: Wyle Laboratories 1996.

An AICUZ study for OLF Whitehouse was prepared in 1976 and was updated in 1984. In 1984, 86,210 operations took place at OLF Whitehouse. Approximately 75 percent of the operations were field carrier landing practice, and the remainder of operations were divided evenly between departures and arrivals. Operations by S-3 aircraft totalled 21,790 (25 percent of total operations) and operations by F/A-18 aircraft totalled 64,420 (75 percent of total operations) (NAVFACENCOM 1984). Because of the closure of NAS Cecil Field, regularly scheduled F/A-18 operations no longer would be conducted at OLF Whitehouse.

3.3 HAZARDOUS AND SOLID WASTE MANAGEMENT

NAS Jacksonville is operated in compliance with regulations imposed by the Resource Conservation and Recovery Act for hazardous waste management and has two permitted storage facilities located in Buildings 144 and 762. NAS Jacksonville is considered a Class I generator (large-quantity generator) of hazardous waste, a status that applies to facilities that generate 1,000 kilograms or more of hazardous waste or more than 1 kilogram of acutely hazardous material in a calendar month. All hazardous waste is handled and disposed of in accordance with the NAS Jacksonville hazardous waste management plan (SOUTHNAVFACENCOM 1994a).

The hazardous waste management plan outlines procedures for the accumulation, collection, transportation, and disposal of hazardous wastes. Hazardous wastes are collected at less-than-90-day and satellite accumulation points throughout the station prior to being transferred to the permitted storage facilities. Hazardous waste from NAS Jacksonville is collected, transported, and disposed of by hazardous waste service contractors retained by the Defense Reutilization and Marketing Office.

The total amount of hazardous wastes generated at NAS Jacksonville in calendar year 1995 was 512,843 pounds (233,110 kg). The largest components of this total are paint waste (24,092 pounds [10,951 kg]), rags with paint and thinner (32,101 pounds [14,591 kg]), spent carbon (243,880 pounds [10,855 kg]), paint chips with metal blast media (29,581 pounds [13,446 kg]), abrasive blasting media (53,580 pounds [24,355 kg]), and electroplating waste (60,265 pounds [27,393 kg]) (Mears 1996).

The Installation Restoration program was established by the U.S. Department of Defense to ensure that military installations identify and evaluate suspected problems associated with past waste disposal actions. NAS Jacksonville initiated its Installation Restoration program in 1983 and has identified approximately fifty sites that are potential sources of contamination (PSC sites). The locations of PSC sites within 3,000 feet of the area of the proposed action are illustrated in Figure 3-5.

Several PSC sites are in the vicinity of the proposed construction sites. PSC-20 is located in Building 952 south of Building 850 and was the location of the solid waste incinerator. There is no evidence of hazardous waste being either spilled or disposed of at this site. PSC-35 is located south of Hangar 113 and east of Hangar 1000 and is the former temporary

polychlorinated biphenyl storage area. PSC-44 is located adjacent to the area proposed for the construction of the simulator training facility. PSC-44 is an open-channel drainage ditch with sediments that potentially are contaminated with metals and organics. The source of contamination is overflow of the hazardous waste storage tank system adjacent to Hangar 1000. PSC-45 is located east of Hangar 113 and is a wash rack waste disposal pit. The wash rack was used for ground-support equipment cleaning and paint-stripping operations.

The facilities at NAS Jacksonville currently are being surveyed to identify potential or presumed asbestos-containing materials. Of the facilities proposed for modification, renovation, or addition under the proposed action, only Hangar 1000 has been surveyed (Mears 1996). Asbestos-containing materials were identified at this facility. The survey of the remaining facilities will be completed in early 1997.

Solid waste is collected, transported, and disposed of by private waste collectors under contract with NAS Jacksonville. In calendar year 1995, NAS Jacksonville generated an estimated 3,500 tons (3,175 metric tons) of solid waste, excluding recycled materials, that were disposed of at the Trailridge facility located 33 miles (53 kilometers) southwest of NAS Jacksonville. An additional 100 tons (91 metric tons) of wastewater sludge were disposed of at the Reidsville facility in South Carolina, approximately 250 miles (402 kilometers) north of NAS Jacksonville. The life expectancies of the Trailridge and Reidsville facilities are sixteen years and three years, respectively.

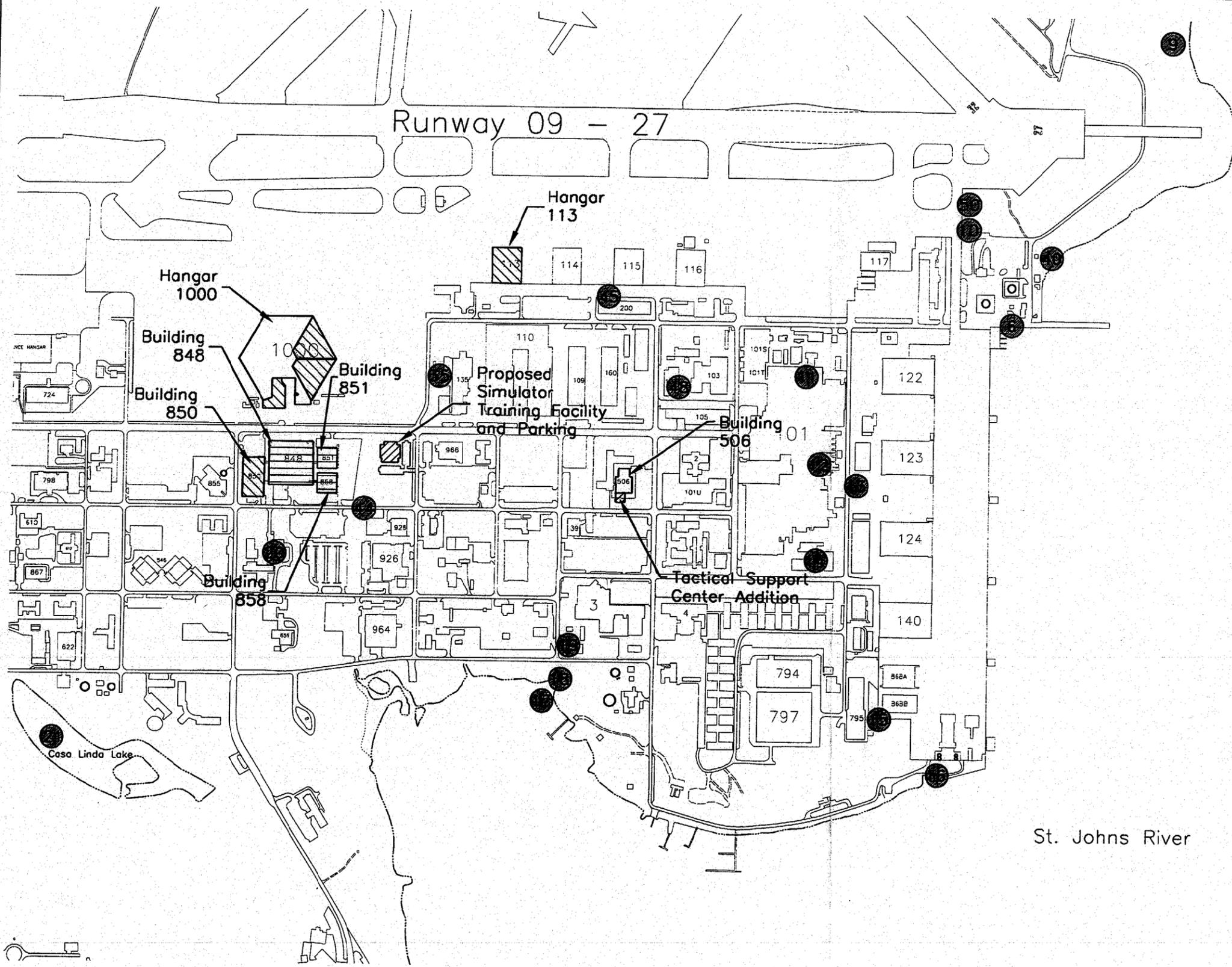
To reduce solid waste, NAS Jacksonville participates in a qualified recycling program (as defined by Office of the Chief of Naval Operations Instruction 5090.1B) that includes collecting aluminum cans, cardboard, glass, paper products, and wood. NAS Jacksonville also separates some construction and demolition debris and tires from the solid waste stream.

3.4 SOILS

The soils at NAS Jacksonville are generally level, poorly drained, and belong to the Pelham-Mascotte-Sapelo series. These soils are sandy to a depth of at least 20 inches (51 centimeters) and are loamy below. Other soils at NAS Jacksonville include Albany, Blanton, Leon, Olustee, Ortega, Pottsburg, Ridgeland, and Wesconnett fine sands and Maurepas muck (SCS 1978). Wesconnett fine sand and Maurepas muck are hydric soils.

The portion of NAS Jacksonville north of Birmingham Avenue is heavily urbanized and contains disturbed soils classified as either Arents or Urban. Arents soils are poorly drained and have been reworked by earthmoving operations. Urban soils are defined as those that are at least 85 percent covered with streets, buildings, parking lots, airports, or related facilities. Soils at the north end of NAS Jacksonville are illustrated in Figure 3-6.

Soils at OLF Whitehouse are categorized as Leon-Ridgeland-Wesconnett series and are nearly level, poorly drained, and sandy throughout. These soils support large areas of pine flatwoods with shallow depressions and broad drainages. Other native soils at OLF Whitehouse include



Legend	
Potential Sources of Contamination (PSC)	
PSC Site ID #	Site Description
6	Fuel Farm (Steam Pit)
9	Construction Debris Disposal Area
10	Tank 119 K
11	Hangar Building 101
12	Old Test Cell Building
13	Radium Point Disposal Pit
14	Battery Shop
15	Solvent and Paint Sludge Disposal Area
16	Storm Sewer Discharge - Black Point
17	Glass Bead Disposal Area
18	Radioactive Waste Disposal Area
19	Old Gas Station
20	Solid Waste Incinerator
21	Golf Course (Casa Linda Lake)
35	Former Temporary PCB Storage Area
40	Ex-East IWTP Discharge Area
44	Drainage Ditch, West of Ajax Street, from Yorktown Avenue to Mulberry Cove
45	Building 200, Wash Rack Disposal Pit
48	Building 106, Naval Exchange Laundry/Dry Cleaners
50	East Side WWTP Sludge Disposal Area
[Hatched Box]	New Construction Areas
[Diagonal Lines Box]	Renovation Areas
[Horizontal Lines Box]	Internal Modification Areas

St. Johns River

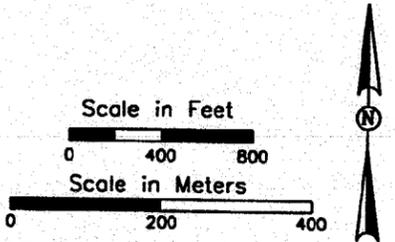
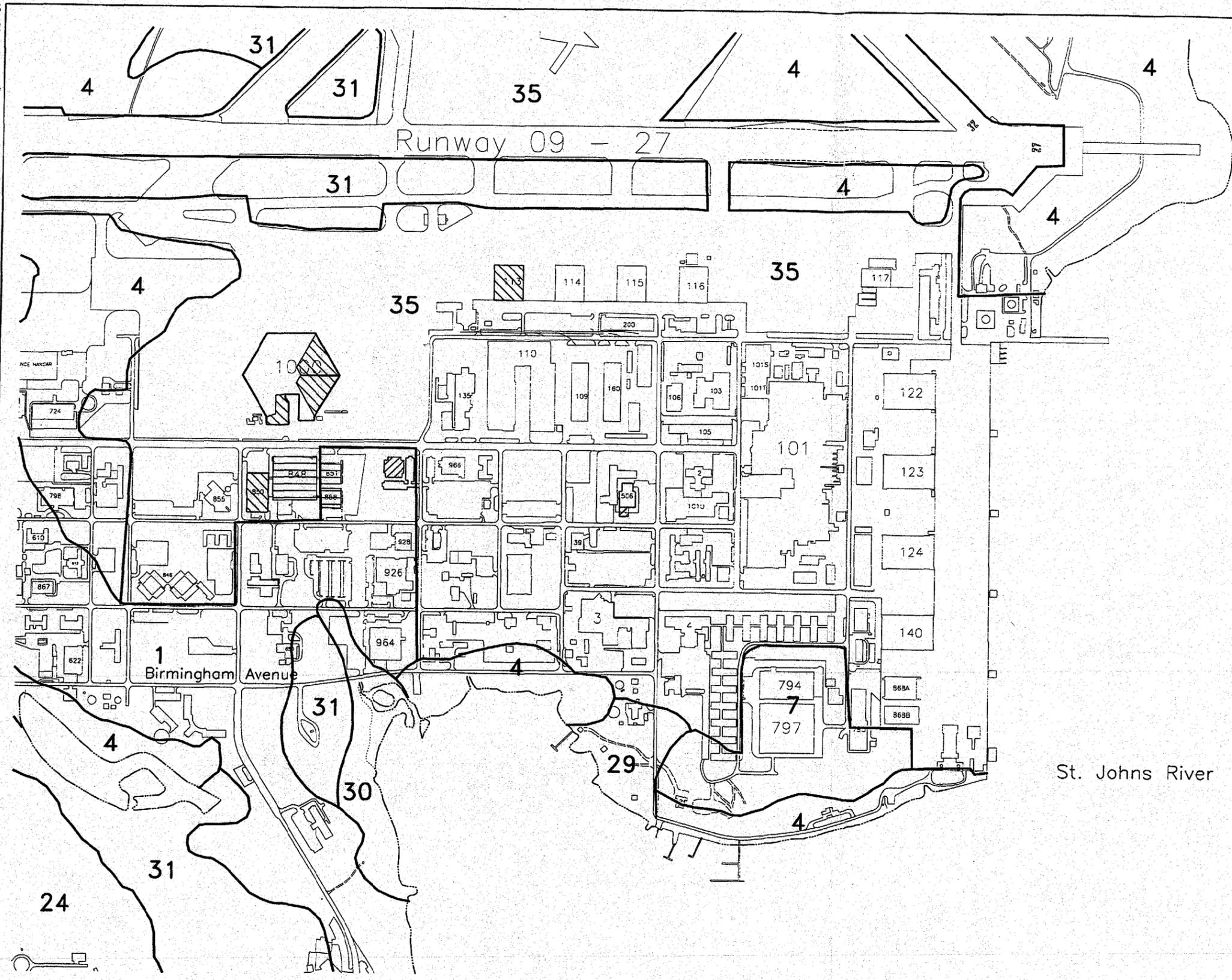


Figure 3-5.
Locations of Potential Sources of Contamination Sites
at NAS Jacksonville

Sources: SOUTHNAVFACENCOM 1988; NAS Jacksonville 1996.

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Legend	
Soil Unit	Description
1	Albany Fine Sand 0-5% Slopes
4	Arents 0-2% Slopes, reworked poorly drained soils
7	Blanton Fine Sands 0-5% Slopes, moderately well drained soils
24	Ortega Fine Sand 0-5% Slopes, moderately well drained soils
29	Pottsburg Fine Sand 0-2% Slopes, somewhat poorly drained soils
30	Ridgeland Fine Sand 0-2% Slopes, poorly drained soils
31	Sapelo Fine Sand 0-2% Slopes, poorly drained soils
35	Urban Land 85% covered with impervious surfaces
	New Construction Areas
	Renovation Areas
	Internal Modification Areas

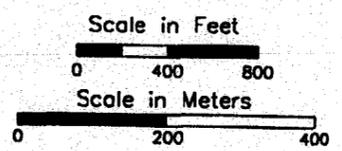


Figure 3-6.
Soil Types at NAS Jacksonville in the Vicinity of the Proposed Action
Sources: SOUTHNAVFACENCOM 1988; NAS Jacksonville 1996.

Environmental Assessment for Base Realignment for S-3 Squadrons from Naval Air Station Cecil Field Florida

Mandarin, Pottsburg, and Olustee fine sands. Soils in these wetlands are predominantly Wesconnett fine sand. Arents, Pits, and Urban land soils occur at the landing strip.

3.5 SURFACE WATER AND WETLANDS

Most of NAS Jacksonville lies within the watershed of the St. Johns River. Surface drainage east of U.S. Highway 17 is generally toward the St. Johns River, with the exception of the weapons area, which drains southwest. The portion of NAS Jacksonville west of U.S. Highway 17 drains to the Ortega River, which drains into the St. Johns River approximately 1 mile (1.6 kilometers) north of NAS Jacksonville.

No processes associated with the operation and maintenance of aircraft at NAS Jacksonville result in direct discharges of industrial wastewater to the St. Johns River or other surface water bodies. Water from washing the exterior of the aircraft is collected and discharged to the wastewater treatment plant at NAS Jacksonville. This water has been tested and found to be nonhazardous. Previously, the internal wash process for the P-3 engine compressors was allowed to collect on the apron and enter the stormwater system, which discharges to the St. Johns River. However, the washwater was found to contain cadmium, a heavy metal. The cadmium comes from an alloy used in the engine compressor. The P-3 engine washwater now is collected and disposed of as hazardous waste, so no cadmium or other potential pollutants are discharged to the river. Subsequent testing of water and sediment at the stormwater outfall to the St. Johns River found that cadmium levels were below the detection limits of the analytical procedure (Ford 1997).

The current process of collecting and disposing of engine washwater is expected to be replaced by a washrack with a pretreatment module to remove contaminants so that the washwater can be discharged to the wastewater treatment plant at NAS Jacksonville. This system is expected to be in place in April 1998. At present, approximately twelve P-3 aircraft per month (forty-eight engines per month) undergo engine washdowns (Ford 1997).

An exterior rinse process is used to remove salt from aircraft, but this process involves only clean water with no chemicals or other cleaning agents. The U.S. Environmental Protection Agency does not consider this an industrial process wastewater, and it is approved for discharge to the stormwater system (Ford 1997).

Wetlands at NAS Jacksonville consist of artificial lakes, ditches, and marshes associated with the St. Johns River and the Ortega River (Figure 3-7). The most extensive marshes are located west of U.S. Highway 17 on the Ortega River. Figure 3-7 depicts the jurisdictional wetlands and 100-year floodplain at NAS Jacksonville. Ditches and small wetlands are not included on this map. In most areas of the station, the 100-year flood level is 10 feet (3.1 meters) above mean sea level.

Wetlands at OLF Whitehouse include several cypress swamps and shallow depression marshes. A small borrow pit is located at the northwest end of the landing strip.

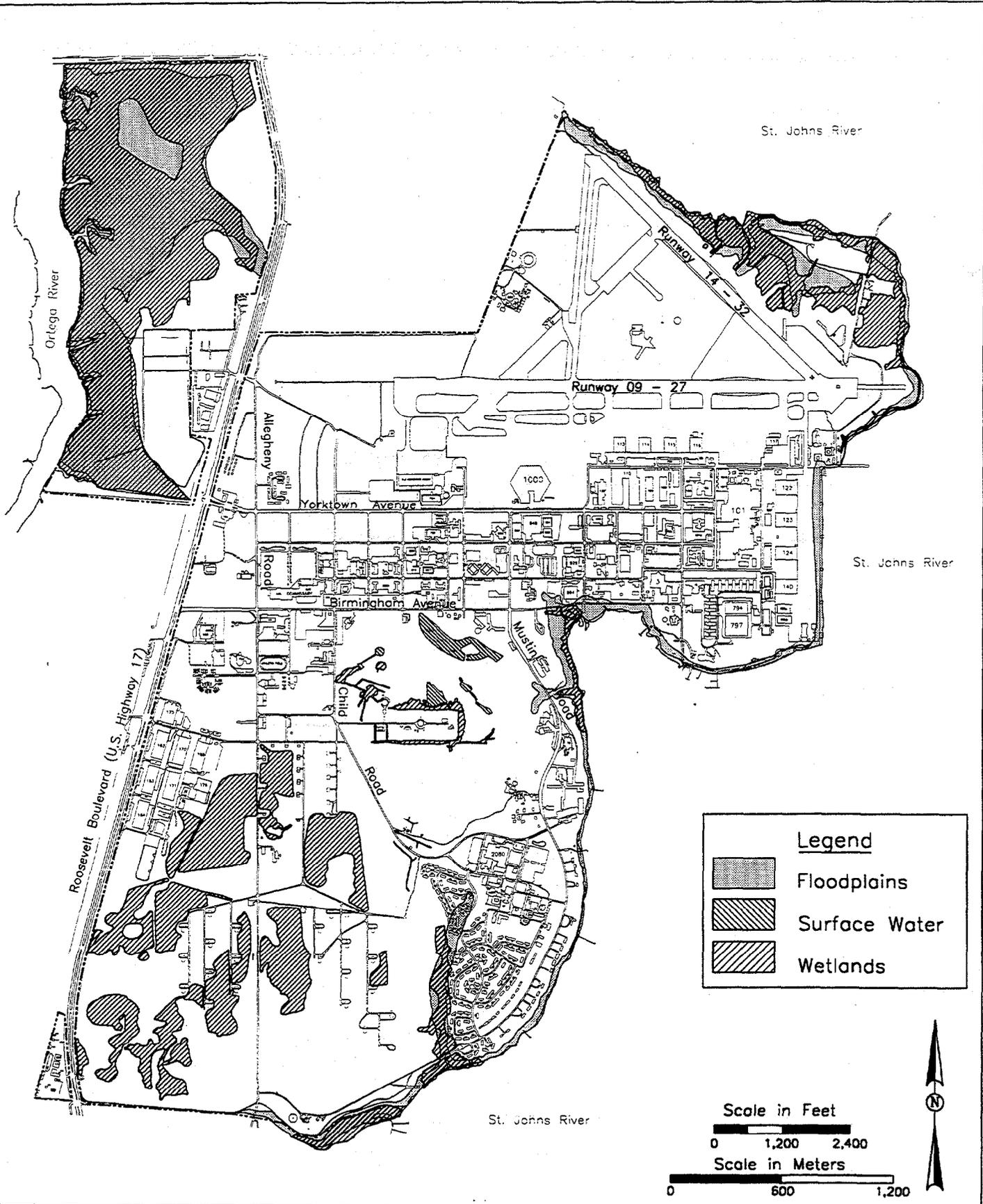


Figure 3-7.
Surface Waters, Wetlands, and Floodplains
at NAS Jacksonville

Sources: SOUTHNAVFACENCOM 1988; NAS Jacksonville 1996.

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Naval Air Station Cecil Field
Florida

3.6 BIOLOGICAL RESOURCES

3.6.1 Vegetation

Before the NAS Jacksonville complex was constructed, the area supported a number of natural communities. The low flat area adjacent to the St. Johns River was covered by hydric hammock. This habitat typically is characterized by the presence of southern magnolia, laurel oak, blue beech, and flowering dogwood (Appendix A provides the scientific names of all species listed in this environmental assessment). Hydric hammocks provide habitat for a wide variety of vertebrate species, particularly in areas drained by small, meandering streams.

The remaining natural soil types indicate that a transitional community may have been present from the hydric hammock community to an upland habitat (SCS 1978). This community was probably a mesic to xeric oak hammock that converged into a longleaf pine-turkey oak community. The xeric oak hammock probably was dominated by live oak, southern red oak, and one or more species of pine. The understory may have been dominated by saw palmetto (Laessle 1942; Merritt 1989). Longleaf pine and turkey oak habitat probably occurred in the higher, sandy areas.

NAS Jacksonville presently contains developed, seminatural habitats and only a few natural habitats. With the exception of the emergent marshes on the Ortega River, only remnants of the native communities once occurring on the NAS Jacksonville property remain today. These remnant natural communities include the emergent marsh along the Ortega River, longleaf pine flatwoods in the weapons area, scrubby flatwoods west of U.S. Highway 17, and a small slash pine stand in the Navy lodge area. Several pine plantations, which historically were probably pine flatwoods communities, occur on the station. The pine plantations have not been burned for at least ten years; consequently, the understory of gallberry and saw palmetto has increased such that it is nearly impenetrable in many areas. This increased understory has reduced the habitat potential for a number of wildlife species that require an open understory.

The developed areas of NAS Jacksonville consist of maintained lawns, buildings, runways, parking areas, and a golf course. These urban areas are dominated by shrubs, trees, and nonnative grasses.

Four artificial lakes are located within the golf course at NAS Jacksonville, the largest of which are Lake Casa Linda (10 acres [4 hectares]) and Lake Scotlis (3 acres [1.2 hectares]). Lake Casa Linda has sparse emergent vegetation and a few southern willow along the banks. Lake Scotlis has little or no aquatic vegetation.

The vegetation at OLF Whitehouse is predominantly planted slash pine flatwoods. The understory in the pine flatwoods contains dense saw palmetto and gallberry. Several small cypress swamps and channelized creeks occur on the property. The airfield right-of-way, which is mowed biannually, contains nonnative grasses such as bahia grass and a few native species such as three-awn grass and lopsided Indian grass. Prickly pear, blackberry, and a few saw palmetto also are found on the right-of-way.

3.6.2 Wildlife

The development of NAS Jacksonville has greatly reduced the natural habitat available to wildlife. The majority of species found on the station today are species that can survive in a developed environment. Important remnant natural and seminatural habitats remaining on the station include marshes, lakes, Mulberry Cove, pine flatwoods, scrubby flatwoods, and the edges of the golf course.

Fish resources in the St. Johns River and the Ortega River are typical of an estuarine and freshwater system (Burgess 1996). Two of the artificial lakes, Lake Casa Linda and Lake Scotlis, have been stocked with largemouth bass and bluegill for sport fishing. In 1992, Lake Casa Linda had an adequate sport fish population (FGFWFC 1992). Lake Scotlis supports fewer fish than Casa Linda, and Florida Game and Freshwater Fish Commission reported a decrease in sport fish populations between 1990 and 1992.

Amphibians at NAS Jacksonville are limited to lakes, ponds, wetlands, and ditches. The St. Johns River is unsuitable for amphibians because of their low tolerance to saline conditions. Amphibians that are observed commonly at NAS Jacksonville are leopard frog, spring peeper, green treefrog, and squirrel treefrog (FNAI 1996).

Several species of reptiles are common at NAS Jacksonville, including green anole, six-lined racerunner, and ground skink. Several small populations of gopher tortoise occur on the station. Freshwater turtles present may include Florida redbelly turtle and Florida cooter. These species may use the St. Johns River and the Ortega River (Conant and Collins 1991).

Several species of sea turtle would be expected to occur in the waters adjacent to NAS Jacksonville, including Atlantic loggerhead, green, Atlantic Ridley, Atlantic hawksbill, and leatherback turtles (Mezich 1996).

The estuarine community provides foraging habitat for a number of wading and shore birds, including great blue heron, little blue heron, snowy egret, and tricolored heron (FNAI 1996). Mulberry Cove and the lakes at NAS Jacksonville provide foraging and loafing areas for wading birds and several species of migrating waterfowl, including pintails and blue-winged teal (SOUTHNAVFACENGCOM 1994b).

Mammals that are well adapted to urban habitats, such as gray squirrel, raccoon, and opossum, are common at NAS Jacksonville. Although less common, Sherman's fox squirrel and otter occur at the station.

The pine flatwoods at OLF Whitehouse provide habitat for a variety of birds and mammals, but the thick understory limits wildlife diversity in this habitat. Commonly observed species include box turtle, rufous-sided towhee, great crested flycatcher, wild turkey, armadillo, and white-tailed deer (FNAI 1996). The mowed areas adjacent to the runway provide good habitat

for eastern meadowlark, eastern bluebird, northern harrier, and gopher tortoise (FNAI 1996). Gopher tortoise also occurs in the dry, more open portions of the pine flatwoods.

3.6.3 Endangered and Threatened Species

The U.S. Fish and Wildlife Service, the Florida Game and Fresh Water Fish Commission, and the Florida Natural Areas Inventory were contacted regarding the potential presence of threatened and endangered species in the area of NAS Jacksonville and OLF Whitehouse (Appendix B). Table 3-8 lists all federal- and state-listed plants and animals that are known to occur or may occur at NAS Jacksonville or OLF Whitehouse (FNAI 1994; FNAI 1996; USFWS 1996).

One state-listed endangered plant species, yellow star anise, has been found at NAS Jacksonville (Environmental Services & Permitting 1990; FNAI 1996). A small population of yellow star anise occurs in the planted pine area west of U.S. Highway 17. This population probably originated from ornamental plants adjacent to former military housing. Eleven additional listed plants also may occur at NAS Jacksonville, but they were not confirmed during the first half of a year-long endangered plant survey by FNAI (FNAI 1996).

Atlantic sturgeon (federal-listed threatened) and shortnose sturgeon (federal-listed endangered) may occur in the St. Johns River. However, no recent records exist for these species in the area.

One listed amphibian, Florida gopher frog, a state-listed species of special concern, potentially could occur at NAS Jacksonville. However, it has not been confirmed at the station (FNAI 1996). Florida gopher frog breeds in grassy ephemeral ponds but spends its adult life in terrestrial habitat, often in association with gopher tortoise. Suitable breeding ponds for gopher frogs are not present at NAS Jacksonville, but this species may travel long distances to breed and potentially could occur in upland habitats on the station.

Terrestrial protected reptiles that may occur at NAS Jacksonville include gopher tortoise, eastern indigo snake, and Florida pine snake. Of these species, the federal-listed threatened indigo snake and the gopher tortoise, a state-listed species of special concern, have been documented at NAS Jacksonville (FNAI 1996; Maynard 1996). An indigo snake was observed in the pine flatwoods area west of U.S. Highway 17 in 1992 (Maynard 1996). This species requires large areas of habitat, including pine flatwoods, scrub, sandhill, and hydric hammock, and often is associated with gopher tortoise. One small gopher tortoise population is located in the weapons area of NAS Jacksonville, south of Swan Road. This population consists of nine active tortoise burrows (FNAI 1996). A second population (three active burrows) occurs south of Lake Scotlis. A third exists in the scrubby flatwoods west of U.S. Highway 17; the population density in this location is approximately 1.4 tortoises per acre (3.4 tortoises per hectare) (FNAI 1996). Florida pine snake may occur in the upland habitat at NAS Jacksonville. However, this species often occurs in association with pocket gophers, and pocket gophers have not been observed at the station (FNAI 1996).

Table 3-8. Federal- or State-Listed Species that Occur or May Occur On or Near NAS Jacksonville or OLF Whitehouse (Page 1 of 2)

Common Name	Scientific Name	Status		Occurrence	
		Federal	State	NAS Jacksonville	OLF Whitehouse
Plants					
Bartram's ixia	<i>Sphenostigma coelestina</i>		E		
Cathesby's lily	<i>Lilium catesbaei</i>		T		
Chaffseed	<i>Schwalbea americana</i>	E	E		
Curtiss' milkweed	<i>Asclepias curtissii</i>		E		
Curtiss' sandgrass	<i>Calamovilfa curtissii</i>		T	PR	PR
Florida spiny-pod	<i>Matelea floridana</i>		E		
Green ladies-tresses	<i>Spiranthes polyantha</i>		E		
Lake-side sunflower	<i>Helianthus carnosus</i>		E		
Southern milkweed	<i>Asclepias viridula</i>		T	PR	PR
Terrestrial peperomia	<i>Peperomia humilis</i>		E		
Yellow fringeless orchid	<i>Platanthera integra</i>		E		
Yellow star anise	<i>Illicium parviflorum</i>		E		
Mammals					
Florida black bear	<i>Ursus americanus floridanus</i>		T		OV
Sherman's fox squirrel	<i>Sciurus niger shermani</i>		SC	R	R
West Indian manatee	<i>Trichechus manatus</i>	E	E	OV	
Birds					
Bald eagle	<i>Haliaeetus leucocephalus</i>	T	T	OV	
Brown pelican	<i>Pelicanus occidentalis</i>		SC	OV	
Burrowing owl	<i>Speotyto cunicularia</i>		SC	PR	PR
Least tern	<i>Sterna antillarum</i>		T	OV	
Little blue heron	<i>Egretta caerulea</i>		SC	OV	
Peregrine falcon	<i>Falco peregrinus</i>	E(S/A)	T	OV	
Snowy egret	<i>Egretta thula</i>		SC	OV	
Southeastern American kestrel	<i>Falco sparverius paulus</i>		T	OV	OV
Tricolored heron	<i>Egretta tricolor</i>		SC	OV	
White ibis	<i>Eudocimus albus</i>		SC	OV	
Wood stork	<i>Mycteria americana</i>	E	E	OV	
Worthington's marsh wren	<i>Cistothorus palustris griseus</i>		SC	PR	
Reptiles					
American alligator	<i>Alligator mississippiensis</i>	T(S/A)	SC	R	R
Atlantic green turtle	<i>Chelonia mydas mydas</i>	E	E	OV	
Atlantic hawksbill turtle	<i>Eretmochelys imbricata imbricata</i>	E	E	OV	

Table 3-8. Federal- or State-Listed Species that Occur or May Occur On or Near NAS Jacksonville or OLF Whitehouse (Page 2 of 2)

Common Name	Scientific Name	Status		Occurrence	
		Federal	State	NAS Jacksonville	OLF Whitehouse
Atlantic loggerhead turtle	<i>Caretta caretta</i>	T	T	OV	
Atlantic Ridley turtle	<i>Lepidochelys kempii</i>	E	E	OV	
Gopher tortoise	<i>Gopherus polyphemus</i>		SC	R	R
Leatherback turtle	<i>Dermodochelys coriacea</i>	E	E	OV	
Eastern indigo snake	<i>Drymarchon corais couperi</i>	T	T	PR	R
Florida pine snake	<i>Pituophis melanoleucus mugitis</i>		SC	PR	PR
Amphibians					
Gopher frog	<i>Rana capito</i>	C2	SC	NP	PR
Fish					
Atlantic sturgeon	<i>Acipenser oxyrinchus</i>	T	SC	OV	
Shortnose sturgeon	<i>Acipenser brevirostrum</i>	E	E	OV	

NOTES: Federal Status: E = endangered; T = threatened. T(S/A) = threatened due to similarity of appearance

State Status: E = endangered; T = threatened; SC= species of special concern

Occurrence: PR = possible resident; OV = occasional visitor; R = confirmed resident; NP = not probable but habitat exists; U = undetermined if present or if habitat is present

SOURCE: FGFWFC 1996.
FNAI 1994; 1996.
USFWS 1996.

Listed aquatic reptiles that may occur at or near NAS Jacksonville include American alligator, green turtle, Atlantic Ridley turtle, leatherback turtle, and Atlantic hawksbill turtle. American alligator uses the lakes at NAS Jacksonville and probably occurs in the St. Johns and Ortega Rivers (FNAI 1996). Loggerhead and green turtles often occur in inshore waters and may venture into the St. Johns River to feed (Mezich 1996). Kemp's Ridley turtle migrates along the east coast of Florida and occasionally is sighted off NAS Jacksonville. It is less likely that leatherback turtle, a pelagic species, and hawksbill turtle, whose northernmost nesting beaches are in Brevard County, would occur near the station (Mezich 1996). No beaches suitable for nesting sea turtles occur at NAS Jacksonville.

A number of protected bird species have been documented at NAS Jacksonville. Bald eagles (a federal-listed threatened species) have been observed foraging on the St. Johns and Ortega Rivers (FNAI 1996). An eagle nest exists at NAS Jacksonville west of U.S. Highway 17 on the Ortega River (see Figure 3-8). However, the nest has been inactive for the past two nesting seasons (Nesbitt 1996). Protected wading birds, including little blue heron, snowy egret, tricolored heron, white ibis (which are state-listed species of special concern), and wood stork (a federal-listed endangered species) use marshes and mudflats adjacent to the St. Johns River, as well as small artificial lakes associated with the golf course (FNAI 1996). Brown pelican (a state-listed species of special concern) and the least tern (state-listed threatened species) forage over the St. Johns River and the Ortega River (FNAI 1996). Worthington's marsh wren (state-listed species of special concern) may use the extensive marshes along the Ortega River. Although not confirmed at NAS Jacksonville, the Florida burrowing owl (a state-listed species of special concern) could use constructed habitats such as the runway or golf course. The southeastern American kestrel (a state-listed threatened species) could inhabit the pine flatwoods or urban areas for foraging.

Protected mammals that have been confirmed at or near NAS Jacksonville are Sherman's fox squirrel and West Indian manatee. Sherman's fox squirrel, a state-listed species of special concern, inhabits natural and planted pine forests at the station, particularly in the vicinity of the weapons area (FNAI 1996). Sightings of West Indian manatee, a federal-listed endangered species, are common along the St. Johns River; as many as 150 manatees are estimated to routinely inhabit the river (Brooks 1996). Although manatees are found in the St. Johns River throughout the year, movements are most frequent in October and November. Florida mouse, a state-listed species of special concern, occurs in association with gopher tortoise. Florida mouse prefers xeric upland communities and may occur in the scrubby flatwoods west of U.S. Highway 17; however, no mice were captured during 450 trap-nights (number of traps used multiplied by number of nights trapping was undertaken) in September 1996 (FNAI 1996).

Federal- and state-listed species at OLF Whitehouse include Sherman's fox squirrel (state listed species of special concern), gopher tortoise (state listed species of special concern), and eastern indigo snake (federal- and state-listed threatened species) (FNAI 1996). These species all occur in the vicinity of the airstrip. Protected species that also may occur at OLF Whitehouse but have not been confirmed are burrowing owl, Florida pine snake, southeastern

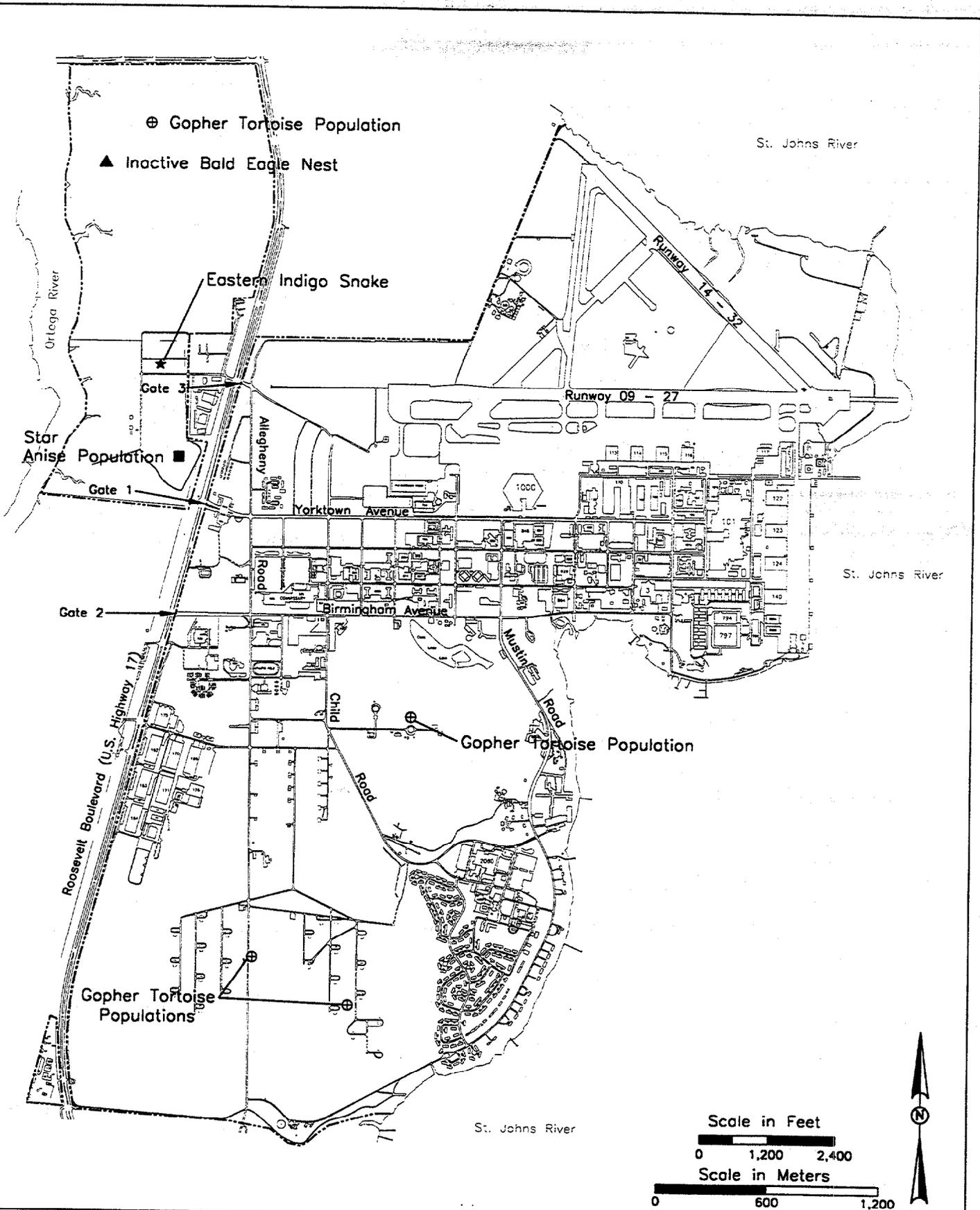


Figure 3-8.
Federal- and State-Listed Species
Habitat on NAS Jacksonville

Source: NAS Jacksonville 1996.

Environmental Assessment for
Base Realignment for
S-3 Squadrons from
Naval Air Station Cecil Field
Florida

American kestrel, and Florida black bear. Burrowing owl, pine snake, and southeastern American kestrel might be expected to occur in the vicinity of the runway. Florida black bear (a state-listed threatened species) could use pine flatwoods and forested wetlands.

3.6.4 Unique and Critical Habitats

No areas considered botanically unusual, rare, or worthy of special protection are present at NAS Jacksonville or OLF Whitehouse. No habitats critical to the survival of any threatened or endangered wildlife species are present.

3.7 SOCIOECONOMIC RESOURCES

3.7.1 Regional Characteristics

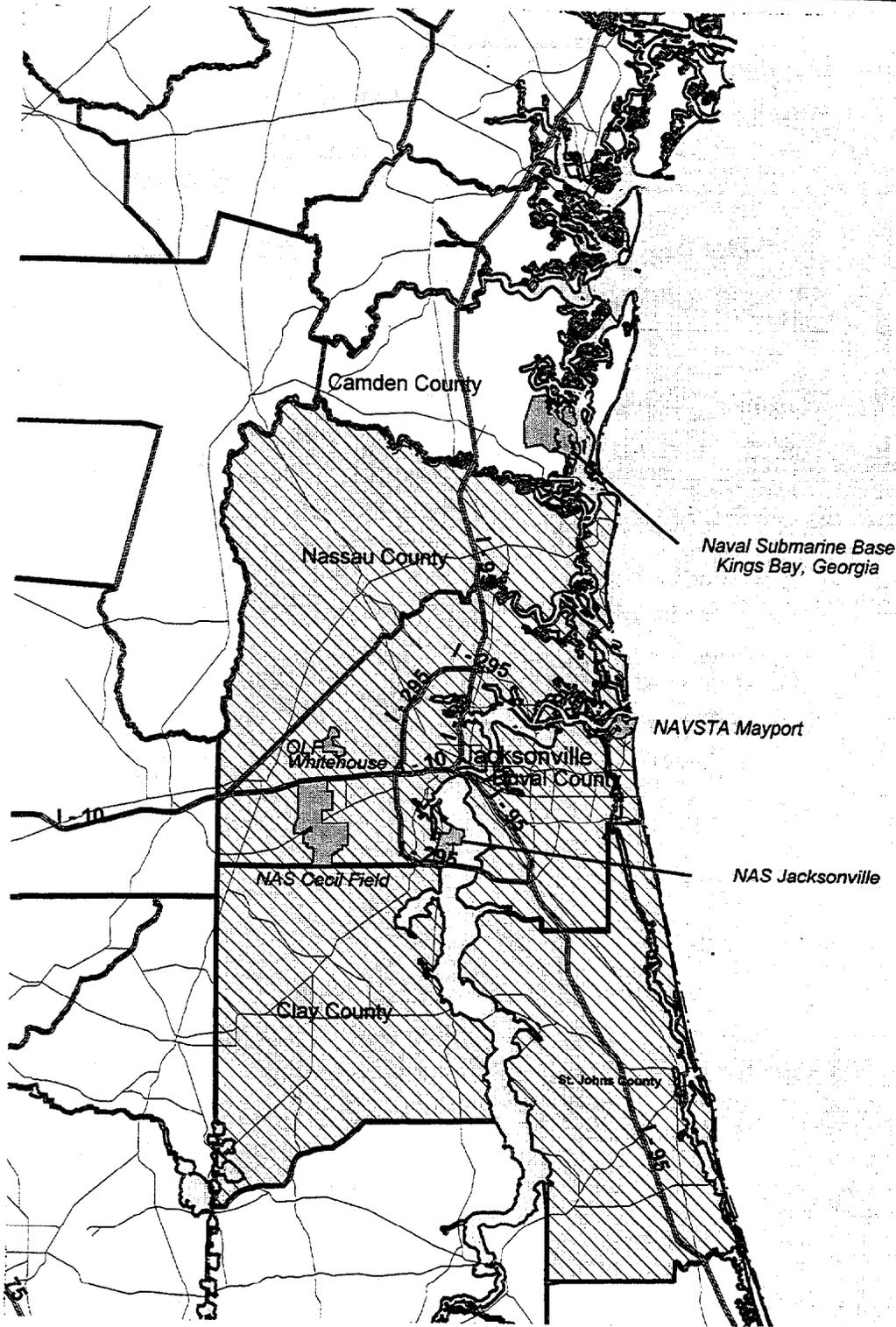
NAS Jacksonville is located in southcentral Duval County, Florida, approximately 10 miles (16 kilometers) south of the City of Jacksonville's central business district. Clay County and St. Johns County are located south of the station. Interstate Highway 295 (I-295) crosses the St. Johns River south of NAS Jacksonville before looping north, and U.S. Highway 17 (Roosevelt Boulevard) runs along the station's west border. Residential and open space uses are north and south of NAS Jacksonville. An area composed of industrial, residential, and open space uses is west of NAS Jacksonville in the community of Yukon. The St. Johns River forms the station's east boundary and is approximately 2 miles (3.2 kilometers) wide near the station. Figures 2-2 and 3-9 illustrate the geographic relationship of NAS Jacksonville to major highways, military bases, and other features in the region.

NAS Jacksonville is within the Jacksonville Metropolitan Statistical Area (MSA), which includes Duval, St Johns, Nassau, and Clay Counties. The Jacksonville MSA is the fifth largest MSA in Florida, with an estimated 1994 population of 970,500 (Table 3-9). Between 1980 and 1990, the population in the Jacksonville MSA increased 25.5 percent from 722,252 to 906,727. The population of the Jacksonville MSA is projected to increase by 17.9 percent to 1,069,400 by 2000.

Duval County, although growing at a slower rate than other counties in the Jacksonville MSA, is dominant in terms of size and economic activity. The City of Jacksonville contains the central business district of the region and is the fifteenth largest city in the United States (BEBR 1993). The City of Jacksonville has municipal jurisdiction in all of Duval County except for three cities along the coast, Jacksonville Beach, Atlantic Beach, and Neptune Beach, and one inland city, Baldwin, which is located in the rural western part of the county. The City of Orange Park is approximately 4 miles (6.4 kilometers) southwest of NAS Jacksonville in Clay County.

The Navy has four major bases in the northeast Florida region: NAS Jacksonville, NAS Cecil Field, Naval Station Mayport, and Naval Submarine Base Kings Bay.

NAS Cecil Field was recommended for closure in 1993 by the Defense Base Closure and Realignment Commission (Defense Base Closure and Realignment Commission 1993). Other



Legend

 Jacksonville Metropolitan Statistical Area

Scale in Miles
 0 8 16
 Scale in Kilometers
 0 16 32



Figure 3-9.
Region of Influence at NAS Jacksonville, Florida

*Environmental Assessment for
 Base Realignment for
 S-3 Squadrons from
 Naval Air Station Cecil Field
 Florida*

Source: Coliper Corporation 1995.

Table 3-9. Estimated and Projected Population in the Jacksonville Metropolitan Statistical Area, 1980 to 2000

County	1980	1990	1994	2000	Change 1980-1990	Change 1990-2000
Duval	571,003	672,971	710,592	766,200	17.86	13.85
Clay	67,052	105,986	117,779	138,400	58.07	30.58
St. Johns	51,303	83,829	94,758	112,000	63.40	33.61
Nassau	32,894	43,941	47,371	52,800	33.58	20.16
MSA Total	724,232	908,717	972,494	1,071,400	25.47	17.90

SOURCE: BEBR 1995.

military installations in Duval County include the Naval Supply Center Jacksonville Fuel Depot, the Armed Forces Reserve Center hosted by NAS Jacksonville, the U.S. Coast Guard Station located in Mayport, and the U.S. Army Corps of Engineers District Office in Jacksonville.

3.7.2 Population

Duval County is divided into six planning districts. NAS Jacksonville is located in Planning District 4 (Southwest). Much of the population growth in Duval County since 1960 has occurred in Planning District 2 (Greater Arlington) and Planning District 3 (Southeast). The population of Planning District 1 (Urban Core) has decreased. The population of Planning District 4 increased by approximately 20,000 during the 1980s and accounted for 20 percent of the growth in Duval County during that decade. Table 3-10 lists the population growth by planning district from 1960 through 1990.

NAS Jacksonville is located in Block Group 9 within Census Tract 132. Figure 3-10 delineates the census tracts in and around NAS Jacksonville. Table 3-11 lists the population and number of households by tract and block group. The area examined in the figure and table encompasses tracts within approximately 3 miles (4.8 kilometers) of the NAS Jacksonville airfield. In 1990, the population and total number of households in the census tracts within 3 miles of NAS Jacksonville were 32,312 and 12,471, respectively.

NAS Jacksonville's military and civilian personnel totaled 20,927 persons in 1995. This total is composed of 8,097 active-duty military personnel, 6,592 appropriated-fund civilian employees, 1,104 nonappropriated-fund civilian employees, 1,836 contract employees, and 3,298 reserve personnel.

3.7.3 Education

The Duval County school system operated 150 schools during the 1995-1996 school year and had an enrollment of approximately 123,420 students. Enrollment in the 1996-1997 school year has increased by 2,500 to 125,971. To accommodate student growth, twenty Duval County schools have adopted a modified calendar, enabling four schools to accommodate the load of five. Seven new schools were built in the 1991-1995 period. Enrollment in Clay County District Schools in the 1995-1996 school year was 24,733 students. Enrollment in the 1996-1997 school year has increased to 25,872.

3.7.4 Economic Activity

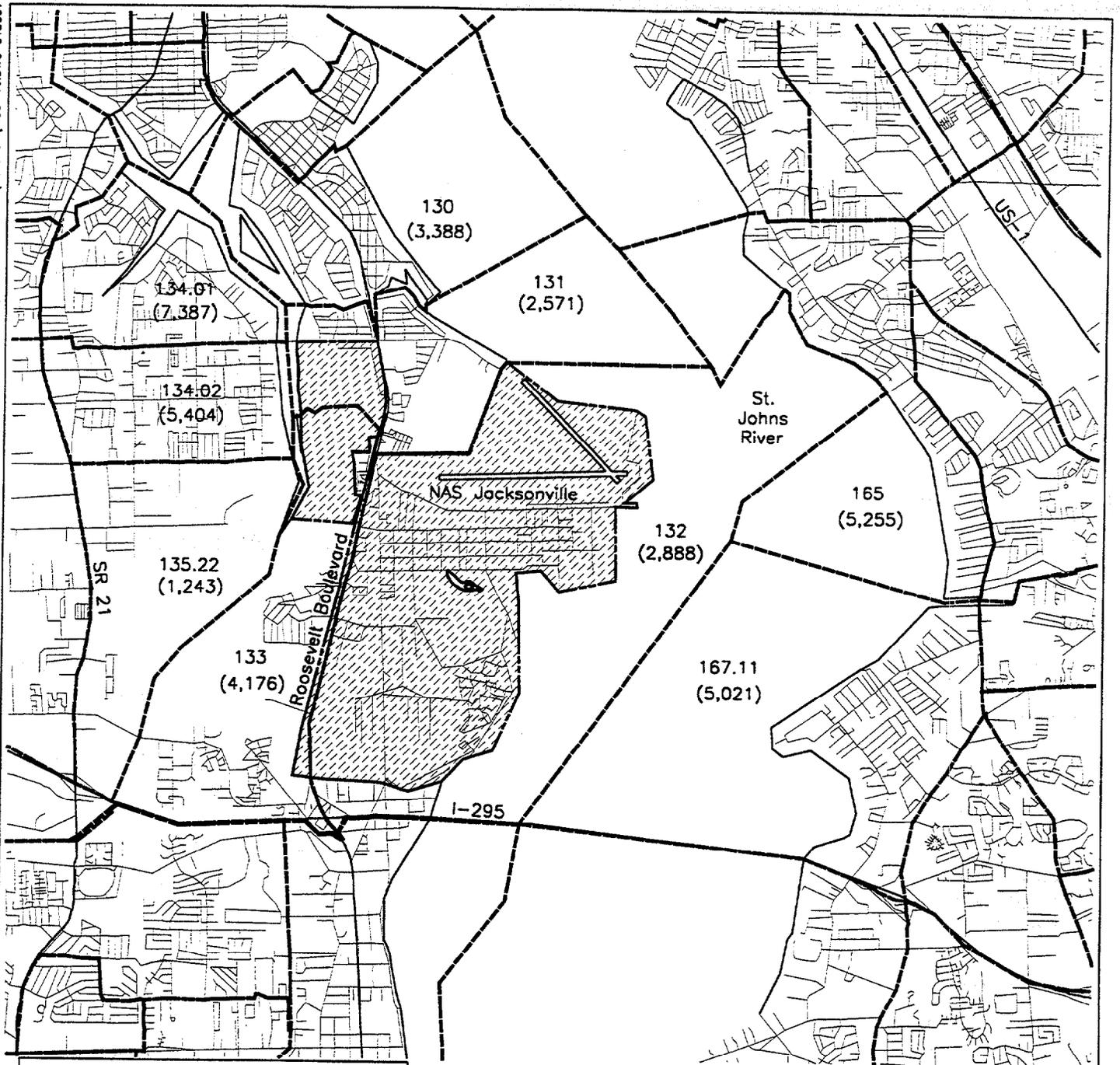
Economic activity in an area is a reflection of a combination of economic variables, including income, composition of earnings, employment, and retail sales. These indicators are monitored on a regular basis by the Jacksonville Planning and Development Department to recognize trends in the economy and to develop policy alternatives (Jacksonville Planning and Development Department 1994).

Table 3-10. Population Growth Trends in the City of Jacksonville Planning Districts, 1960-1990

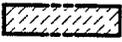
PD	Name	1960	1970	1980	1990
1	Urban Core	103,924	95,176	56,295	46,662
2	Greater Arlington	55,203	93,539	110,286	147,927
3	Southeast	57,218	69,282	95,753	146,175
4	Southwest	72,832	93,416	102,861	122,527
5	Northwest	127,999	145,773	142,317	132,584
6	North	19,551	27,079	33,408	39,395
	Total Resident Population	436,097	504,265	540,920	637,260

NOTE: PD = Planning District

SOURCES: Jacksonville Planning and Development Department 1993, 1994.



Legend

-  Census Tract Boundaries
- 132 Census Tract Number
- (2,888) Census Tract Population
-  NAS Jacksonville

Scale in Feet
0 3,200 6,400

Scale in Meters
0 1,600 3,200



Figure 3-10.
Census Tracts in the Vicinity of NAS Jacksonville

*Environmental Assessment for
Base Realignment for
S-3 Squadrons from
Naval Air Station Cecil Field
Florida*

Source: Caliper Corporation 1995.

Table 3-11. Population Within Census Tracts and Block Groups on or Near NAS Jacksonville

Tract Number and Block Group	Population	Households
Tract 132	2,888	569
BG 2	115	39
BG 3	235	102
BG 9 (NAS Jacksonville)	2,538	428
Tract 130	3,388	1,256
BG 1	609	271
BG 2	583	216
BG 3	1,463	493
BG 4	733	276
Tract 131	2,571	1,115
BG 1	724	314
BG 2	1,847	801
Tract 133	4,176	1,733
BG 1	173	68
BG 2	2,253	838
BG 9	1,750	827
Tract 134.01	7,387	3,185
BG 1	596	274
BG 3	3,224	1,209
BG 4	3,363	1,632
BG 6	204	70
Tract 134.02	5,404	2,092
BG 1	228	92
BG 2	1,370	470
BG 3	2,628	998
BG 5	958	385
BG 6	220	147
Tract 135.22	1,243	417
BG 1	407	135
BG 9	836	282
Tract 165	5,255	2,104
BG 1	704	333
BG 2	991	488
BG 3	1,205	439
BG 4	969	324
BG 5	1,386	520
Total	32,312	12,471

NOTE: BG = Block Group

SOURCE: Caliper Corporation 1995.

The civilian labor force in Duval County in 1995 was 364,928, and the unemployment rate was 5.2 percent. Between 1981 and 1993, per capita personal income in Duval County increased 94 percent, from \$10,226 to \$19,850. During the same period, per capita personal income statewide increased 89 percent, from \$10,991 to \$20,828.

The direct military impact of NAS Jacksonville on the local economy is estimated to be \$1.1 billion annually. This total includes military and civilian payroll (\$0.58 billion) and goods and services purchased by the station (\$0.54 billion). The total direct and indirect economic impact of NAS Jacksonville is estimated to be more than \$2 billion annually (Daugherty 1996).

3.8 LAND USE

The City of Jacksonville Comprehensive Plan guides future development in Duval County. The plan is composed of a set of elements mandated by the state's 1985 Growth Management Act (Chapter 163, Part II, of the Florida Statutes and Chapter 9J-5 FAC), which addresses areas critical to the future development of the county. These elements include future land use, conservation and coastal management, transportation, recreation and open space, intergovernmental coordination, and capital improvement.

The Future Land Use Element and Future Land Use Map divide land uses into major categories: residential, commercial, industrial, recreation and open space, historic resources, conservation, agriculture, wetlands, and water. These major categories are divided into subcategories (e.g., the residential category is divided further into rural, low-density, medium-density, and high-density residential subcategories).

Figure 3-11 depicts future land uses surrounding NAS Jacksonville. The area north of the station consists of rural and low-density residential uses; commercial uses are along the west side of U.S. Highway 17 (Roosevelt Boulevard). Also on the west side of U.S. Highway 17 are conservation, public facilities, and low-density residential areas. South of NAS Jacksonville are low- and medium-density residential areas and some commercial areas. East of the station, across the St. Johns River, the land uses are predominantly low-density residential.

Figure 3-11 also illustrates the future land uses around NAS Jacksonville in relation to the 1978 AICUZ noise contours and to the existing (1994) noise contours. The 1978 AICUZ DNL 65 dBA noise contour encompasses a much greater off-station residential area, primarily north and west of the station, than the existing DNL 65 dBA noise contour. The 1978 AICUZ DNL 75 dBA noise contour also includes a large part of the Yukon area west of the station and some of the residential area to the north along the St. Johns River.

Three residential developments are located within the existing (1994) DNL 65 dBA or greater noise contours of NAS Jacksonville: the Azalea Mobile Home Park (MHP) immediately north of the base, Yukon Park directly west of the base, and Venetia Terrace west of the Ortega

River. The Azalea MHP currently has 87 mobile homes and capacity for 125 mobile homes. Approximately 79 of the Azalea MHP homes lie within the existing (1994) DNL 65 dBA noise contour. Residential development in Yukon Park consists of two MHPs: Justiss MHP and Airbase MHP. Justiss MHP currently has 50 mobile homes, all of which are within the existing (1994) DNL 65 dBA noise contour. Airbase MHP has 35 mobile homes of which 8 are within the existing (1994) DNL 65 dBA noise contour.

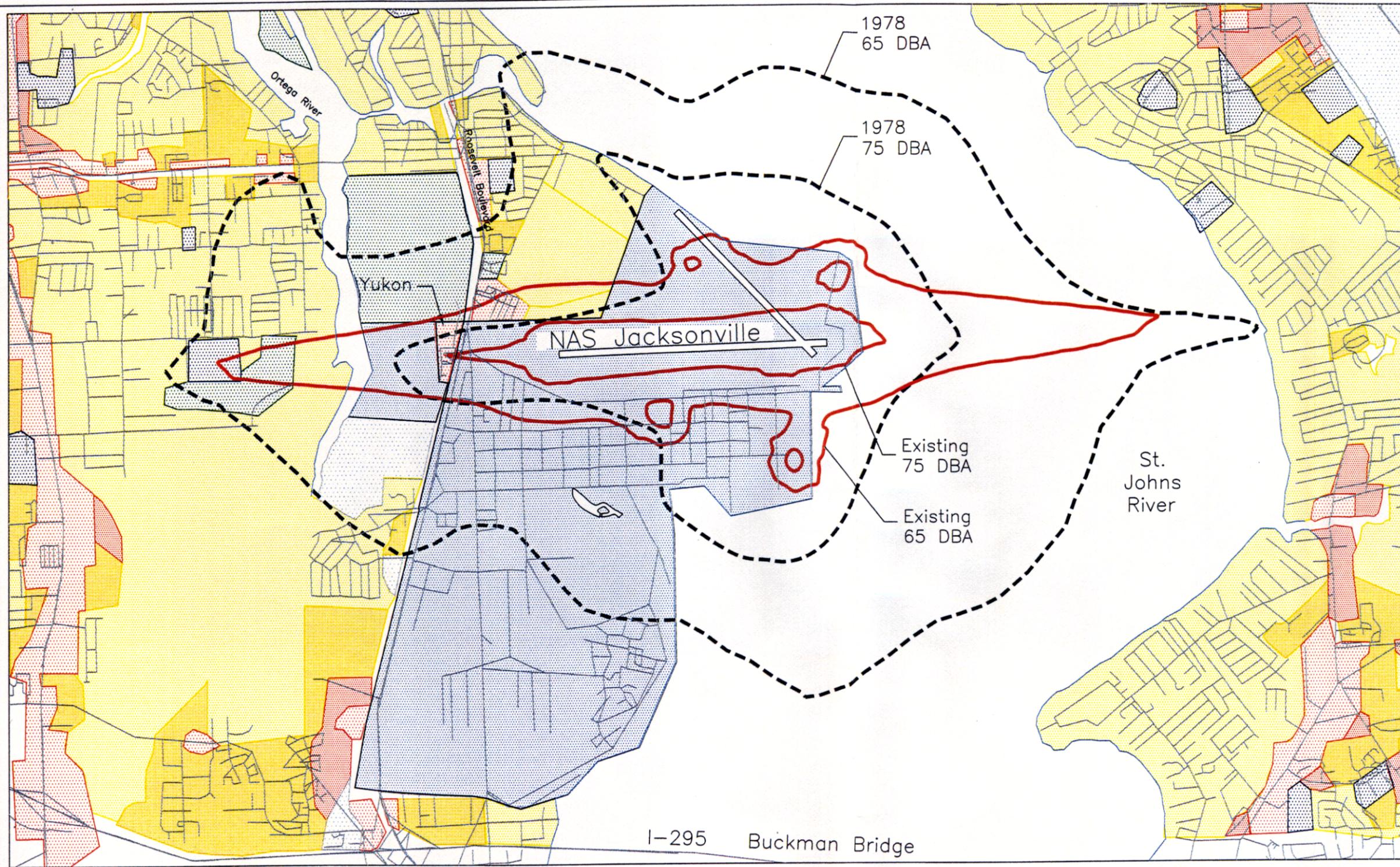
The NAS Jacksonville Master Plan (SOUTHNAVFACENCOM 1988) divides the station into zones that are suitable for various types of development. Action resulting from the relocation of the S-3 squadrons to NAS Jacksonville would take place primarily in three of these zones: S-1 (Air Operations, Air Operations Support), G-1 (Industrial, Utilities, Storage), and G-2 (Community Support, Support Training, Bachelor Housing, Recreation, and all G-1 uses). The S-1 zone is best suited for flight operations and flight operations support activities because of crash safety restrictions and noise characteristics. The G-1 area also is encumbered by noise and the existing large-scale commitment to industrial uses; the G-1 area is suitable for future uses similar to the industrial, storage, and utility uses currently in this zone. The G-2 area is suited for a variety of uses, including station support, training, bachelor housing, and recreational activities. These zones are illustrated in Figure 3-12.

3.9 HOUSING

The number of housing units in the Jacksonville MSA increased by 96,791 (33 percent) from 1980 to 1990. The ratio between owner-occupied and renter-occupied units remained almost unchanged during this period, with owner-occupied units comprising approximately 65 percent of all occupied units. The total number of housing units in Duval County in 1990 was 284,673. As with the entire Jacksonville MSA, the percentage of single-family units in Duval County remained stable during the decade, decreasing only slightly from 62.5 percent in 1980 to 62 percent in 1990.

More than 70,000 apartment units are in Duval County, the greater Orange Park area, north St. Johns County, and the Beaches (American Cities Business Journal 1994). Apartment rental ranges from \$300 for a one-bedroom apartment on the Westside to \$1,000 for a three-bedroom apartment at the beach. Occupancy rates have increased in recent years and are currently at 96 percent.

Family housing assets at NAS Jacksonville total 371 units of family housing, 36 pads for mobile homes, and group quarters for approximately 1,642 enlisted personnel and 325 officers. In April 1997, an additional 559 spaces will be available when a new bachelor quarters building is opened. Currently, the family-housing units are fully occupied, with waiting times for enlisted personnel ranging from fifteen to eighteen months for two-, three-, and four-bedroom units. Waiting times for officer units range from two to four months for three- and four-bedroom units and from ten to twelve months for two-bedroom units. A few mobile home pads usually are available, although the mobile homes must be brought to the pad.



Legend

- Rural and Low-Density Residential
- Multifamily Residential
- Residential, Professional and Institutional
- Community and General Commercial
- Industrial and Distribution
- Public and Semi-Public
- Recreation, Parks and Open Space
- NAS Jacksonville
- NAS Jacksonville Property Boundary
- Existing (1994) Noise Contours
- 1978 AICUZ Noise Contours

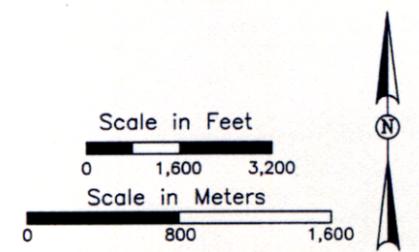


Figure 3-11.
Comparison of Future Land Use in the Vicinity of NAS Jacksonville with 1978 AICUZ and Existing (1994) Noise Contours

*Environmental Assessment for
Base Realignment for
S-3 Squadrons from
Naval Air Station Cecil Field
Florida*

Sources: Jacksonville Planning and Development Department 1992; Caliper Corporation 1995; Wyle Laboratories 1996.

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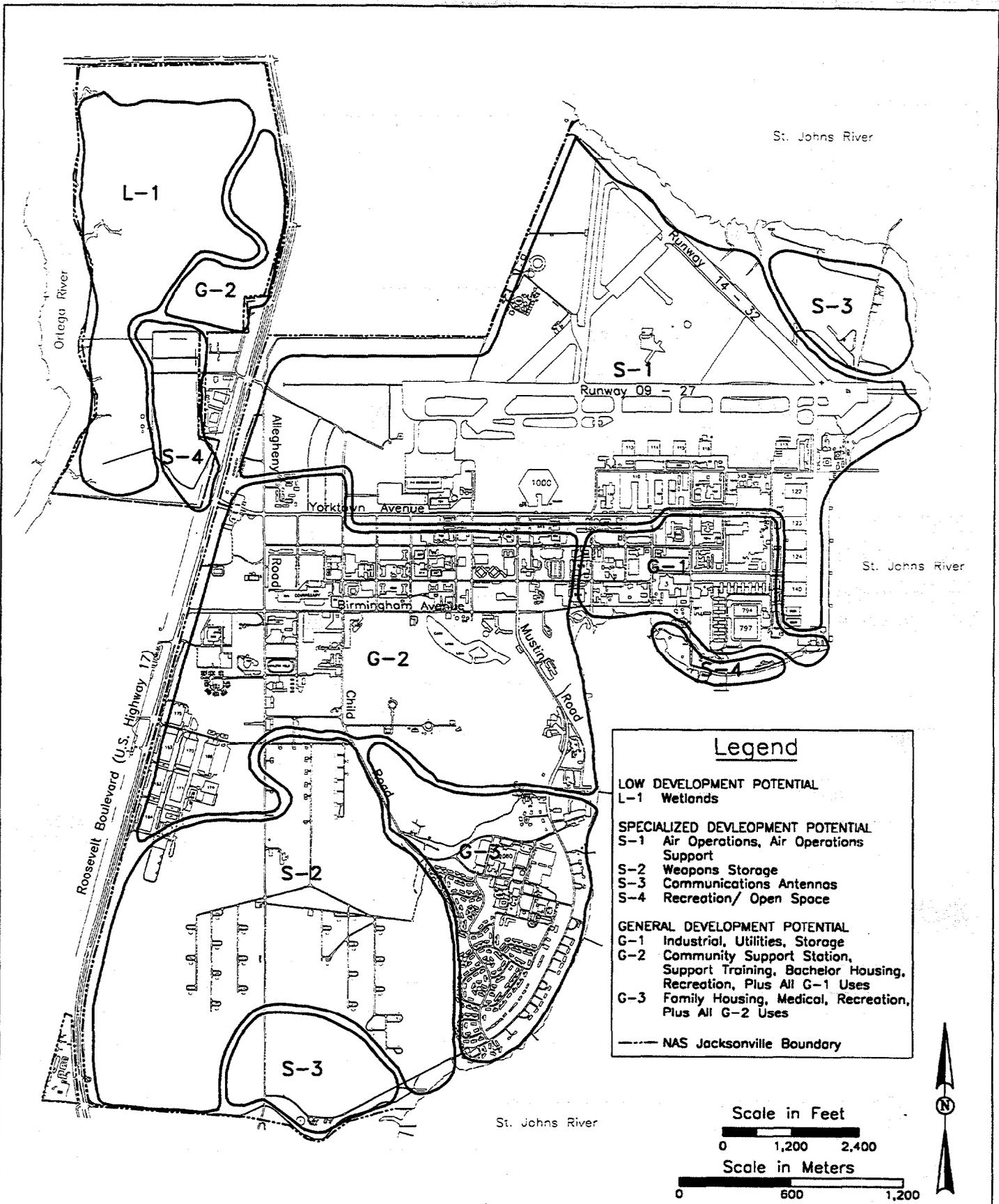


Figure 3-12.
 On-Station Land Uses at NAS Jacksonville

Source: NAS Jacksonville 1996.

*Environmental Assessment for
 Base Realignment for
 S-3 Squadrons from
 Naval Air Station Cecil Field
 Florida*

3.10 TRANSPORTATION

The Jacksonville region serves as a regional transportation center, with national linkages for air, ship, rail, and automobile travel. Major federal highways are I-10, I-95, I-295, U.S. Highway 301, U.S. Highway 90, and U.S. Highway 17 (Figures 2-2 and 3-13).

The Traffic Circulation Element of the City of Jacksonville Comprehensive Plan establishes minimum level of service (LOS) standards for roads in Duval County. An LOS rating is used to determine whether a roadway is operating at an acceptable or adopted standard. The LOS ratings for roadways generally are characterized as follows:

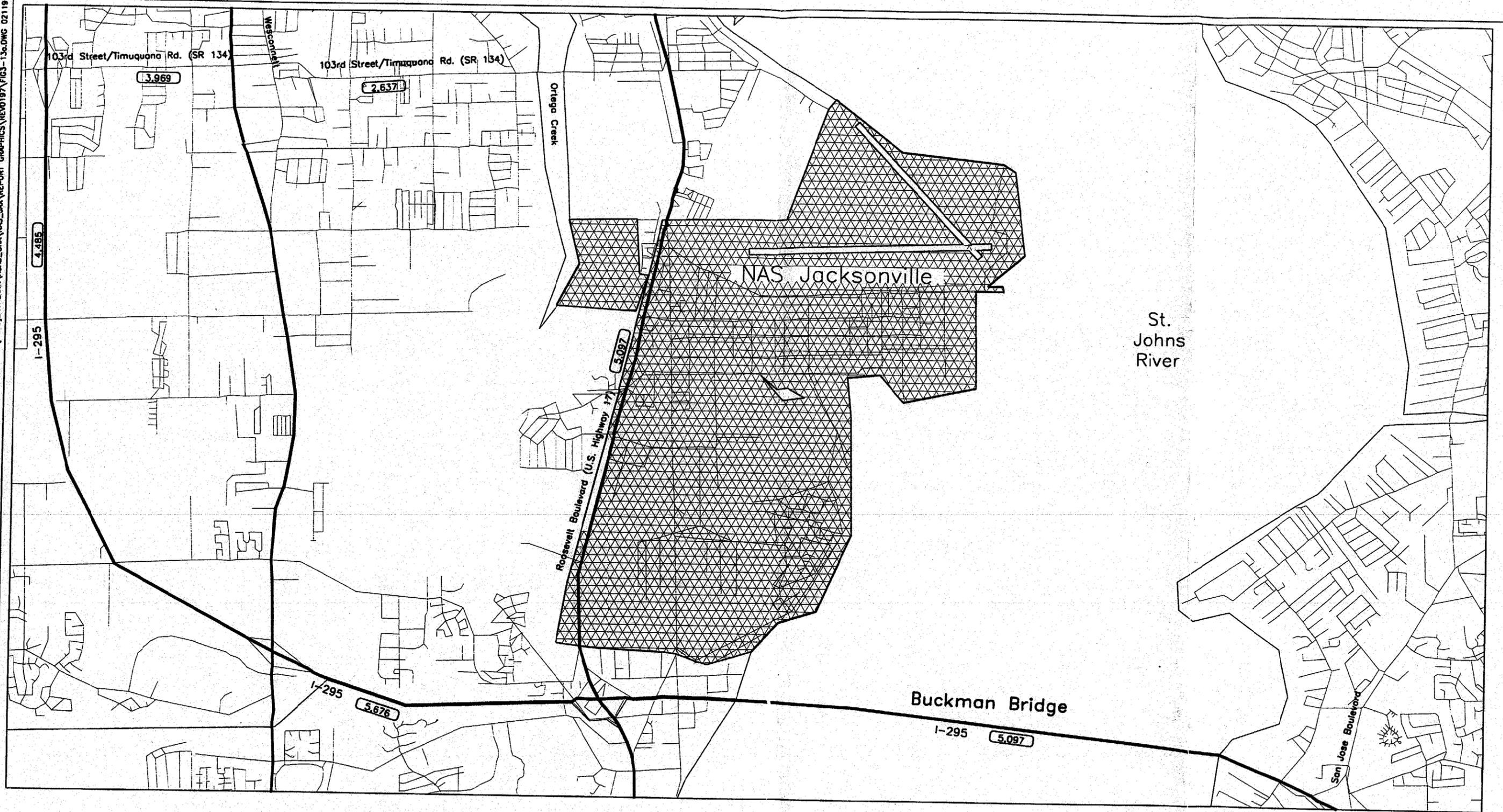
- LOS A—free flow of traffic at average travel speeds
- LOS B—reasonably unimpeded operations at average travel speeds
- LOS C—stable operations
- LOS D—small increases in traffic may cause substantial increases in delay
- LOS E—drivers experience a significant delay and average speeds of one-third the free flow speed or lower
- LOS F—extremely low speeds and high levels of congestion

For urban freeways and urban principal arterials the adopted minimum is LOS D, and for urban minor arterials, collectors, and local streets the adopted minimum is LOS E. For rural freeways and for rural principal arterials the adopted minimum is LOS C, and for rural minor arterials, collectors, and local streets the adopted minimum is LOS D.

Three major roads provide access to NAS Jacksonville (Figure 3-13): I-295, U.S. Highway 17 (Roosevelt Boulevard), and Timuquana Road/103rd Street (State Road 134). The current LOS ratings on these roads indicate that the roadways can absorb an increase in traffic (Table 3-12). During the P.M. peak-hour, I-295 in the vicinity of NAS Jacksonville (an urban freeway) currently operates at LOS C. U.S. Highway 17 (Roosevelt Boulevard) between I-295 and Timuquana Road (an urban principal arterial) operates at LOS B. Timuquana Road between Wesconnett Boulevard and Ortega Farms Road operates at LOS E.

Access to NAS Jacksonville is controlled via three gates located along U.S. Highway 17: the Main Gate at Yorktown Avenue and secondary gates at Albemarle Avenue and Birmingham Avenue (Figure 3-13). All three gates experience some traffic congestion during A.M. and P.M. peak hours. On-station circulation is via a rectangular grid street system. Yorktown and Birmingham Avenues are the major east-west roads, and both are capable of reversing traffic lanes to accommodate traffic demands associated with the heavy inflow and outflow of traffic (SOUTHNAVFACENGCOM 1988). The major north-south roads are Child Street and Mustin Road, both of which funnel traffic from the high-density central core of NAS Jacksonville to the Naval Hospital and the housing area in the south portion of the station.

96-3280-20(ACAD)ENRPLAN\ACAD_GRA\NAS\REPORT GRAPHICS\REV0197\FIG-13a.DWG 021197



Legend

- 34,900 Peak-Hour Volume
- I-295 Highway
- NAS Jacksonville Property

Scale in Feet
 0 1,600 3,200

Scale in Meters
 0 800 1,600



Figure 3-13.
 Off-Station Transportation Network and 1996 Peak-Hour
 Traffic Counts in the Vicinity of NAS Jacksonville

Source: SOUTHNAVFACENCOM 1988.

*Environmental Assessment for
 Base Realignment for
 S-3 Squadrons from
 Naval Air Station Cecil Field
 Florida*

048851N067

Table 3-12. Annual Average Daily Traffic P.M. Peak Hour Traffic Volumes and Levels of Service on Selected Roadways Near NAS Jacksonville

Roadway	From	To	Lanes	1995 FDOT Two-Way AADT	1996 Peak Hour Capacity Used	1996 Peak Hour Traffic Counts	Maximum Peak Hour Traffic Volume	Peak Hour Capacity Used	Peak Hour Capacity Available	Operating LOS*	Adopted LOS
Blanding Boulevard	103rd Street	Interstate 295	4	41,500	116.25%	4,485	4,220	106.28%	-265	F	E
Blanding Boulevard	Cassat Avenue	103rd Street	4	38,900	114.41%	3,737	3,691	101.25%	-46	F	E
Interstate 295	Blanding Boulevard	103rd Street	6	71,000	96.73%	6,248	8,200	76.20%	1,952	C	D
Interstate 295	Roosevelt Boulevard	Blanding Boulevard	6	64,500	87.87%	5,676	8,200	69.22%	2,524	C	D
Interstate 295	San Jose Boulevard	Roosevelt Boulevard	8	77,500	79.16%	6,984	10,900	64.07%	3,916	C	D
Roosevelt Boulevard	Clay County Line	Timuquana Road	6	53,000	98.70%	5,097	6,330	80.52%	1,233	B	D
Roosevelt Boulevard	Timuquana Rd	San Juan Avenue	6	42,000	78.21%	3,908	5,330	73.32%	1,422	B	D
Timuquana Road	Wesconnett Boulevard	Ortega Farms Road	4	27,500	76.82%	2,637	3,160	83.45%	523	E	E
103rd Street	Interstate 295	Wesconnett Boulevard	6	40,250	74.95%	3,969	4,780	83.03%	811	D	E

NOTE: FDOT = Florida Department of Transportation
 AADT = annual average daily traffic
 LOS = level of service

* Based on P.M. peak hour data, not FDOT data

SOURCES: Jacksonville Planning and Development Department 1996.
 FDOT 1995.

Mass transit service to NAS Jacksonville is provided by the Jacksonville Transportation Authority, which operates bus service along U.S. Highway 17 (Roosevelt Boulevard). Once at NAS Jacksonville, a shuttle service provides internal circulation.

3.11 POTABLE WATER AND WASTEWATER TREATMENT

Pollution prevention systems at NAS Jacksonville, including the closed-loop system at the naval aviation depot, have reduced the need for water and wastewater treatment. The potable water system at NAS Jacksonville has a capacity of 10 million gallons (38 million liters) per day. The current demand is 1.2 million gallons (4.5 million liters) per day, or 12 percent of current capacity. The water is treated using aeration and chlorination. Potable water at NAS Jacksonville is distributed via water mains that are 6 inches to 16 inches (15 centimeters to 41 centimeters) in diameter. The primary sources of potable water for NAS Jacksonville are deep water wells that penetrate the Floridan Aquifer.

The wastewater treatment facility at NAS Jacksonville has a capacity of 3 million gallons (11 million liters) per day. The current demand on the wastewater treatment facility is 1.0 to 1.3 million gallons (4 to 5 million liters) per day, or 38 percent of current capacity. Wastewater is collected through 6- to 24-inch (15- to 61-centimeter) mains and twenty-four lift stations. The treatment facility provides tertiary treatment, with the goal of achieving the removal of 99 percent of the biological oxygen demand and 95 percent of the total suspended solids. After clarification, the wastewater receives chlorine treatment and then is discharged into the St. Johns River.

3.12 SAFETY

Fire protection and emergency medical services in Duval County are provided by the Fire Division of the Jacksonville Department of Public Safety. Emergency response is supplemented by private emergency medical services and helicopter ambulance service.

NAS Jacksonville has its own fire and rescue department. Facilities include three fire stations and one fire prevention administration building. Of the three fire stations, two are assigned primary response duty for structural firefighting efforts and house two 1,250-gallon per minute (4,540 liters per minute) structural pumpers and one 105-foot (32 meters) aerial ladder. The third fire station is the crash fire/rescue facility with three crash crews operating AMERTEK CF4000L crash firefighting vehicles. The fire department functions with a two-platoon system, with thirty personnel per platoon.

The fire department also has a 30-ton (27 metric tons) crane used for crash/fire salvage, a hazardous materials response vehicle, and a 16-foot (4.8 meters) boat for emergency operations on the St. Johns River.

Certifications held by fire department personnel include hazardous materials technician, State of Florida emergency medical technician, State of Florida paramedic, State of Florida firefighter minimum standards, high-angle rescue technician, and confined space rescue. In

addition to the resources on site, NAS Jacksonville has an active mutual aid agreement with the Fire Division of the Jacksonville Department of Public Safety.

3.13 ARCHAEOLOGICAL AND HISTORICAL RESOURCES

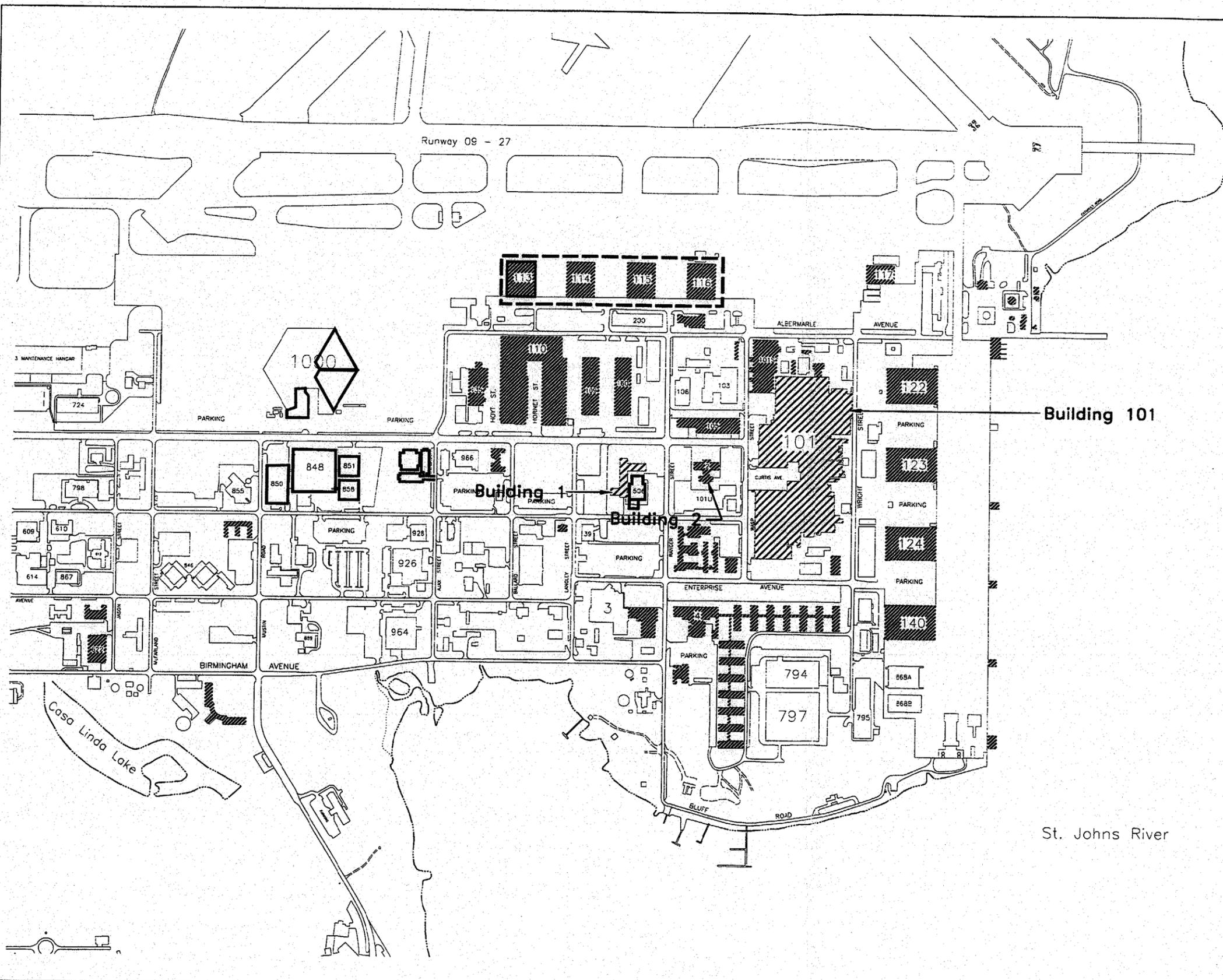
Archaeological and historical information presented in this section was obtained from information contained within the State of Florida Master Site File, the *National Register of Historic Places*, and the *NAS Jacksonville Historic and Archaeologic Resource Protection Plan* (Greenhorne and O'Mara 1990) and from Florida Archaeological Services (Johnson 1996).

In 1984, the Florida State Preservation Officer identified four areas at NAS Jacksonville with high potential for archaeological resources and concluded that the remainder of the station is unlikely to contain such resources. In 1989, an Overview Survey team examined the four areas, eliminated one by identifying it as having low potential, and redrew the boundaries of the remaining three: the Dewey Park Area, the Mulberry Cove Area, and the Senior Officers' Quarters and Family Housing Area. None of these three areas are within or adjacent to the proposed S-3 construction areas.

The *NAS Jacksonville Historic and Archaeologic Resource Protection Plan* also indicated that all World War II buildings, structures, and objects at NAS Jacksonville were potentially eligible architectural resources that needed to be surveyed and evaluated further for eligibility for listing on the *National Register of Historic Places*. The 1989 Overview Survey team noted that three particular World War II buildings should be surveyed intensively and evaluated for eligibility: Building 1 (Administrative Building) constructed in 1941, Building 2 (Bachelor Officers Quarters and Mess Hall) constructed in 1941, and Building 101 (Aircraft Maintenance and Repair Building) constructed in 1944-1945 (Figure 3-14). Intensive surveys currently are being conducted (Maynard 1996).

Building 1 is individually eligible for listing on the *National Register of Historic Places* and is located adjacent to the north and west sides of Building 506. Building 506 currently operates as the P-3 Tactical Support Center. The proposed addition to Building 506 would be located on the south side of Building 506. Hangar 113 has been identified as a contributing building to the potentially eligible *Flight Line* Historic District (Appendix B, Division of Historical Resources letter dated November 7, 1996). The potentially eligible *Flight Line* Historic District is composed of World War II Hangars 113, 114, 115, and 116 and is illustrated in Figure 3-14.

No cultural resources at OLF Whitehouse are listed on the *National Register of Historic Places*. Florida Archeological Services currently is performing a survey of architectural and archaeological resources at OLF Whitehouse. According to preliminary results (Johnson 1996), archaeological resources have been identified at OLF Whitehouse.



Legend

- World-War-II Permanent and Semi-Permanent Architectural Resources
- Potentially Eligible for the National Register (As Determined by the 1988 Overview Survey)
- Project Site
- World-War II Permanent Architectural Resources within the Landplane Hanger Historic District (Contributing Buildings: 113, 114, 115, 116.)

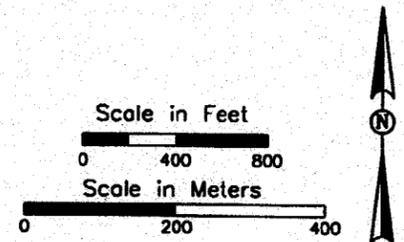


Figure 3-14.
Archaeological and Historic Resources
at NAS Jacksonville
 Sources: Greenhorne and O'Mara 1990; NAS Jacksonville 1996.

*Environmental Assessment for
 Base Realignment for
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 Naval Air Station Cecil Field
 Florida*

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**Environmental Consequences
(Direct and Indirect)
of the Proposed Action
and Alternatives**

Environmental Consequences (Direct and Indirect) of the Proposed Action and Alternatives

4.1 AIR QUALITY

No significant impacts to regional air quality are expected to result from the proposed action. No conflict with the state implementation plan would result. These determinations were made by comparing the estimated air emissions associated with the proposed action to applicable federal and state air quality regulations. The results of these comparisons are described in the following sections and in Appendix C, which contains the Record of Nonapplicability for Clean Air Act General Conformity for Base Realignment for S-3 Squadrons from NAS Cecil Field, Florida.

Temporary and localized effects on air quality would result from construction, modification, and demolition activities associated with the proposed action. Modern methods of dust control would be used by construction contractors to minimize fugitive dust emissions. Construction vehicle exhaust also would occur, but the emissions of criteria pollutants from these vehicles would be short-term and should not result in any violation of state or national ambient air quality standards outside the NAS Jacksonville property boundary.

No new permits should be required since the relocation of the S-3 squadrons to NAS Jacksonville would make extensive use of existing facilities. However, all necessary permits for new air sources would be obtained in accordance with state regulations. The construction of the simulator training facility would require heating, ventilation, and air conditioning systems. At this time the proposed heating system for this facility is electric.

S-3 fuel jettisons would not impact air quality since these aircraft would not jettison fuel during normal operating activities or prior to landing. The fuel carried on the S-3 and ES-3 (JP-5) poses no greater hazard than commercial airline fuel (Jet A+ fuel) (Swathwood 1996).

4.1.1 Clean Air Act General Conformity

Federal actions, such as the proposed relocation of S-3 squadrons to NAS Jacksonville, are required under Section 176(c) of the Clean Air Act to demonstrate conformance to the appropriate state or federal implementation plan before they can be implemented. Federal actions must not (1) cause or contribute to any new violation of any standards, (2) increase the frequency or severity of any existing violation, or (3) delay timely attainment of any standard or required interim milestone. The Navy is responsible for demonstrating that the emissions associated with the relocation of the S-3 squadrons to NAS Jacksonville would conform to the goals of the state or federal implementation plan to eliminate or reduce the

severity and number of violations of the National Ambient Air Quality Standards and to achieve expeditious attainment of these standards.

NAS Jacksonville is located in Duval County, which currently is designated as a maintenance area for ozone. Ozone is not emitted directly by emissions sources; rather, it is formed in the atmosphere from a photochemical reaction (i.e., caused by sunlight) between ozone precursors—primarily volatile organic compounds (VOCs) and nitrogen oxides (NO_x). Regulatory agencies act to control ozone formation by controlling the emissions of VOCs and NO_x.

An applicability analysis has been performed to determine whether the requirements of the General Conformity Rule (40 CFR Part 93, *Federal Register*, November 30, 1993) apply to the proposed action. The General Conformity Rule is considered applicable if, under the proposed action, the total of direct and indirect emissions of any criteria pollutant for which an area is in nonattainment exceeds the de minimis levels presented in the rule. The de minimis levels for the precursors to ozone formation—VOCs and NO_x—are 100 tons (91 metric tons) per year each in maintenance areas.

The applicability analysis (Appendix C) contains the foreseeable estimated emissions under federal control that are expected to directly and indirectly result under the proposed relocation of the S-3 squadrons to NAS Jacksonville. These potential sources include construction-related emissions and mobile-source emissions (1997 and subsequent years) through full buildout with no construction.

VOC emissions would be highest in 1998 at 7.01 tons (6.37 metric tons). Paint and adhesive emissions would be the largest contributor at 4.31 tons (3.91 metric tons); operational sources would contribute 2.67 tons (2.43 metric tons), and construction equipment would contribute 0.03 tons (0.03 metric tons). The VOC emissions for operational conditions only (1999 and subsequent years) would remain at 2.67 tons (2.43 metric tons) per year. These annual emissions are all well below the de minimis levels of 100 tons (91 metric tons) per year each for VOCs and NO_x.

The annual combined emissions of NO_x under the proposed action would be highest in 1997 because of heavier construction equipment use combined with operational emissions. NO_x emissions for 1997 would be 2.98 tons (2.70 metric tons): 2.24 tons (2.03 metric tons) for operational sources and 0.74 tons (0.67 metric tons) for construction sources. The annual NO_x emission for operational emissions with no construction emissions (1999 and subsequent years) would be 2.19 tons (1.98 metric tons) per year.

VOC and NO_x emissions that would result under the proposed action are less than the applicable de minimis levels. Therefore, under the General Conformity Rule, the action is presumed to conform to the state implementation plan and a conformity determination is not required.

4.1.2 Clean Air Act Title V Source

An air emissions inventory for NAS Jacksonville was completed in 1994 and updated in 1995 (Section 3.1). Based on "potential to emit" levels for stationary sources at NAS Jacksonville (Table 3-1), a Title V permit was applied for in June 1996. The emissions inventory should be updated to include the estimated emissions under the proposed action.

4.2 NOISE

No significant direct or indirect noise impacts are expected under the proposed action based on the estimated number of flight operations per year. The numbers of existing (1994) and proposed (1998) aircraft flight operations and individual squadrons stationed at NAS Jacksonville were obtained through extensive discussions with squadron representatives; these numbers reflect the best available information at the time of the noise modeling analyses. Consistent with the NEPA process, noise from the maximum foreseeable air operations at NAS Jacksonville was modeled. A standard methodology was used to generate predicted 1998 noise exposure contours that could be compared with current conditions. The Federal Interagency Committee on Noise (FICON) recently reviewed the current metrics for evaluating aircraft noise and concluded the day-night average sound level (DNL) is the appropriate metric for describing long-term noise exposure at civilian and military airports.

The relocated S-3 squadrons would conduct 17,331 operations each year, with each touch-and-go pattern counted as two operations. No field carrier landing practice (FCLP) operations are planned at NAS Jacksonville. However, in inclement weather, FCLP operations may be conducted at NAS Jacksonville because OLF Whitehouse lacks approach radar. For planning purposes, 2,000 FCLP operations representing 1,000 events (each FCLP event consists of a landing and a take-off) each year were included in the noise modeling. Since FCLP operations are not planned for NAS Jacksonville, this represents a worst-case scenario. FCLP operations would take place at NAS Jacksonville only if OLF Whitehouse could not be used. The 2,000 FCLP operations are based upon current operations at NAS Cecil Field.

Under existing (1994) conditions, P-3 operations (71,230 flight operations each year) consist of those conducted by one reserve, one training, and four active P-3 squadrons. By 1998, the four active squadrons would be reduced to three, resulting in approximately 69,092 P-3 aircraft operations each year. Under existing (1994) conditions, annual H-60/H-3 operations total 19,357. By 1998, the total number of SH-60/SH-3 operations would be reduced by 3,869 to 15,488 annual operations. Table 4-1 summarizes the modeled aircraft operations for based aircraft at NAS Jacksonville in 1998.

Proposed S-3 flight track use at NAS Jacksonville is listed in Table 4-2 and illustrated in Figure 4-1. Runway 09 would be used 55 percent of the time, and Runway 27 would be used 45 percent of the time for both day and night operations (Wyle Laboratories 1996). Two new flight tracks would be established for the relocated S-3 squadrons: Tracks T8 and O3. Tracks 09T8 and 27T8 would be used to conduct touch-and-go and FCLP patterns only when absolutely required because of inclement weather, and Tracks 09O3 and 27O3 would be used

Table 4-1. Modeled Annual Flight Operations for Based Aircraft at NAS Jacksonville, 1993 (Page 1 of 2)

Aircraft Type	Operation Type	Day	Night	Total
S-3	Departures	3,733	115	3,848
	GCA departures	560	17	577
	Straight-in arrival	1,307	40	1,347
	Overhead break arrival	2,986	92	3,078
	Touch and gos	6,271	194	6,465
	FCLP	1,956	60	2,016
P-3	Departures	4,963	79	5,042
	GCA departures	4,552	129	4,681
	Straight-in arrivals	11,210	482	11,692
	Overhead arrivals	276	2	278
	Touch and gos	46,481	918	47,399
C-9	Departures to north	290	13	303
	Departures to south	106	2	108
	Departure straight-out*	475	13	488
	GCA departures	233	5	238
	Straight-in arrivals	962	123	1,085
	Overhead arrivals	3	1	4
	Touch and gos	1,083	34	1,117
Air Carrier (C-9)	Departures to north	81	44	125
	Departures to south	43	0	43
	Departure straight-out*	145	65	210
	GCA departures	63	0	63
	Straight-in arrivals	364	78	442
	Overhead arrivals	0	0	0
	Touch and gos	14	0	14
AV-8 (Navy/Marine Jet)	Departures to north	8	0	8
	Departures to south	56	1	57
	Departure straight-out*	49	1	50
	GCA departures	157	2	159
	Straight-in arrivals	259	5	264
	Overhead arrivals	38	0	38
	Touch and gos	130	0	130
F/A-18 (Navy/Marine Jet)	Departures to north	10	0	10
	Departures to south	75	1	76
	Departure straight-out*	65	1	66
	GCA departures	210	2	212
	Straight-in arrivals	344	6	350
	Overhead arrivals	51	0	51
T-2 (Navy/Marine Jet)	Touch and gos	173	0	173
	Departures to north	4	0	4
	Departures to south	32	0	32
	Departure straight-out*	27	1	28

Table 4-1. Modeled Annual Flight Operations for Based Aircraft at NAS Jacksonville, 1993 (Page 2 of 2)

Aircraft Type	Operation Type	Day	Night	Total
A-7	GCA departures	89	1	90
	Straight-in arrivals	147	3	150
	Overhead arrivals	21	0	21
	Touch and gos	73	0	73
	Departures to north	0	0	0
	Departures to south	128	0	128
	Departure straight-out*	114	0	114
	GCA departures	0	0	0
	Straight-in arrivals	0	0	0
	Overhead arrivals	242	0	242
H-60/H-3	Touch and gos	0	0	0
	Departures to north	0	0	0
	Departures to south	2,723	89	2,812
	Departure straight-out*	0	0	0
	GCA departures	428	59	487
	Arrivals	3,114	292	3,406
Summary	Overhead arrivals	0	0	0
	Touch and gos	8,690	93	8,783
	S-3	16,813	518	17,331
	P-3	67,483	1,609	69,092
	C-9	3,152	190	3,342
	Air carrier (C-9)	709	187	896
	AV-8	697	9	706
	F/A-18	928	10	939
	T-2	392	6	398
	A-7	484	0	484
	H-60/H-3	14,955	533	15,488
	Total	105,613	3,062	108,681

NOTES: Touch and go patterns counted as two operations.

Runway 27 departures to a 300-degree heading were considered "straight-out."

* Total do not sum due to rounding.

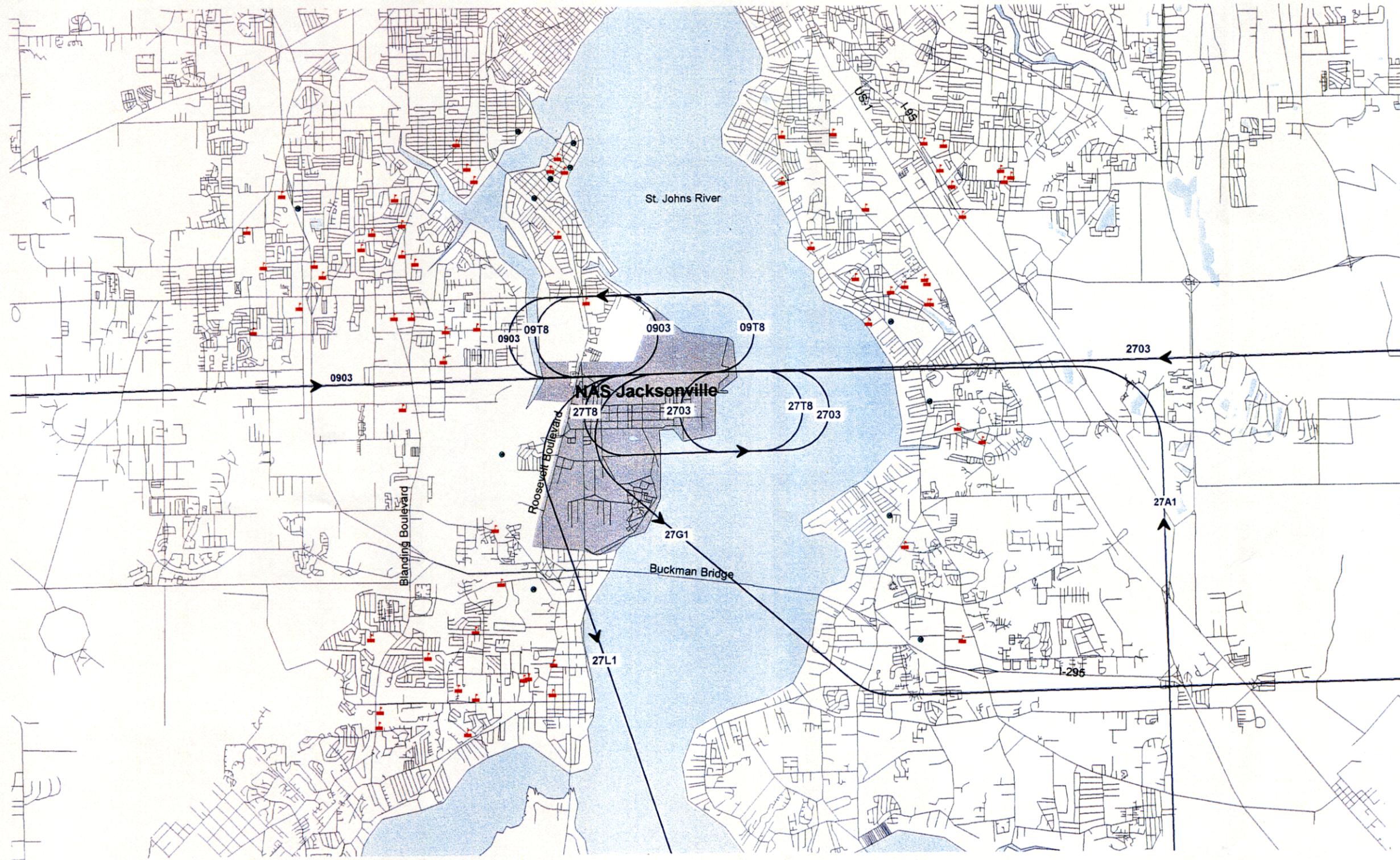
SOURCE: Wyle Laboratories 1996.

Table 4-2. Proposed Flight Track Use for S-3 Aircraft Operations at NAS Jacksonville, 1998

Track	Departures						Straight-In Arrivals			Overhead Arrivals			GCA Pattern						Touch-and-Gos				
	Runway		Runway		Runway		Runway			Runway			Runway		Runway		Runway		Runway				
	09	27	Track	09	27	Track	09	27	Track	09	27	Track	09	27	Track	09	27	Track	09	27	Track	09	27
L1		33%	S1	25%	25%	R1	33%		A1	10%	8%	03	100%	100%	G1	8%	8%	A1	10%	10%	T8	100%	100%
L2		34%	S2	25%	25%	R2	34%		A2	14%	14%				G2	14%	14%	A2	14%	14%			
L3		33%	S3	25%	25%	R3	33%		A3	17%	18%				G3	18%	18%	A3	17%	17%			
L4			S4	25%	25%	R4			A4	18%	18%				G4	18%	18%	A4	18%	18%			
L5						R5			A5	17%	18%				G5	18%	18%	A5	17%	17%			
L6						R6			A6	14%	16%				G6	16%	16%	A6	14%	14%			
L7						R7			A5	10%	8%				G7	8%	8%	A7	10%	10%			
L8						R8																	
Totals		100%		100%	100%		100%	100%		100%	100%		100%	100%		100%	100%		100%	100%		100%	100%

NOTE: GCA = ground control approach
 FCLP = field carrier landing practice

SOURCE: Wyle Laboratories 1996.



Legend

- Streets
- Flight Tracks
- Schools
- Parks

Scale in Feet
 0 4,000 8,000
 Scale in Meters
 0 1,000 2,000

Figure 4-1.
 Proposed S-3 Flight Tracks
 at NAS Jacksonville

Sources: Wyle Laboratories 1996; Caliper Corporation 1995.

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for overhead break arrivals. These new flight tracks are necessary because the S-3 is a smaller aircraft and its pattern would remain closer to the airfield than those for the existing P-3 and C-9 aircraft. The number of S-3 flight operations were converted to the number of average busy-day (242 busy-days) flight operations and are listed in Table 4-3. The noise environment around a military or civil airfield normally is described in terms of time-averaged sound levels generated by aircraft operating at that facility. These operations consist of flight activities conducted during an average day for airfields at which operations generally adhere to a fixed schedule (most commercial airports) or during a typical busy day for airfields at which operations vary from day to day or between weekdays and weekends (most military airfields).

In addition to flight operations at NAS Jacksonville, the S-3 squadrons also would conduct FCLP patterns at OLF Whitehouse. The proposed number of S-3 aircraft operations each year at OLF Whitehouse was obtained through interviews with S-3 squadron representatives and are listed in Table 4-4. Typically, an S-3 operating at OLF Whitehouse would arrive with an overhead break, enter the local pattern, conduct seven FCLP operations, and return to NAS Jacksonville. Proposed S-3 flight operations at OLF Whitehouse would total 20,736 each year. The number of S-3 operations at OLF Whitehouse would be 1,054 fewer than the 21,790 operations reported in the 1984 AICUZ update (NAVFACENCOM 1984).

Proposed average busy-day flight operations at OLF Whitehouse are listed in Table 4-5; 70 percent of runway use by the S-3 squadrons takes place on Runway 11, and 30 percent takes place on Runway 29. Three flight tracks would be established at OLF Whitehouse: a departure (11D1 and 29D1), an overhead break arrival (11A1 and 29A1), and an FCLP pattern (11T1 and 29T1).

As illustrated in Figure 4-2, noise modeling results for the proposed action based on aircraft projected to be at NAS Jacksonville in 1998 indicate that the contour for the DNL of 65 A-weighted decibels (dBA) extends approximately 10,000 feet (3,048 meters) east and west of the runway. Table 4-6 summarizes the estimated acreage, dwelling units, and population within the noise contours under the 1978 AICUZ report conditions, existing (1994) conditions, and proposed conditions. Figure 4-3 compares the noise contours for the 1978 AICUZ report conditions, existing (1994) conditions, and proposed conditions. The 1978 AICUZ report is the basis for City of Jacksonville land use policy. As Figure 4-3 indicates, the 1978 AICUZ noise contours encompass a much larger area than those under either existing or proposed conditions.

The total off-station land area within the DNL 65 dBA noise contour would increase by 77 acres (31 hectares) under the proposed action when compared to the existing (1994) condition. In comparison to the 1978 AICUZ conditions, the off-station land area would decrease by 1,398 acres (560 hectares) under the proposed action. The total population within the DNL 65 dBA noise contour would increase by 41 persons under the proposed action when compared to the existing (1994) condition and would decrease by 3,995 persons when

Table 4-3. Proposed Modeled Average Busy-Day Flight Operations for S-3 Aircraft at NAS Jacksonville, 1998

Operation Type	Runway 09			Runway 27		
	Track	Day	Night	Track	Day	Night
Departure	09S1	0.64	0.02	27L1	1.74	0.05
	09S2	0.64	0.02	27L2	1.74	0.05
	09S3	0.64	0.02	27L3	1.74	0.05
	09S4	0.64	0.02	27L4		
	09R1	1.95	0.06	27L5		
	09R2	2.04	0.06	27L6		
	09R3	1.95	0.06	27L7		
				27L8		
GCA departures				27S1	0.43	0.01
				27S2	0.44	0.01
				27S3	0.44	0.01
				27S4	0.43	0.01
	09G1	0.10		27G1	0.08	0.01
	09G2	0.18		27G2	0.15	
	09G3	0.23	0.01	27G3	0.19	
	09G4	0.23	0.01	27G4	0.19	
Straight-in arrivals	09G5	0.23	0.01	27G5	0.19	
	09G6	0.20	0.01	27G6	0.17	
	09G7	0.10		27G7	0.08	0.01
	09A1	0.30	0.01	27A1	0.19	0.01
	09A2	0.42	0.01	27A2	0.34	0.01
	09A3	0.52	0.02	27A3	0.44	0.01
	09A4	0.53	0.02	27A4	0.44	0.01
Overhead arrivals	09A5	0.50	0.02	27A5	0.44	0.01
	09A6	0.42	0.01	27A6	0.39	0.01
	09A7	0.30	0.01	27A7	0.19	0.01
Touch-and-go/FCLP	09O3	6.79	0.21	27O3	5.55	0.17
	09T8	7.13	0.22	27T8	5.83	0.18
	09T8	2.22	0.07	27T8	1.82	0.05

- NOTES: (1) GCA = ground control approach
FCLP = field carrier landing practice
(2) Touch-and-go and FCLPs counted as one operation.
(3) Straight-in arrivals include GCA box pattern arrivals.

SOURCE: Wyle Laboratories 1996.

Table 4-4. Proposed Annual S-3 Flight Operations at OLF Whitehouse, 1998

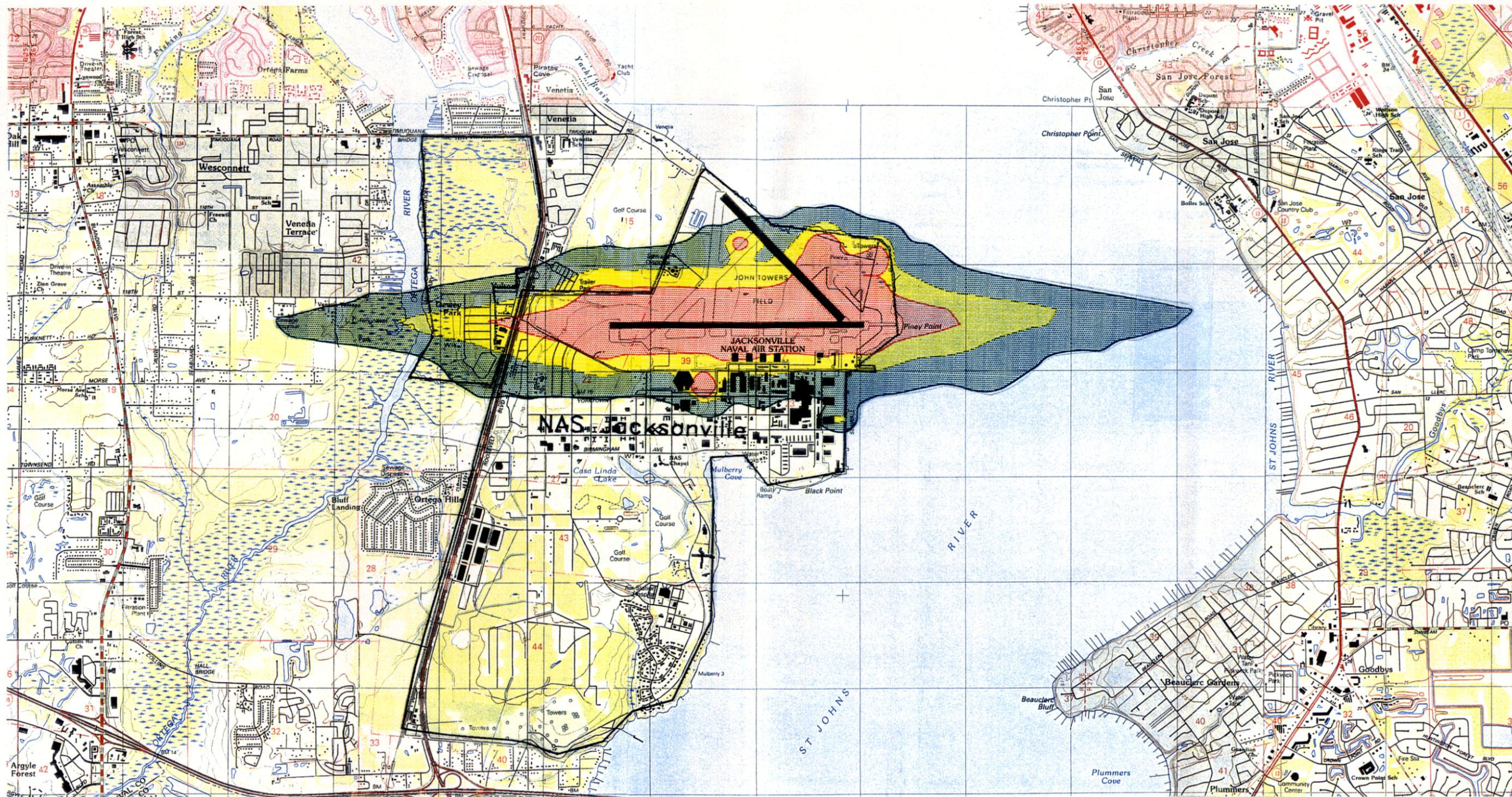
Operation Type	Day	Night	Total
Departure	1,257	39	1,296
Overhead arrival	1,257	39	1,296
Field carrier landing practice	17,600	544	18,144
Total	20,114	622	20,736

SOURCE: Wyle Laboratories 1996.

Table 4-5. Proposed Modeled Annual and Average Busy-Day Flight Operations for S-3 Aircraft at OLF Whitehouse, 1998

Operation Type	Runway 11			Runway 29		
	Track	Day	Night	Track	Day	Night
Departure	11D1	3.64	0.11	29D1	1.56	0.05
Overhead arrivals	11A1	3.64	0.11	29A1	1.56	0.05
Field carrier landing practice	11T1	25.45	0.79	28T1	10.91	0.34

SOURCE: Wyle Laboratories 1996.



Legend	
	65-70 dBA
	70-75 dBA
	> 75 dBA

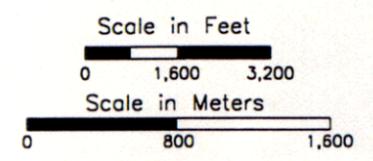
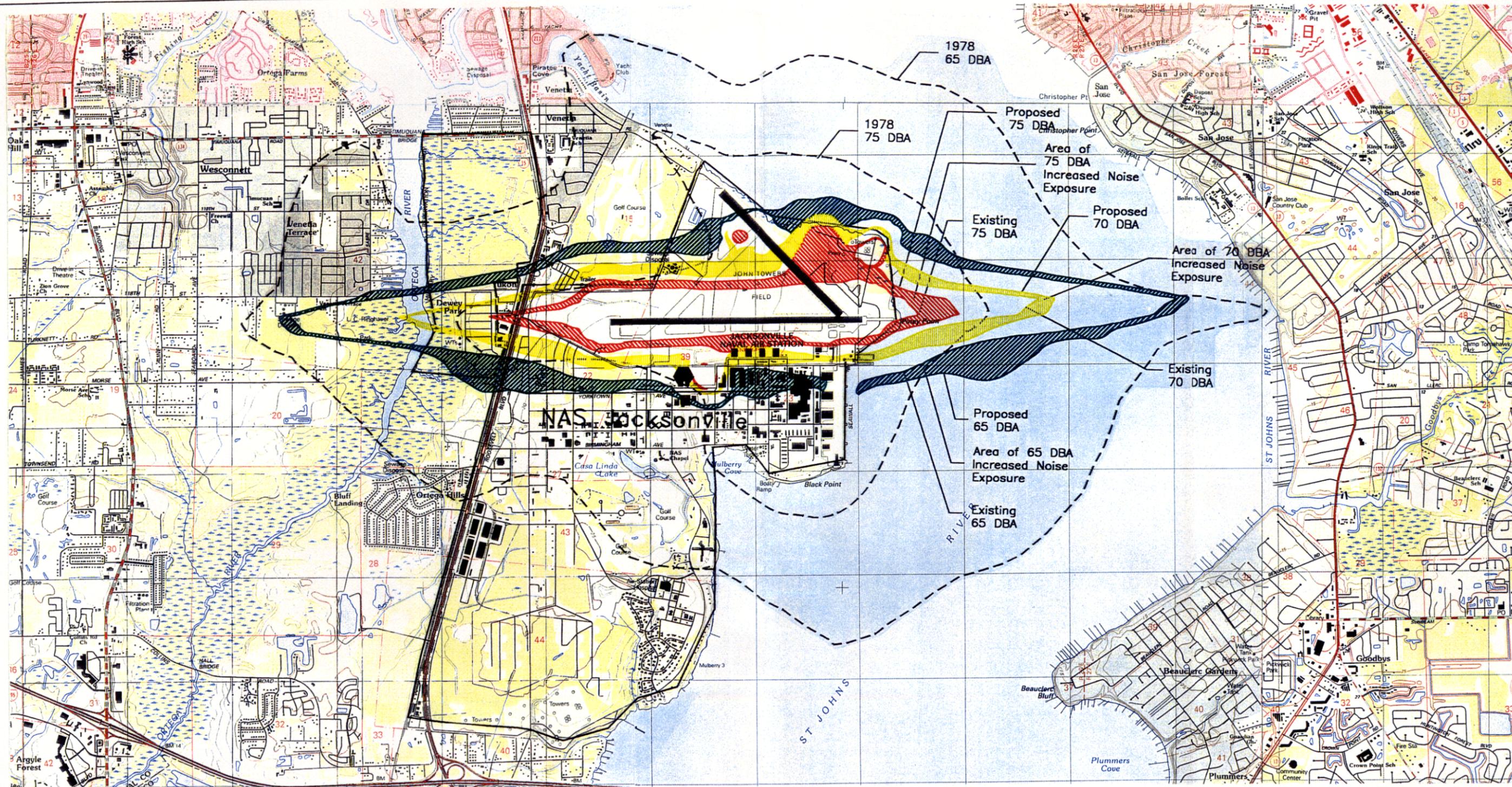


Figure 4-2.
 Day-Night Average Sound Level Contours for Average Busy-Day
 Airfield Operations Under the Proposed Action at NAS Jacksonville

Sources: Wyle Laboratories 1997; USGS 1963, 1964b, 1993a, 1993b.

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Legend

- Area of 65 DBA Increased Noise Exposure
- Area of 70 DBA Increased Noise Exposure
- Area of 75 DBA Increased Noise Exposure

Scale in Feet
0 1,600 3,200

Scale in Meters
0 800 1,600

Figure 4-3.
Comparison of Day-Night Average Sound Level Contours for 1978 AICUZ, Existing (1994) Condition, and Proposed Action Average Busy-Day Airfield Operations at NAS Jacksonville

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Sources: Wyle Laboratories 1996, 1997; USGS 1963, 1964b, 1993a, 1993b.

Table 4-6. Comparison of Off-Station Area, Dwelling Units, and Population within Aircraft Noise Exposure Contours under the 1978 AICUZ, Existing (1994) Conditions, and Projected 1998 Conditions at NAS Jacksonville

DNL Contour (dBA)	1978 AICUZ				Existing (1994) Conditions				1998 Forecast				Net Change							
	Area		Dwelling		Area		Dwelling		Area		Dwelling		Area		Dwelling Units		Population			
	(a)	(h)	Units	Population	(a)	(h)	Units	Population	(a)	(h)	Units	Population	1978- 1998	(a)	(h)	1994- 1998	1978- 1998	1994- 1998		
65	1,685	682	1,863	4,332	210	85	137	296	287	116	156	337	-1,398	566	77	31	-1,707	19	-3,995	41
70	ND	ND	ND	ND	30	12	2	4	55	22	41	89	ND	ND	25	10	41	39	89	85
75	52	21	66	146	0	0	0	0	6	2	0	0	-46	19	6	2	-66	0	-146	0
80	ND	ND	ND	ND	0	0	0	0	0	0	0	0	ND	ND	0	0	0	0	0	0
85+	ND	ND	ND	ND	0	0	0	0	0	0	0	0	ND	ND	0	0	0	0	0	0

- NOTES: (1) NAS Jacksonville and water bodies not included in the total area.
(2) DNL = day-night average noise level
dBA = A-weighted decibels
ND = no data available

SOURCE: Wyle Laboratories 1996.

compared to the population listed in the 1978 AICUZ report. The proposed action would not result in any new noise-sensitive facilities within the projected DNL 65 dBA noise contour.

The DNL 70 dBA noise contours under existing conditions and under the proposed action are compared in Figure 4-3 (The 1978 AICUZ report included only 65 and 75 dBA noise contours). The total off-station area would increase from 30 acres (12 hectares) under existing conditions to 55 acres (22.3 hectares) under the proposed action, or 25 acres (10.3 hectares). The total population within this contour would increase from 4 to 89, or 85 new persons. The number of dwelling units would increase from 2 to 41, or 39 new dwelling units.

As illustrated in Figure 4-3, the total off-station land area within the proposed action DNL 75 dBA contour would be approximately 6 acres (2.4 hectares), representing a 100 percent increase in land area from existing conditions. However, no dwelling units would be included in this area, which is composed primarily of commercial and industrial establishments. The 1978 AICUZ DNL 75 dBA contour encompasses 52 acres (21 hectares) and an estimated population of 146.

Off-station land area, population, and dwelling units within the proposed DNL 80+ dBA contour would not be impacted under the proposed action. This is comparable to the existing condition, which also has no noise-related impacts at this noise level.

The Federal Interagency Committee on Noise recommends that when a screening analysis identifies noise-sensitive areas within the DNL 65 dBA that would experience a noise increase of more than 1.5 dBA, an additional analysis should be conducted to identify noise-sensitive areas between the DNL 60 dBA and DNL 65 dBA noise contours for which noise levels would increase by 3 dBA or more. A screening analysis identified three off-station areas that would experience a noise increase of more than 1.5 dBA from the existing (1994) conditions (Wyle Laboratories 1996). These areas are located north of NAS Jacksonville over portions of the Timuquana golf course and the Azalea MHP, west of the station in the Yukon area, and in an undeveloped area along the west side of Roosevelt Boulevard (U.S. Highway 17). These areas contain approximately 122 acres (49 hectares), the majority of which is over the Timuquana golf course. Consequently, an additional analysis identified that the undeveloped area west of Roosevelt Boulevard is between the DNL 60 dBA and DNL 65 dBA contours and would experience a noise level increase of at least 3 dBA. The future land use on this approximately 83-acre (33-hectare) property is projected to be industrial and low-density residential.

To assess the potential impact of the new S-3 flight tracks, additional noise data for the aircraft were collected on September 19, 1996. Six stations were established within communities adjacent to NAS Jacksonville, four on the west side of the St. Johns River and two on the east side of the river (Appendix D, Figure 1). The areas represented by these stations were expected to experience the greatest noise impact relative to the new flight tracks and are considered noise sensitive based on existing land uses. A comparison of data collected

during this monitoring effort indicates that the noise environment during one complete cycle of the S-3 FCLP pattern on Track 09T8 averaged between 52 dBA and 75 dBA. The maximum noise level observed was 95 dBA. The highest average and maximum noise level occurred at the same station, near the S-3 descent to Runway 09 at an altitude of 325 feet (99 meters). This station also is influenced highly by traffic on U.S. Highway 17 (Roosevelt Boulevard). The September 1996 noise measurement is included as Appendix D.

Figure 4-4 illustrates the proposed S-3 flight tracks at OLF Whitehouse, and Figure 4-5 illustrates the resulting noise contours. Table 4-7 summarizes the estimated acreage, dwelling units, and population within the noise contours at OLF Whitehouse. Approximately 90 percent of the total area within the DNL 65 dBA contour would be over station property or water. The total area, dwelling units, and population within the DNL 65 dBA contour would be 180 acres (73 hectares), 6, and 16, respectively. The DNL 75 dBA through 85 dBA contour areas would not extend beyond the OLF Whitehouse boundary. Although not included in the modeling effort, the aircraft noise study by Wyle Laboratories (1996) estimated the total area within the existing conditions DNL 65 dBA at 180 acres (73 hectares).

4.3 HAZARDOUS AND SOLID WASTE MANAGEMENT

No significant direct or indirect impacts are expected to hazardous waste management at NAS Jacksonville or to ongoing investigations and cleanup of potentially contaminated sites. All hazardous material and waste associated with the proposed action would be handled and disposed of in accordance with applicable federal and state regulations. At NAS Jacksonville, hazardous waste is collected daily and is stored temporarily at designated accumulation areas, with longer-term storage at NAS Jacksonville hazardous waste permitted storage facilities. The transport and disposal of hazardous waste from NAS Jacksonville is coordinated through the Defense Reutilization and Marketing Office.

Hazardous waste generation at NAS Jacksonville is expected to increase annually by 4,200 pounds (1,905 kilograms) per squadron under the proposed action because of the operations and maintenance activities required by the S-3 squadrons. The current 512,843 pounds (233,110 kilograms) of hazardous waste generated at NAS Jacksonville would increase to 538,012 pounds (244,551 kilograms), or 4.9 percent. However, the existing hazardous waste collection, accumulation, and storage facilities would be adequate to handle the quantity of hazardous wastes that would be generated under the proposed action. In addition, nonhazardous and hazardous waste accumulation lockers currently used by the squadrons at NAS Cecil Field would be transferred with the squadrons to NAS Jacksonville. Table 4-8 summarizes hazardous waste quantities generated by the S-3 squadrons during calendar year 1995 at NAS Cecil Field. The three largest categories of this generated waste include oily rags; paint, thinner, and solvent composite; and rags, paint, and solvent composite.

Continued investigations and cleanup activities associated with the Installation Restoration program at NAS Jacksonville would not be affected by the proposed action. The nearest

Table 4-7. Areas and Estimated Populations within Noise Exposure Contours for Forecast Operations at OLF Whitehouse

DNL Contour (dBA)	Area		Estimated	
	(acres)	(hectares)	Dwelling Units	Population
65	180	73	6	16
70	15	6	1	1
75	0	0	0	0
80	0	0	0	0
85	0	0	0	0

- NOTES: (1) OLF Whitehouse and water bodies not included.
 (2) Estimates for contours based on 1990 U.S. Census using population density methods.

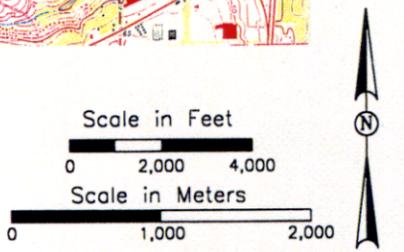
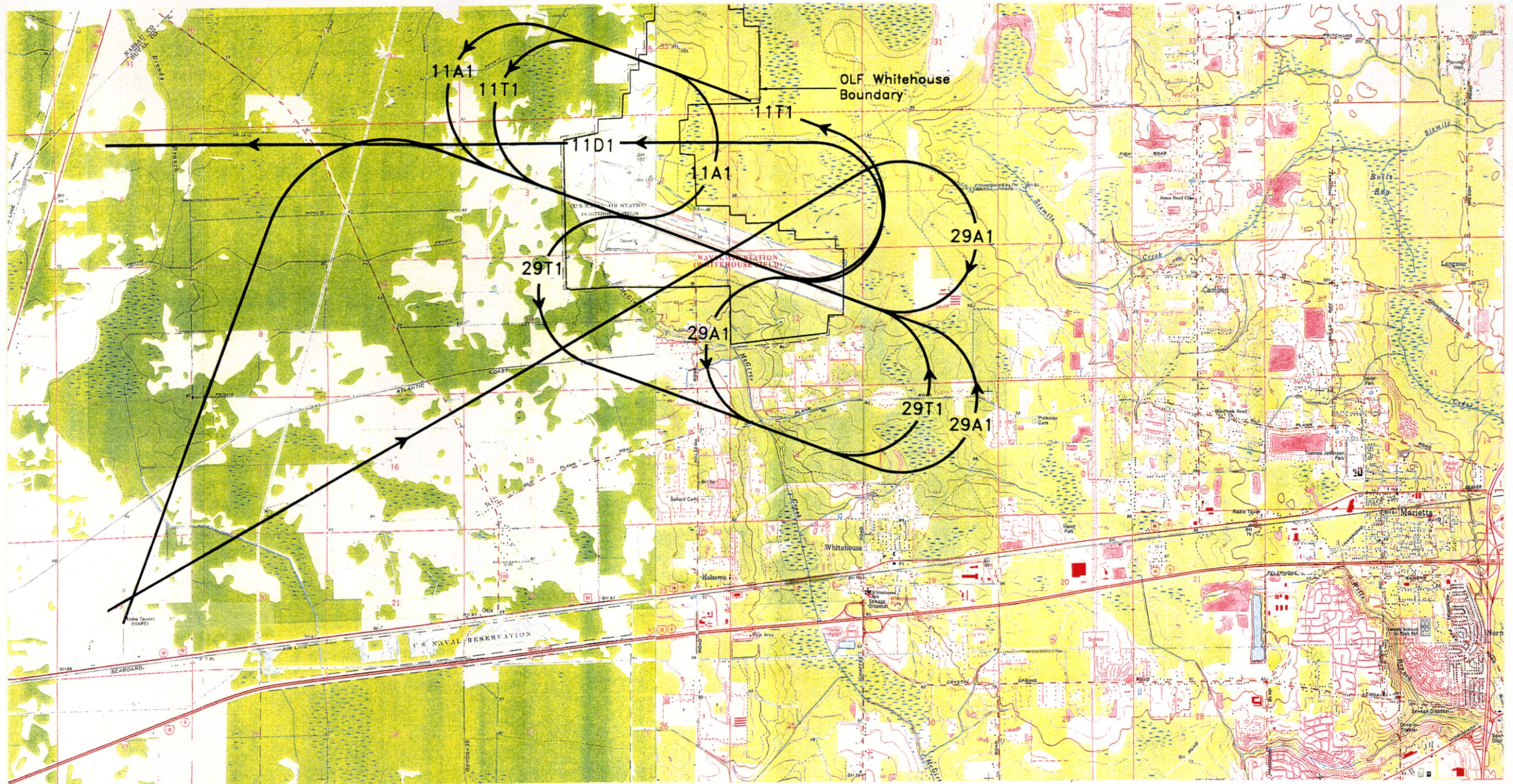
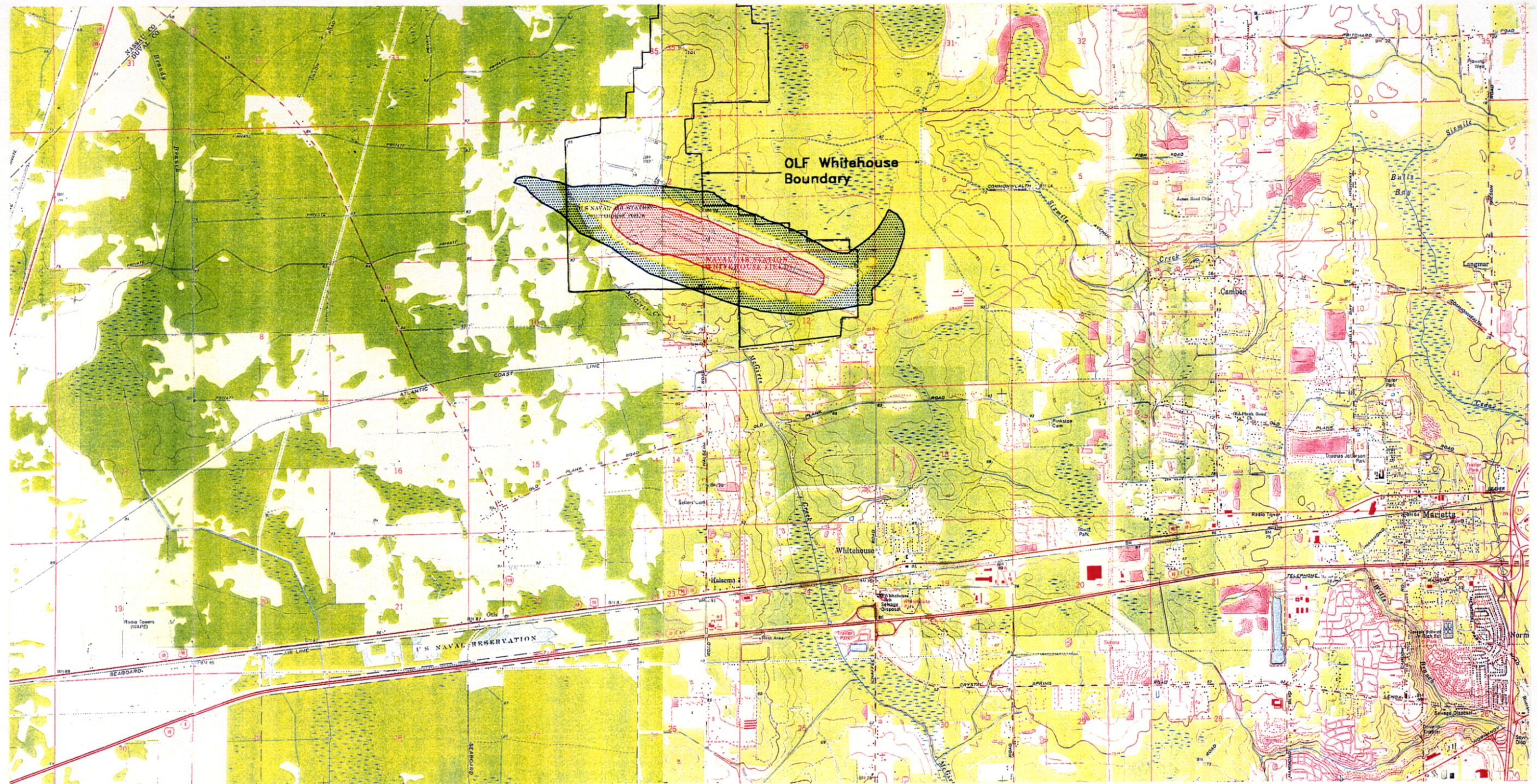


Figure 4-4.
Proposed S-3 Flight Tracks at OLF Whitehouse

*Environmental Assessment for
Base Realignment for
S-3 Squadrons from
Naval Air Station Cecil Field
Florida*

Sources: Wyle Laboratories 1996; USGS 1964a, 1964c.

n4885WB10Y



Legend	
	65-70 dBA
	70-75 dBA
	> 75 dBA

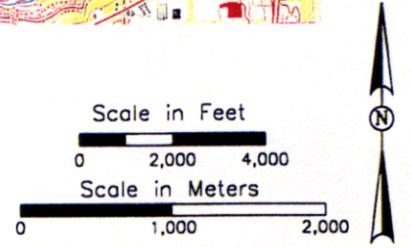


Figure 4-5.
 Day-Night Average Sound Level Contours for Average Busy-Day
 Airfield Operations Under the Proposed Action at OLF Whitehouse

*Environmental Assessment for
 Base Realignment for
 S-3 Squadrons from
 Naval Air Station Cecil Field
 Florida*

Sources: Wyle Laboratories 1996; USGS 1964a, 1964c.

Table 4-8. Hazardous Waste Generation by S-3 Squadron at NAS Cecil Field, Florida

Generated waste	VS-22		VS-24		VS-30		VS-31		VS-32		VQ-6		Combined Annual Total	
	(lbs)	(kg)	(lbs)	(kg)	(lbs)	(kg)	(lbs)	(kg)	(lbs)	(kg)	(lbs)	(kg)	(lbs)	(kg)
Oil rags	3,710	1,684	5,895	2,676	2,700	1,226	1,585	720	955	434	810	368	15,655	7,108
Rags, paint, solvents	1,265	574	885	402	455	207	355	161	205	93	375	170	3,540	1,607
Oil, hydraulic fluid, JP5	135	61	140	64	75	34			185	84			535	243
Paint, thinner, solvent	1,340	608	545	247	860	390	430	195	320	145	645	293	4,140	1,880
Alodine rags	37	17			45	20					15	7	97	44
Batteries														
Nickel-cadmium	3	1											3	1
Mercury	3	1											3	1
Stripper					22	10							22	10
Dirt, oil					585	266							585	266
Methanol, naphtha					40	18							40	18
MOGAS									365	166			365	166
Diethylene glycol butyl											182	83	182	83
Asbestos gloves											2	1	2	1
Total	6,493	2,948	7,465	3,389	4,782	2,171	2,370	1,076	2,030	922	2,029	921	25,169	11,427

- NOTES: (1) Annual totals were generated between October 1995 and September 1996.
(2) lbs = pounds
kg = kilograms
MOGAS = motor vehicle gasoline

SOURCE: Long 1996.

potential source of contamination (PSC) site, PSC-44, is located approximately 200 feet (61 meters) west of the area proposed for the simulator training facility. PSC-44 is an open-channel drainage ditch with sediments that are potentially contaminated with metals and organics. Until further investigation is conducted as directed by the Installation Restoration program, this PSC site will be avoided during construction of the simulator training facility.

Hangar 1000 currently is undergoing Resource Conservation and Recovery Act corrective action (groundwater contamination remediation) as a result of a consent order signed in 1989. Renovation activities associated with the proposed action at this facility would not disrupt this process.

Any asbestos-containing material discovered during building renovations, modifications, or additions either will be managed in-place or will be removed by a licensed contractor according to current station procedures.

No significant direct or indirect impacts to solid waste management facilities would result from the proposed action. Most of the military and civilian personnel associated with the proposed action already reside within the Jacksonville metropolitan area and would not create an additional demand on the solid waste management systems.

4.4 SOILS

Most of the proposed activity at NAS Jacksonville would take place in the area north of Birmingham Avenue. Soils in this area are composed of urban land complexes and are covered with buildings or pavement. Further development in these areas would not impact the existing soils. A small portion of Albany fine sand, a native soil map unit, would be impacted by the placement of the proposed simulator training facility. No hydric or prime or unique farmland soils would be impacted by the proposed activities.

No impact to soils at OLF Whitehouse would occur under the proposed action.

4.5 SURFACE WATER AND WETLANDS

Possible resurfacing of the existing high-power runup pad on the northeast side of Runway 14-32 would not be expected to significantly impact nearby surface waters and wetlands. All necessary permits would be obtained from the Florida Department of Environmental Protection prior to any renovation of the pad.

The simulator training facility and the addition to Building 506 would be constructed in previously developed areas of NAS Jacksonville, as described in Section 2.2.1. Construction of the proposed facilities would disturb approximately 2 acres (0.8 hectare) of existing soils and would increase the amount of impervious surface at NAS Jacksonville. This construction activity could cause temporary localized impacts to surface waters. The nearest surface water and wetlands are at least 1,400 feet (425 meters) from these project sites.

Any new discharges would comply with the requirements of the National Pollutant Discharge Elimination System program administered by the U.S. Environmental Protection Agency, with state regulations (including Chapter 62-4 [Permits] FAC), and with any applicable local regulations. In addition, stormwater management and control systems would be required by the St. Johns River Water Management District for the construction and operation of any new facilities. The design of the stormwater management systems would meet the requirements of the St. Johns River Water Management District, as outlined in Chapter 40C FAC, and an Environmental Resources Permit would be required before construction could begin. Therefore, no significant adverse impacts to surface water resources at NAS Jacksonville or OLF Whitehouse would result from operational discharges or stormwater runoff resulting from the proposed action.

The S-3 aircraft would undergo regular washdowns, similar to those for the P-3 aircraft, including an engine wash, an aircraft exterior wash, and an exterior rinse for salt removal. These activities would not affect the ongoing P-3 washdown activities. No cadmium is in the S-3 compressors, and tests of the washwater from the S-3 aircraft engines at NAS Cecil Field has found concentrations of all heavy metals to be below regulatory levels. Engine washwater from S-3 aircraft maintenance at NAS Jacksonville will be retested. If this washwater is found to be nonhazardous, it will be collected and discharged to the wastewater treatment plant at NAS Jacksonville. If it is found to be a hazardous waste, it will be collected and managed in accordance with state and federal regulations.

4.6 BIOLOGICAL RESOURCES

4.6.1 Vegetation

Relocation of the six S-3 squadrons to NAS Jacksonville would not result in any significant impact to vegetation at the station. Renovations to buildings would be primarily internal and would not impact external plantings. Landscaping around the simulator training facility and the addition to Building 506 would be consistent with the existing Land Management Section of the Natural Resources Management Plan (SOUTHNAVFACENGCOM 1994b), and tree and shrub plantings would be selected for low maintenance. A small stand (less than 2 acres [0.8 hectares]) of oaks and pines in the southeast corner of the simulator training facility site would be cleared for construction of the facility and parking areas.

Vegetation at OLF Whitehouse would not be significantly impacted by continued use of the facility for touch-and-go and FCLP operations by the S-3 squadrons.

4.6.2 Wildlife

Wildlife at NAS Jacksonville would not be affected by the construction of the proposed facilities or by the proposed building modifications. Construction activities and associated noise could disturb and temporarily displace wildlife in the immediate work area. However, most of the species using the sites are adapted to human activities and would be expected to recolonize the sites after construction.

Most wildlife occurring at NAS Jacksonville are adapted to an urban landscape and historically have been exposed to aircraft noise. The anticipated increase in noise levels associated with the proposed action would not be expected to have a significant impact on these species. Adverse effects of noise on wildlife include masking (interference with communication or auditory signals from the environment); the startle reaction; and temporary loss of hearing, which can reduce survival (Dufour 1980). Different species respond differently to noise stimuli, and the response of an animal also depends upon how accustomed it is to the ambient noise levels and to the characteristics of the noise. Although aircraft overflights often are startling initially, animals generally are able to adapt (USDA 1992).

Continued use of OLF Whitehouse for S-3 training flights is not expected to impact wildlife. Animals at OLF Whitehouse probably are accustomed to aircraft noise and would not be significantly affected.

4.6.3 Threatened and Endangered Species

The only federal-listed species that may occur at NAS Jacksonville are West Indian manatee, eastern indigo snake, and bald eagle. Neither the manatee nor the indigo snake would be affected under the proposed action. The proposed construction sites are located at least 1,400 feet (425 meters) away from the St. Johns River, the closest habitat for manatees. The reported location of the eastern indigo snake in 1992 (see Section 3.6.3 and Figure 3-8) was west of U.S. Highway 17 and at least 1.5 miles (2.4 kilometers) away from the proposed construction sites. The bald eagle nest west of U.S. Highway 17 is at least 2 miles (3.2 kilometers) away from the proposed construction sites and north of the increased noise contour areas. The nest has been inactive for the past two years (Nesbitt 1996). Therefore, the proposed activity is not expected to impact the bald eagle. No state- or federal-listed plant or animal species are expected to be affected by the proposed action (Appendix B, USFWS notification dated December 9, 1996).

Threatened and endangered species would not be impacted by the continued use of OLF Whitehouse for FCLP by the S-3 squadrons.

4.6.4 Unique and Critical Habitats

No unique or critical habitat is present at NAS Jacksonville or OLF Whitehouse.

4.7 SOCIOECONOMICS

The proposed action involves the relocation of employees and operations associated with the S-3 squadrons from NAS Cecil Field to NAS Jacksonville. Since both NAS Cecil Field and NAS Jacksonville are within the same planning district as designated by the City of Jacksonville Comprehensive Plan, many of the potential socioeconomic impacts that typically would be associated with a major realignment of personnel are negated. Potential impacts to public services and facilities such as schools, utilities, police, fire and emergency services, and recreation facilities are expected to be minor. The majority of the personnel associated with the squadrons already live in the community and use public services and facilities.

Realignment of the squadrons to NAS Jacksonville would result in changes to the noise environment around NAS Jacksonville, which may affect land uses located near the station. Construction projects and the resulting income and employment associated with these projects would have a short-term beneficial impact on the economy of the area. In addition, the change in the location of employment from NAS Cecil Field to NAS Jacksonville would result in a redistribution of traffic on Duval County roadways.

4.7.1 Regional Characteristics

Since the proposed action involves the relocation of personnel and operations to a new location approximately 12 miles from NAS Cecil Field, no major changes to regional facilities and services, such as major parks or utility systems, are expected. Traffic would be redistributed on some of the major roadways in Duval County that provide access to NAS Jacksonville from outlying areas. The proposed action would not result in a significant change in the population of the Jacksonville Metropolitan Statistical Area since the majority of personnel and their dependents associated with the action already reside in the region.

4.7.2 Population

The number of military and civilian personnel associated with the proposed action totals 2,274, comprising 252 officers, 1,928 enlisted personnel, and 94 civilian personnel. The number of dependents, based on military averages for officers and enlisted personnel and the average household size in Duval County for civilian personnel, is approximately 2,795 (1,240 spouses and 1,555 children). The total number of personnel and their dependents would total 5,069 persons.

Both NAS Cecil Field and NAS Jacksonville are located in Planning District 4, as designated in the City of Jacksonville Comprehensive Plan. The population of Planning District 4 in 1990 was 122,527. No major increase or decrease in population within this area is expected to result under the proposed action. Similarly, the population in the census tracts near NAS Jacksonville, as well as on site, is not expected to change significantly as a result of the action.

NAS Jacksonville's military and civilian personnel totalled 20,927 persons in 1995. This total comprises 8,097 active-duty military personnel, 6,592 appropriated-fund civilian employees, 1,104 nonappropriated-fund civilian employees, 1,836 contract employees, and 3,298 reserve personnel. The proposed realignment would result in a 13 percent increase in employment at NAS Jacksonville (excluding reserve personnel).

4.7.3 Education

Neither the Duval County nor the Clay County school systems would be impacted by the relocation of the S-3 squadrons to NAS Jacksonville since the number of dependents of personnel attending schools in the area would change negligibly. Over time, the residential location of employees associated with the squadrons could change, but the proximity of the two installations makes a major shift in the residential preferences of squadron personnel

unlikely. Even were a major redistribution to occur, the impact on local schools could be minimized by changing boundaries within the district rather than constructing new facilities.

4.7.4 Economic Activity

Under the proposed action, the economic benefits of the proposed action would be limited to construction-related impacts since the squadrons already are located in the area. The overall cost of the proposed additions and modifications at NAS Jacksonville is approximately \$17.0 million. The projects would employ approximately 155 persons for the equivalent of 1 year, and construction-related wages would be \$4.6 million. The project would have a beneficial effect on the economy of the Jacksonville area.

4.8 LAND USE

Off-site land uses would not be affected by the construction or operation of facilities at NAS Jacksonville since development would occur within developed areas that are distant from any off-site areas.

The proposed action would increase noise levels from those under the existing (1994) condition in some potentially sensitive off-station areas. FICON recently reaffirmed its endorsement of the current planning guidelines for evaluating land use compatibility in the vicinity of airports. Residential development is compatible with airfield operations producing noise levels between DNL 65 and 75 dBA. On a nationwide average, current construction standards provide between 15 to 25 dBA attenuation with windows open or closed, respectively. As illustrated in Figure 4-3, the proposed action would produce DNL 65 dBA noise contours partially across the St. Johns River from NAS Jacksonville to within approximately 2,500 feet of the San Jose community. Although these noise contours do not account for the effects of noise propagation over water (since appropriate analytic methodology does not exist), initial data and field observations suggest that the residential development along the St. Johns River will continue to be compatible with the proposed aircraft operations.

When compared to the 1978 AICUZ study, which is the basis for land use policy in the City of Jacksonville, off-station noise levels would decrease considerably under the proposed action (Table 4-6 and Figure 4-3). Figure 4-6 depicts the City of Jacksonville's Future Land Use map in relation to the 1978 AICUZ study, existing (1994) conditions, and the proposed action noise contours. The low-density residential acreage between the DNL 65 dBA and the DNL 70 dBA noise contours would increase by 25.6 acres (10.4 hectares), and the acreage within rural residential uses would decrease by 2.8 acres (1.1 hectares) compared to the existing (1994) condition (Table 4-9). Between the DNL 70 dBA and DNL 75 dBA noise contours would be a 3-acre (1.2-hectare) increase in rural residential land use area and a 5.5-acre (2.2-hectare) increase in low-density residential land use area. Rural residential land use area within the DNL 75 dBA contour would increase by 5.1 acres (2.1 hectares) although no dwellings currently are located within this area.

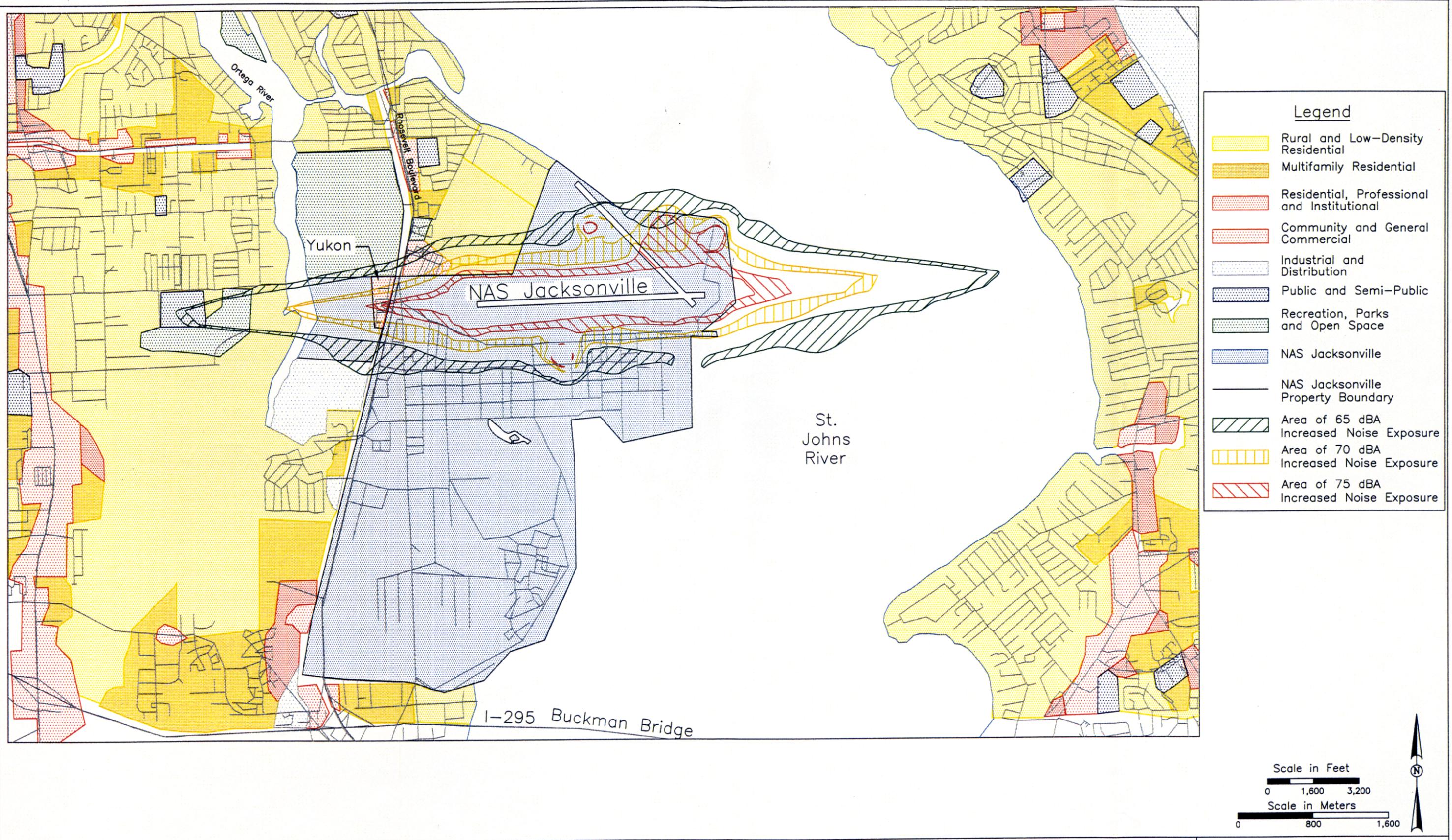


Figure 4-6. Comparison of Future Land Use in the Vicinity of NAS Jacksonville with Areas of Increased Noise Exposure

Environmental Assessment for Base Realignment for S-3 Squadrons from Naval Air Station Cecil Field Florida

Sources: Jacksonville Planning and Development Department 1992; Caliper Corporation 1995; Wyle Laboratories 1996, 1997.

04885W11Y

Table 4-9. Comparison of Off-Station Land Uses Area Within the Day-Night Average Sound Level Noise Contours under Existing Conditions and the Proposed Action

DNL Contour Band	Total Area		Residential				Commercial		Industrial		Public		Recreation/ Conservation		Open	
	(acres)	(hectares)	Rural		Low-Density		(acres)	(hectares)	(acres)	(hectares)	(acres)	(hectares)	(acres)	(hectares)	(acres)	(hectares)
			(acres)	(hectares)	(acres)	(hectares)										
Existing off-station land use																
65-70	528	214	9.8	4.0	82.1	33.2	34.2	13.8	0.0	0.0	9.4	3.8	35.5	4.4	357	145
70-75	149	60	18.0	7.3	0.0	0.0	12.5	5.1	0.0	0.0	0.0	0.0	0.0	0.0	119	48
75+	9	4	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	8.5	3.4
Proposed off-station land use																
65-70	688	278	1.7	0.7	107.7	43.6	31.4	12.7	7.4	3.0	17.8	7.2	51.5	21.0	470	190
70-75	227	92	21.0	9.0	5.6	2.3	18.6	7.5	0.0	0.0	0.0	0.0	0.0	0.0	182	74
75+	54	22	5.1	2.0	0.0	0.0	2.6	1.1	0.0	0.0	0.0	0.0	0.0	0.0	46.5	18.8
Net change in off-station land use																
65-70	159	64	-8.1	-3.3	25.6	10.4	-2.9	-1.2	7.4	3.0	8.4	3.4	15.9	6.4	113	45
70-75	78	32	3.0	1.2	5.6	2.3	6.2	2.5	0.0	0.0	0.0	0.0	0.0	0.0	62.8	25.4
75+	45	18	5.1	2.1	0.0	0.0	2.3	0.93	0.0	0.0	0.0	0.0	0.0	0.0	38.0	15.4

- NOTES: (1) DNL = day-night average sound level
(2) Acreages totals differ slightly from Table 4-2 because of digitizing variations. Also, Table 4-2 does not include off-station water bodies.

SOURCE: Wyle Laboratories 1996.

A field survey was conducted to determine the number of dwelling units that would be affected by the proposed change in noise contours. The survey identified both the existing number of dwelling units and the estimated number of dwelling units that would occur within the DNL 65, 70, and 75 dBA noise contours following the proposed action.

Azalea Mobile Home Park (MHP), located north of NAS Jacksonville, has eighty-seven mobile homes of which seventy-nine are currently within the DNL 65 dBA noise contour. The proposed action would increase by eight the number of mobile homes within the DNL 65 dBA contour and by eighteen the number of mobile homes within the DNL 70 dBA contour.

Two residential developments and several commercial establishments in Yukon Park, located west of NAS Jacksonville, would experience some noise increases under the proposed action. The residential areas are located north of 120th Street and include the Justiss MHP and the Airbase MHP. The Justiss MHP has a total capacity of fifty mobile homes, all of which are within the DNL 65 dBA noise contour and two of which are within the DNL 70 dBA noise contour. Under the proposed action, twenty-one additional mobile homes would be within the DNL 70 dBA contour. The Airbase MHP, located north of the Justiss MHP, has a capacity of thirty-five mobile homes, of which eight are within the DNL 65 dBA noise contour. Eleven additional mobile homes would be within the DNL 65 dBA under the proposed action.

Some commercial areas also would be affected by the proposed action. These areas, which include Holmes Lumber and Supply and several automotive repair shops, are located south of 120th Street in Yukon Park. They currently are within the DNL 70 dBA contour. Under the proposed action, these commercial and industrial establishments would be located within the DNL 75 dBA contour.

A small area west of the Ortega River south of the intersection of Ortega Hills Boulevard and 118th Street also would be affected. The area south of 118th Street is predominantly municipal land and includes the Ringhaver Playscape and Softball Complex, which provides recreational opportunities for local residents. As illustrated in Figure 4-3, the increase in the DNL 65 dBA noise contour would be negligible in this area.

The proposed action is consistent with the NAS Jacksonville Master Plan (SOUTHNAVFACENGCOM 1988), which divides the station into zones that are suitable for various types of development. The proposed action would occur primarily in three of these zones—S-1 (Air Operations, Air Operations Support), G-1 (Industrial, Utilities, and Storage), and G-2 (Community Support)—and would be consistent with the types of development suitable for these areas.

4.9 HOUSING

No significant impacts to housing resources are anticipated. The proximity of the receiving location to NAS Cecil Field would allow most personnel to continue to reside in their current

residences. Only a small percentage (less than 5 percent) of the personnel to be realigned reside in family housing at NAS Cecil Field. The majority of personnel (70 percent) live off site in Duval or Clay Counties. Therefore, a major change in the place of residence of realigned personnel is not anticipated. Given the size, growth, and vacancy rates in the Jacksonville area housing and rental market, personnel seeking housing in the community should have no difficulty finding adequate housing.

A high percentage (greater than 80 percent) of the bachelor enlisted personnel live in bachelor enlisted quarters at NAS Cecil Field. These personnel represent approximately 26 percent of the total personnel to be realigned. The addition of 559 beds to NAS Jacksonville's bachelor enlisted quarters should ensure that bachelor enlisted quarters would be available to meet the increased requirements.

4.10 TRANSPORTATION

The proposed action would not result in a significant increase in traffic in Duval County or within Planning District 4 since the trips associated with the action would remain mostly within the district. However, traffic associated with the squadrons would be shifted to different roads within a more urbanized part of Duval County and Planning District 4.

The estimated number of daily trips associated with the proposed action is 3,154, based on a trip generation rate of 1.78 trips per employee per day and an average of 1,772 squadron related personnel at the station (ITE 1994). The peak-hour traffic associated with the action would be approximately 315 trips, or 10 percent of total daily trips. Access to NAS Jacksonville is via U.S. Highway 17 (Roosevelt Boulevard), which currently operates at level of service (LOS) B and has an adopted minimum of LOS D. Two roads feed into Roosevelt Boulevard: I-295 and Timuquana Road. I-295 operates at LOS C and has an adopted minimum of LOS D. Timuquana Road currently operates at LOS E and has an adopted minimum of LOS E (Figure 3-13, Table 3-12).

The available peak-hour capacities of roads in the vicinity of NAS Jacksonville are listed in Table 3-12. Roosevelt Boulevard, I-295, and Timuquana Road all have sufficient capacity to handle the additional peak-hour traffic that would be generated under the proposed action. Roosevelt Boulevard currently operates at LOS B with an available capacity of 1,233 trips. The proposed action would decrease the available capacity by 26 percent. However, the LOS for Roosevelt Boulevard still would exceed the City of Jacksonville adopted LOS for that roadway. I-295 currently has available capacity ranging from 1,952 to 3,916. I-295 easily would absorb any increase in trips. Timuquana Road, from Wesconnett Boulevard to Ortega Farms, operates at LOS E with available capacity of 513 trips. Timuquana Road would have sufficient capacity to handle the increase in traffic without a reduction in the existing LOS.

Several factors likely would reduce the impact of the proposed action on the local roadway system. First, the A.M. and P.M. peak commuting hours for military personnel usually precede the A.M. and P.M. peak commuting hours of the general population. Second, the flow of traffic

generated by personnel at NAS Jacksonville is largely opposite the primary traffic flow toward the central business district during peak hours. Third, the trips associated with the proposed action would not result in a net increase in trips in the area; an increase in trips on one roadway should be accompanied by a reduction of trips at another location.

4.11 POTABLE WATER AND WASTEWATER TREATMENT

The proposed action would have no significant impacts on the availability and quality of water at NAS Jacksonville. The estimated increase in potable water usage associated with the proposed action would total 0.22 million gallons per day (mgd) (0.83 million liters per day) and would increase the total usage at the station to approximately 1.42 mgd (5.4 million liters per day). The current water capacity of 10.0 mgd (37.8 million liters per day) is capable of handling the increase associated with the proposed action.

Relocating the S-3 squadrons to NAS Jacksonville would have no significant impact on the current demand at the wastewater treatment facility. The estimated increase in wastewater demand associated with the proposed action would total an additional 0.19 mgd (0.71 million liters per day), which would increase overall demand at the station to 1.34 mgd (5.07 million liters per day). The current capacity of 3.0 mgd (11.4 million liters per day) would be sufficient to handle the increase in demand associated with the proposed action.

4.12 SAFETY

Data used to describe aircraft safety and accident potential usually include mishap rates per 100,000 flying hours for each type of aircraft and the number of years between major mishaps, which is predicted by comparing the mishap rate with the proposed number of hours to be flown annually (Air National Guard 1995). Class A mishaps result in loss of life, permanent total disability, a total cost in excess of \$1 million, destruction of aircraft, or damage to an aircraft beyond economic repair.

The Class A mishap rate for the S-3 aircraft since 1980 is 1.35 mishaps per 100,000 flight hours for land-based operations (not carrier-based operations). The S-3 squadrons at NAS Jacksonville would fly an estimated 14,000 flight hours per year. The actual record of Class A mishaps within a 10-mile radius of NAS Cecil Field for S-3 aircraft is 3 mishaps over the past seventeen years. All 3 mishaps occurred at NAS Cecil Field, 2 on the runway resulting from problems related to the landing gear and 1 within 200 yards of the runway while performing a touch-and-go pattern. The most recent accident occurred in December 1991. None of the mishaps involved ordnance. Based on these mishap rates, the introduction of S-3 aircraft is unlikely to result in significantly higher potential for flight mishaps at NAS Jacksonville. The existing fire and emergency response personnel and equipment at the NAS Jacksonville Fire Department are capable of handling any increases in flight activity associated with the introduction of the S-3 aircraft (Swathwood 1996).

While engaged in flight operations at NAS Jacksonville, S-3 aircraft ordnance would be determined by each flight mission and operation. However, ordnance carried by these aircraft

would consist of weapons that are currently in the P-3 aircraft inventory, which includes general-purpose bombs, torpedoes, mines, and missiles (Swathwood 1996).

Relocating the S-3 aircraft to NAS Jacksonville would not require any new weapon types to be used or stored at the station. All weapons storage and disposal would be in accordance with the NAS Jacksonville Weapons Department procedures and would be similar to the P-3 weapons storage protocol (Swathwood 1996).

4.13 ARCHAEOLOGICAL AND HISTORICAL RESOURCES

Potential impacts to archaeological and cultural resources at NAS Jacksonville have been evaluated in compliance with Section 106 of the National Historic Preservation Act (of 1966), as amended.

No known archaeological resources within or adjacent to the proposed construction areas were reported to be listed with the Florida Master Site File or on the *National Register of Historic Places*. Florida Archeological Services recently completed cultural resource fieldwork at NAS Jacksonville as part of the facility's Historical and Archaeological Resources Protection Plan. Several archaeological sites were identified south of the proposed construction areas adjacent to the St. Johns River, but no archaeological sites were identified within or adjacent to the proposed construction areas (Johnson 1996). Based on these findings, none of the proposed construction activities are expected to impact known archaeological resources. However, should ground-disturbing activities uncover any archaeological resource, the activities shall be stopped and the State Historic Preservation Office notified immediately in order to prepare plans to mitigate potential adverse effects.

Modifications to Hangar 113 and the additions to Building 506 are the only construction activities associated with the proposed action that could impact historic sites at NAS Jacksonville. Building 1, which is eligible for listing on the *National Register of Historic Places* (Appendix B, Division of Historical Resources letter dated November 7, 1996), is adjacent to the north and west sides of Building 506. The proposed addition to the south side of Building 506 for the S-3 tactical support center may impact Building 1 because of architectural contrasts between the two buildings. Hangar 113 has been identified as a contributing building to the potentially eligible *Flight Line* Historic District (Appendix B, Division of Historical Resources letter dated November 7, 1996). Modifications to Hangar 113 would be primarily internal (Section 2.2.1). Modifications to Hangar 113 will be completed in accordance with the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitation of Historic Buildings and will be coordinated with the State Historic Preservation Office. Consultation with the State Historic Preservation Office is underway regarding the designs for the addition to Building 506.

Preliminary cultural resource survey results indicate that archaeological resources have been identified at OLF Whitehouse. However, continued use of the airfield for S-3 flight operations would not impact identified archaeological resources (Johnson 1996).

4.14 SUMMARY OF IMPACTS OF THE PROPOSED ACTION

The National Environmental Policy Act requires an environmental assessment to address the short-term gains versus long-term benefits of a proposed action and to identify whether the proposed action forecloses future options. The proposed action at NAS Jacksonville would result in the renovation of an existing high-power runup pad and several existing facilities and the construction of a simulator training facility and an addition to Building 506. The renovation and construction activities would provide short-term economic benefits in the form of increased employment and payrolls, both direct and indirect, for the duration of the project. The proposed relocation of the six squadrons to NAS Jacksonville would have a generally positive impact on the socioeconomic environment of the area.

The simulator training facility and the addition to Building 506 would be constructed in previously developed areas of NAS Jacksonville. Construction of the proposed facilities would disturb approximately 2 acres (0.8 hectare) of existing soils and would increase the amount of impervious surface at NAS Jacksonville. This construction activity could cause temporary localized impacts to surface waters. The construction and use of these facilities would be compatible with surrounding land uses and would cost-effectively serve the needs of NAS Jacksonville. A small stand of oak and pine trees would be removed within the southeast corner of the area to be cleared for the construction of the simulator training facility.

Possible resurfacing of the existing high-power runup pad on the northeast side of Runway 14-32 would not be expected to significantly impact nearby surface waters or wetlands. All necessary permits would be obtained from the U.S. Army Corps of Engineers and the Florida Department of Environmental Protection prior to any renovation of the pad.

Neither the construction nor the S-3 aircraft operations would impact prime or unique farmlands at NAS Jacksonville or OLF Whitehouse. No federal- or state-listed species would be impacted.

Relocating of the six S-3 squadrons would result in air pollutant emissions from construction activities and a minor annual increase from existing conditions of mobile-source emissions at NAS Jacksonville. Duval County currently is designated as a maintenance area for ozone. The de minimis levels for the precursors to ozone formation—volatile organic compounds and NO_x—are 100 tons (91 metric tons) per year for each in maintenance areas. An applicability analysis performed under the General Conformity Rule (40 CFR Part 93) determined that increases in both volatile organic compounds and NO_x emissions from all project-related sources are well below de minimis values of 100 tons (91 metric tons) per year for total direct and indirect emissions under federal control. Therefore, the action is presumed to conform to the state implementation plan and, under the General Conformity Rule, a conformity determination is not required. All necessary permits for new sources would be obtained in accordance with state regulations.

Noise impacts from proposed S-3 aircraft operations at NAS Jacksonville on off-station land areas, dwellings, and populations would increase slightly from existing (1994) conditions but would decrease considerably when compared to the conditions during the 1978 AICUZ study. The off-station land area within the DNL 65 dBA noise contour would increase by 77 acres compared to the existing (1994) conditions but would decrease by 1,398 acres when compared to the acreage in the 1978 AICUZ study. Noise from the construction of the proposed facilities would be temporary and would be confined to the NAS Jacksonville.

Hazardous wastes would be generated by the action by operation and maintenance activities. However, the existing hazardous waste facilities at NAS Jacksonville are adequate to handle these additional wastes.

Both NAS Cecil Field and NAS Jacksonville are located within Duval County and within the same Planning District. This reduces many of the socioeconomic impacts that typically would be associated with a major realignment of personnel. Potential impacts to public services and facilities such as schools, utilities, police, fire and emergency services, and recreation facilities are expected to be minor. The majority of personnel and their dependents already live in the community and use public services and facilities.

The proposed action would not result in a significant change in the population of the Jacksonville Metropolitan Statistical Area since the majority of personnel and their dependents associated with the action already reside in the region. NAS Jacksonville's military and civilian personnel totaled 20,927 persons in 1995. The number of military and civilian personnel associated with the proposed action totals 2,274. The proposed realignment would result in a 13 percent increase in the employment at the base (excluding reserve personnel).

Construction projects and the resulting income and employment associated with these projects would have a short-term beneficial impact on the economy of the area. The cost of the proposed additions and modifications at NAS Jacksonville is approximately \$17.0 million. The project would employ approximately 155 persons for the equivalent of one year, and construction-related wages would be approximately \$4.6 million.

The development associated with the proposed action would occur within developed areas at NAS Jacksonville that are distant from off-station areas. Development would not significantly impact off-station areas. The proposed action is also consistent with the NAS Jacksonville Master Plan (SOUTHNAVFACENGCOM 1988). On-station development would take place in areas appropriate for air operations, air operations support, industrial, utilities, storage, and community support and would be consistent with development suitable for these areas.

No significant impacts to housing resources are anticipated since the majority of personnel are expected to continue to reside in their current residences.

The proposed action would not significantly increase traffic in Duval County or in Planning District 4. The estimated number of daily trips associated with the proposed action is 3,154, based on a trip generation rate of 1.78 trips per employee per day and an average of 1,772 squadron-related personnel at the station (ITE 1994). While these trips would be distributed on different roadways within the urban area, the major access routes to NAS Jacksonville are anticipated to maintain LOSs at or above the adopted standards for those roads.

The proposed action would not significantly impact potable water or wastewater systems serving NAS Jacksonville. The introduction of S-3 aircraft to NAS Jacksonville is unlikely to result in significantly higher potential for flight mishaps at NAS Jacksonville. No additional fire or emergency response equipment would be required as a result of the proposed action.

Potential impacts to archaeological and cultural resources at NAS Jacksonville and OLF Whitehouse have been evaluated in compliance with Section 106 of the National Historic Preservation Act (of 1966), as amended. None of the proposed construction activities at NAS Jacksonville are expected to impact known archaeological resources. Modifications to Hangar 113 will be coordinated with the State Historic Preservation Office and will be completed in accordance with the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitation of Historic Buildings. Consultation with the State Historic Preservation Office is underway regarding the designs for the addition to Building 506.

Preliminary cultural resource survey results indicate that archaeological resources have been identified at OLF Whitehouse. However, continued use of the airfield for S-3 flight operations would not impact identified archaeological resources (Johnson 1996).

Cumulative Impacts

Cumulative Impacts

Cumulative impacts are the incremental effects over time of a proposed action when added to other past, present, and reasonably foreseeable similar or related actions. This section discusses other actions that, when combined with the proposed action, may result in cumulative impacts.

Military downsizing and changes in national defense policy are affecting installations throughout the nation. P-3 operations at NAS Jacksonville are being affected by these processes. P-3 squadrons based at NAS Jacksonville currently include one reserve, one training, and three active squadrons. The number of active squadrons has been reduced by one since 1994, resulting in fewer P-3 aircraft operations. P-3 flight hours are forecasted to total 97 percent of existing flight hours. Thus, number of P-3 operations in 1998 is estimated to total 69,092, or 97 percent of current levels.

Helicopter squadrons currently based at NAS Jacksonville consist of one reserve and five active Seahawk squadrons conducting antisubmarine warfare operations. The six squadrons currently have thirty-eight SH-60F and SH-60H helicopters, including six helicopters in the reserve unit. In addition, one reserve squadron of six SH-3H Sea King helicopters is based at the station. By 1998, the total number of SH-60 helicopter operations is estimated to be reduced by 3,867 operations because of reductions in the number of SH-60 helicopter squadrons. These reductions have been incorporated into the noise modeling for 1998.

In contrast to the projected reduction in existing aircraft at NAS Jacksonville, the station is in an area of expanding population and economic activity. The population of the Jacksonville region has had strong growth in the past and is projected to continue to grow at a healthy rate compared to many areas in the United States. The population of the Jacksonville Metropolitan Statistical Area increased by approximately 185,000 persons from 1980 to 1990. The Metropolitan Statistical Area is projected to increase by another 162,000 persons from 1990 to 2000.

The overall makeup of the military in the Jacksonville region has changed over the past few years and will continue to change. NAS Cecil Field, the largest military base in the Jacksonville area with a land area of nearly 23,000 acres (9,274 hectares) and approximately 7,700 employees, is scheduled for closure in July 1999. The closure and subsequent reuse of the property will be an important component of growth in the region well into the twenty-first century. Naval Station Mayport currently has a base population of approximately 18,000 active-duty military and civilian personnel and is projected to become the homeport for

additional ships. Similarly, Naval Submarine Base Kings Bay employment has increased in recent years because the number of submarines located at the base has increased.

Therefore, the effects of the proposed relocation of six S-3 squadrons to NAS Jacksonville under the proposed action are expected to be minor when considered in the context of overall growth in the Jacksonville region and the changes in activity at other military installations in the area. No significant cumulative impacts to physical, biological, or socioeconomic resources are anticipated as a result of the relocation when combined with other recent and near-future actions at NAS Jacksonville.

6

**Relationship of the Proposed Action
to Federal, State, and Local Land
Use Plans, Policies, and Controls
for the Area Concerned**

Relationship of the Proposed Action to Federal, State, and Local Land Use Plans, Policies, and Controls for the Area Concerned

6.1 FEDERAL LAND USE POLICY AND REGULATION

This environmental assessment has been prepared in accordance with the following regulations:

- Section 102(2)(c) of the 1969 National Environmental Policy Act (NEPA)
- The Council on Environmental Quality NEPA Regulations (40 Code of Federal Regulations, Parts 1500–1508 of November 29, 1978)
- Office of the Chief of Naval Operations Instruction 5090.1B, which implements, within the Department of the Navy, the requirements set forth by NEPA

A summary of the various laws and coordination requirements and the extent to which the action at NAS Jacksonville complies or conflicts with each of these laws and requirements are presented in this section.

6.1.1 National Environmental Policy Act

NEPA directs that “to the fullest extent possible...all agencies of the Federal Government shall...insure that presently unquantified environmental amenities and values may be given appropriate consideration in decision-making along with economic and technical considerations.” This environmental assessment has been prepared to comply with the provisions of NEPA. It presents the potential environmental impacts of the proposed action and reasonable alternatives. The impacts are shown to be minor. Final compliance with NEPA would be effective upon the signing and distribution of the Finding of No Significant Impact, if appropriate.

6.1.2 National Historic Preservation Act

Section 106 of the National Historic Preservation Act of 1966 requires federal agencies to consider the potential effects of a proposed action on historic, architectural, or archaeological resources that are eligible for inclusion on the *National Register of Historic Places* and to afford the President’s Advisory Council on Historic Preservation an opportunity to comment. Section 110 of the act requires federal agencies to identify, evaluate, inventory, and protect *National Register of Historic Places* resources on properties they control.

As discussed in Section 4.13, potential impacts to archaeological and historic resources at NAS Jacksonville have been evaluated in compliance with Section 106 of the National

Historic Preservation Act. No archaeological resources known to be eligible or potentially eligible for listing on the *National Register of Historic Places* are present within the vicinity of the facilities proposed for construction or renovation at NAS Jacksonville.

Based on these findings, construction activities within the proposed construction and renovation areas at NAS Jacksonville would not be expected to adversely impact known archaeological resources. Archaeological resources discovered during the proposed construction work will be brought to the attention of the Florida State Historic Preservation Office. Modifications to Hangar 113 and the addition to Building 506 are the only construction activities associated with the proposed action that could impact historic sites at NAS Jacksonville. Modifications to Hangar 113 will be coordinated with the State Historic Preservation Office and will be completed in accordance with the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitation of Historic Buildings. Consultation with the State Historic Preservation Office is underway regarding the designs for the addition to Building 506.

Preliminary cultural resource survey results provided by Florida Archeological Services (Johnson 1996) indicate that archaeological resources have been identified at OLF Whitehouse. However, continued use of the airfield for S-3 flight operations would not impact identified archaeological resources (Johnson 1996).

6.1.3 Coastal Zone Management Act

The Coastal Zone Management Act of 1972 (16 USC 1451 et seq.), as amended, provides for the preservation, protection, development, and, where feasible, restoration or enhancement of the nation's coastal zone resources. The Navy is obligated to ensure that any of its activities that would directly affect or that would be conducted in the coastal zone are carried out in a manner that is, to the maximum extent practicable, consistent with approved coastal zone management programs.

The State of Florida has an approved Coastal Management Program. Federal agency activities in or affecting Florida's coastal zone or activities requiring federal permits must comply with Section 307 of the Coastal Zone Management Act and implementing regulations (15 CFR Part 930), which require that such federal activities be conducted in a manner consistent with Florida's Coastal Management Program.

The following policies of the Florida Coastal Management Program, developed in response to the Federal Coastal Zone Management Act of 1972, were reviewed during the preparation of this environmental assessment with respect to the proposed action. Applicable sections of the environmental assessment have been referenced.

- Chapter 161—Beach and Shore Preservation (Section 2.2.1)
- Chapter 253—State Lands
 - Archaeological and historic resources (Section 4.13), water resources (Section 4.5), fish and wildlife resources (Section 4.6.2), and wetlands (Section 4.5)
- Chapter 267—Historic Preservation (Section 4.13)
- Chapter 334—Public Transportation (Section 4.10)
- Chapter 372—Living Land and Freshwater Resources (Section 4.6)
- Chapter 373—Water Resources
 - Withdrawal, diversion, storage, and consumption of water (Sections 4.5 and 4.11)
- Chapter 376—Pollutant Spill Prevention and Control (Section 4.3)
- Chapter 403—Environmental Control
 - Sources of water (Section 4.1.4) and air pollution (Section 4.1.1), dredging and filling (Section 4.5), control of hazardous wastes (Section 4.3), and resource recovery (Section 4.3)
- Chapter 582—Soil and Water Conservation (Sections 4.4 and 4.5)

Appendix E contains a Florida Coastal Management Program Consistency Review for the proposed action. Based on the information presented in this environmental assessment and summarized in Appendix E, the proposed action is not considered controversial and is consistent, to the maximum extent practicable, with the goals and objectives of the Florida Coastal Management Program.

6.1.4 Executive Order 11988

Executive Order 11988—Floodplain Management (issued May 24, 1977)—requires that federal agencies avoid activities that directly or indirectly result in the development of floodplain areas. The areas proposed for construction of the simulator training facility and the tactical support center addition to Building 506 are located above the 100-year floodplain elevation. Therefore, the construction and operation of the proposed facilities would not result in the development or degradation of floodplain areas.

6.1.5 Executive Order 11990

Executive Order 11990—Protection of Wetlands (issued May 24, 1977)—requires that federal agencies minimize the loss or degradation of wetlands and protect wetlands on their property. Wetlands have been avoided to the extent possible during the planning phase for relocating the six S-3 squadrons to NAS Jacksonville, and constructing the simulator training facility and the addition to Building 506 would not result in the loss of any wetlands nor significantly affect any wetlands on the station.

6.1.6 Executive Order 12898

Executive Order 12898—Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (issued February 11, 1994)—requires that each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high or adverse human health or

environmental effects of its programs, policies, and activities on minority populations and low-income populations. Within the Navy, the U.S. Department of Defense Strategy on Environmental Justice (24 March 1995) establishes policy and assigns responsibility for implementing Executive Order 12898.

The proposed construction and renovation projects at NAS Jacksonville are located in developed areas of the station and would not affect off-station land areas. The off-station acreage within the day-night average sound level 65 A-weighted decibel contour band that is over residential land would increase by 31 acres (13 hectares). However, neither this increase or the relocation of the S-3 squadrons to NAS Jacksonville would have adverse human health, economic, or social effects on minority, low-income, or other communities in the vicinity of the station.

6.1.7 Executive Order 12902

Executive Order 12902—Energy Efficiency and Water Conservation at Federal Facilities (issued March 8, 1994)—requires that federal agencies develop and implement projects that promote energy efficiency, water conservation, and the use of renewable energy sources, such as solar, geothermal, and wind energy. In particular, Section 305 requires all federal agencies to reduce the use of petroleum in their buildings and facilities and, where practical and cost effective, to switch to natural gas or solar and other renewable energy sources. Section 306 requires that the design and construction of new federal facilities (1) minimize the life cycle cost of the facility by using energy efficiency, water conservation, or solar or other renewable energy technologies and (2) use passive solar design and adopt active solar technologies where they are cost effective.

Facilities required by the proposed action would be used for flight training, office space, operational and maintenance space, and maintenance training by the S-3 squadron personnel. None of these functions would require excessive amounts of energy or water. Construction of the new facilities would generate no significant new demands on existing power generation facilities. Existing boilers would provide the hot water and steam required for aircraft maintenance areas. However, some of the new and renovated facilities would be heated by electric heat.

6.1.8 Clean Water Act

The Clean Water Act, as amended, regulates the dredging and filling of freshwater and coastal wetlands. Section 404 (33 USC 1344) of the Clean Water Act prohibits the discharge of dredged or fill material into waters (including wetlands) of the United States without first obtaining a permit from the U.S. Army Corps of Engineers. Wetlands are regulated in accordance with federal NonTidal Wetlands Regulations (Sections 401 and 404). Wetlands have been avoided to the extent possible during the planning phase for relocating the six S-3 squadrons to NAS Jacksonville. Construction of the simulator training facility and the addition to Building 506 would not result in the loss of any wetlands.

Section 401 of the Clean Water Act (33 USC 1341) requires applicants to obtain state certification for activities that may result in a discharge of pollutants into waters of the United States. This typically includes industrial point sources and sanitary wastewater discharges into streams or rivers, which are covered under the National Pollutant Discharge Elimination System (NPDES) program. The NPDES program was amended to include stormwater conveyances for many industrial activities and for construction areas comprising 5 or more acres (2 hectares). Construction of the proposed facilities would disturb less than 5 acres (2 hectares) and therefore would not require an NPDES permit for stormwater associated with construction areas. The construction of the simulator training facility and the addition to Building 506 may require a slight modification to the existing NPDES stormwater permit for NAS Jacksonville.

Water quality concurrence would be permitted under Section 401 of the Clean Water Act if discharges meet state water quality standards. Stormwater discharges from construction sites would be treated by appropriate methods, and stormwater controls would be incorporated into the site design, as required by federal and state regulations. No new point-source discharges to surface waters are part of the proposed action. Additional discharges to the sanitary sewer system would be well within the capacity of the system.

6.1.9 Clean Air Act

The Clean Air Act of 1970 and its amendments provide for the protection and enhancement of the nation's air resources. The U.S. Environmental Protection Agency regulates more than 200,000 existing stationary air emission sources throughout the United States through its permitting programs, some of which are administered by the Florida Department of Environmental Protection. This environmental assessment will be provided to the U.S. Environmental Protection Agency in accordance with Section 309 of the Clean Air Act. Copies also will be provided to appropriate state agencies to ensure conformity of the proposed action with the Florida State Implementation Plan, in accordance with Section 176(c) of the Clean Air Act. Compliance with the National Ambient Air Quality Standards is expected based on the results of air quality analyses.

The possible minor additional sources of volatile organic compounds and nitrogen oxides emissions associated with the proposed action would be permitted and controlled, as required, in compliance with the Clean Air Act and the state implementation plan. An applicability analysis under the General Conformity Rule (40 CFR Part 93) was performed since the Air Quality Control Region is designated a maintenance area for ozone. The analysis determined that project emissions would be below de minimis levels for volatile organic compounds and nitrogen oxides and therefore would be in conformance with the state implementation plan.

6.1.10 Fish And Wildlife Coordination Act

Section 10 of the Fish and Wildlife Coordination Act (16 USC 661-666) directs federal agencies to consult with the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and state agencies before authorizing alterations to water bodies. The purpose of the

act is to assure that wildlife conservation receives equal consideration and that it is coordinated with other features of water resource programs.

The Navy has coordinated the proposed action to relocate six S-3 squadrons to NAS Jacksonville with the U.S. Fish and Wildlife Service (Appendix B, USFWS notification dated December 9, 1996) and state wildlife agencies. The views and recommendations of these agencies have been considered fully in the preparation of this environmental assessment. No alterations to open water bodies would be made as part of this action.

6.1.11 Endangered Species Act

The Endangered Species Act of 1973 (16 USC 1531 et seq.) requires that any action authorized by a federal agency not be likely to jeopardize the continued existence of an endangered or threatened species or result in the destruction or adverse modification of habitat of such species that is determined to be critical. The Navy has coordinated the proposed relocation of six S-3 squadrons to NAS Jacksonville with the U.S. Fish and Wildlife Service (Appendix B, USFWS notification dated December 9, 1996) and state wildlife agencies.

The proposed project would not impact any known nesting or breeding populations of federal- or state-listed wildlife at NAS Jacksonville. No known federal- or state-protected species are present in the vicinity of proposed construction sites.

6.1.12 Farmland Protection Policy Act

The purpose of the Farmland Protection Policy Act is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. No soils classified by the Soil Conservation Service as prime or unique farmland soils would be affected under the proposed action.

6.1.13 Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA), 42 USC 6901, was established to protect human health and the environment from the hazards associated with solid wastes and hazardous waste generation, transportation, treatment, storage, and disposal. Subtitle C of RCRA imposes specific requirements for developing hazardous waste management plans on the owners and operators of hazardous waste facilities. The Hazardous and Solid Waste Amendments of 1984 amended RCRA to include the cleanup through corrective action of past releases of hazardous wastes at RCRA-regulated facilities. RCRA provides for the tracking of hazardous wastes through a record-keeping system that requires the manifesting of hazardous waste shipments from point of generation to ultimate disposal.

The relocation of the six S-3 squadrons to NAS Jacksonville is not expected to affect the station's status as a Class I generator of hazardous wastes, nor is it expected to affect the existing hazardous waste management plan. NAS Jacksonville is expected to maintain operation of its Part B permitted storage facilities. No Installation Restoration sites or

potential sources of contamination would be impacted since construction projects would be coordinated with the Installation Restoration Program manager.

6.1.14 NAS Jacksonville Master Plan and Natural Resource Management Plan

The major goals of the 1988 Master Plan for NAS Jacksonville were to provide an integrated and comprehensive guide to the future development of NAS Jacksonville and to ensure the logical and efficient use of facilities and real estate. The master plan was designed to ensure that projects were sited to meet operational, safety, and environmental requirements and to ensure that road and utility infrastructure and site improvements have been considered. However, the master plan did not envision the relocation of six S-3 squadrons to NAS Jacksonville and the departure of P-3 and H-60 squadrons from NAS Jacksonville. The master plan and the natural resources management plan will need to be amended to reflect the recent changes at NAS Jacksonville. However, the construction of the proposed facilities required for the relocation of the six S-3 squadrons to NAS Jacksonville would be compatible with other land uses in the area and would not significantly impact natural resources at the station.

6.2 STATE AND LOCAL LAND USE POLICY AND REQUIREMENTS

As a part of the federal government's landholdings, NAS Jacksonville is exempt from most state and local zoning and planning regulations. However, Navy policy is to work closely with state and local officials and to comply with state and local regulations to the maximum extent practicable while remaining consistent with mission and operational requirements.

6.2.1 State and County Floodplain, Stormwater, and Wetland Regulations

The state has regulations pertaining to development impacts on floodplains, stormwater, and wetlands. The St. Johns River Water Management District, the Florida Department of Environmental Protection, and other state agencies would review the plans for the proposed action and determine its compliance with applicable state regulations. The contractors for the proposed action would obtain all necessary permits, including an Environmental Resources Permit from the St. Johns River Water Management District, permits from the Florida Department of Environmental Protection, and approval from the appropriate state and local regulatory agencies before proceeding with construction of the proposed facilities.

6.2.2 Local Land Use Plans and Zoning

None of the proposed facility renovation or construction conflicts with local land-use plans or zoning requirements. The proposed new construction at NAS Jacksonville is similar to existing development already on the property.

7

Means to Mitigate and/or Monitor Adverse Environmental Impacts

Means to Mitigate and/or Monitor Adverse Environmental Impacts

The minor environmental impacts that would occur from the relocation of the S-3 squadrons to NAS Jacksonville primarily would result from the construction of the proposed facilities, since only internal renovations would be made to the existing buildings. A variety of measures would be implemented, as necessary, to ensure compliance with all applicable federal and state regulations. Mulching, silt fences, filter fabric, and possibly temporary detention basins would be used to minimize and mitigate potential impacts from soil erosion and impacts to receiving waters during construction. The proposed new facilities would be constructed on approximately 2 acres (0.8 hectares) in previously developed areas.

The simulator training facility site is currently a grassed lawn with a cluster of oaks and pines in its southeast corner. The site for the tactical support center addition to Building 506 is currently a parking area. Construction of these proposed facilities would not require any mitigation and would not impact any wetland areas or habitat of federal- or state-listed species.

As part of the proposed action, the S-3 squadrons would conduct flight operations at both NAS Jacksonville and OLF Whitehouse. Approximately 20,736 S-3 flight operations would be conducted at OLF Whitehouse, and 17,331 flight operations would be conducted at NAS Jacksonville. The total number of flight operations each year at NAS Jacksonville would include an estimated 6,465 touch-and-go operations, 2,016 field carrier landing practice (FCLP) operations, 4,425 arrivals, and 4,425 departures. Approximately 18,144 FCLP flight operations are projected to be conducted at OLF Whitehouse each year, compared to 2,016 FCLP flight operations at NAS Jacksonville. In inclement weather, FCLP operations would be conducted at NAS Jacksonville because OLF Whitehouse lacks an approach radar. This would occur only during periods of required training when the aircraft ceilings are below 1,000 feet (304.8 meters). By conducting these operations at OLF Whitehouse, the total potential noise impacts to the area surrounding NAS Jacksonville would be reduced significantly.

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List of Agencies Consulted

List of Agencies Consulted

Federal, state, and local agencies were consulted prior to and during the preparation of this environmental assessment. Agencies were notified of the proposed action by mailings, by scheduled meetings, or by telephone conversations. The agencies' viewpoints were solicited with regard to activities within their jurisdiction. The agencies contacted include, but are not limited to, those listed below.

9.1 FEDERAL AGENCIES

- U.S. Department of the Interior
 - U.S. Fish and Wildlife Service, Region IV, 1875 Century Boulevard, Atlanta, Georgia 30345
- U.S. Department of the Interior
 - U.S. Fish and Wildlife Service, 6620 Southpoint Drive South, Suite 310, Jacksonville, Florida 32216-0912
- U.S. Environmental Protection Agency
 - Region 4, 345 Courtland Street NE, Atlanta, Georgia 30365
- U.S. Geological Survey, 227 North Bronough Street, Suite 3015, Tallahassee, Florida 32301

9.2 STATE AGENCIES

- Florida Department of Environmental Protection, Division of Air Resources Management, 2600 Blair Stone Road, Tallahassee Florida 32399-2400
- Florida Department of Environmental Regulation, Northeast District Office, 7852 Baymeadows Way, Suite B200, Jacksonville, Florida 32256-7577
- Florida Department of State, Division of Historical Resources, 500 South Bronough Street, Tallahassee, Florida
- Florida Department of Transportation, District 2, P.O. Box 1089, Lake City, Florida 32056
- Florida Game and Fresh Water Fish Commission, Wildlife Research Laboratory, 4005 South Main Street, Gainesville, Florida 32601-9099
- St. Johns River Water Management District, State Road 100, P.O. Box 1429, Palatka, Florida 31278-1429
- State of Florida Facilities Coordinator, Florida Department of Environmental Protection, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400

9.3 LOCAL GOVERNMENTS AND AGENCIES

- City of Jacksonville, Regulatory and Environmental Services Department, 421 West Church Street, Suite 412, Jacksonville, Florida 32202-4111

- Duval County Property Appraiser's Office, 231 East Forsyth Street, Jacksonville, Florida 32202
- Duval County Public Schools, 1701 Prudential Drive, Jacksonville, Florida 32207
- Jacksonville Planning and Development Office, 128 East Forsyth Street, Florida Theater Building, Jacksonville, Florida 32202
- Jacksonville Port Authority, P.O. Box 3005, Jacksonville, Florida 32206
- Clay County District Schools, 900 Walnut Street, Green Cove Springs, Florida 32043

List of Preparers

William M. Kinser

Socioeconomic Resources

Planning: 10 years of experience in local government planning, land use analysis, and impact assessment studies.

Theodore S. Kitchens

Socioeconomic Resources

Planning: 1 year of experience in impact assessment studies.

Margaret T. Cheaney

Mapping/CAD Graphics

Experience: 16 years of experience in environmental permitting projects; 8 years of experience in computer-aided drafting and design.

Matt S. Goodrich

Mapping/CAD Graphics

Engineering: 1 year experience of in environmental engineering projects.

Appendix A

**Common and Scientific Names of
Plants and Animals Referenced
in this Environmental Assessment**

Common and Scientific Names of Plants and Animals Referenced in this Environmental Assessment (Page 1 of 3)

Common Name	Scientific Name
Flora	
Grasses, Rushes, and Sedges	
Threeawn grass	<i>Aristida sp.</i>
Herbs	
Bartram's ixia	<i>Sphenostigma coelestinum</i>
Catesby's lily	<i>Lilium catesbaei</i>
Cattails	<i>Typha sp.</i>
Chaffseed	<i>Schwalbea americana</i>
Curtiss' sandgrass	<i>Calamovilfa curtissii</i>
Florida spiny-pod	<i>Matelea floridana</i>
Green ladies-tresses	<i>Spiranthes polyantha</i>
Lake-side sunflower	<i>Helianthus carnosus</i>
Southern milkweed	<i>Asclepias viridula</i>
Star anise	<i>Ilicium parviflorum</i>
Terrestrial peperomia	<i>Peperomia humilis</i>
Yellow fringeless orchid	<i>Platanthera integra</i>
Shrubs and Vines	
Gallberry	<i>Ilex glabra</i>
Saw palmetto	<i>Serenoa repens</i>
Trees	
Flowering dogwood	<i>Cornus florida</i>
Oaks	
Laurel	<i>Quercus laurifolia</i>
Live	<i>Quercus virginiana</i>
Southern red	<i>Quercus falcata</i>
Turkey	<i>Quercus laevis</i>
Pines	
Loblolly	<i>Pinus taeda</i>
Longleaf	<i>Pinus palustris</i>
Slash	<i>Pinus elliottii</i>
Southern magnolia	<i>Magnolia grandiflora</i>
Southern willow	<i>Salix caroliniana</i>
Fauna	
Mammals	
Florida black bear	<i>Ursus americanus floridanus</i>
Gray squirrel	<i>Sciurus carolinensis</i>

Common and Scientific Names of Plants and Animals Referenced in this Environmental Assessment (Page 2 of 3)

Common Name	Scientific Name
Nine-banded armadillo	<i>Dasypus novemcinctus</i>
Opossum	<i>Didelphis virginiana</i>
Pocket gopher	<i>Geomys pinetus</i>
Raccoon	<i>Procyon lotor</i>
Sherman's fox squirrel	<i>Sciurus niger shermani</i>
West Indian manatee	<i>Trichechus manatus latirostris</i>
White-tailed deer	<i>Odocoileus virginianus</i>
Birds	
Bald eagle	<i>Haliaeetus leucocephalus</i>
Blue-winged teal	<i>Anas discors</i>
Brown pelican	<i>Pelicanus occidentalis</i>
Eastern bluebird	<i>Sialia sialis</i>
Eastern meadowlark	<i>Sturnella magna</i>
Great blue heron	<i>Ardea herodias</i>
Great crested flycatcher	<i>Myiarchus crinitus</i>
Least tern	<i>Sterna antillarum</i>
Northern harrier	<i>Circus cyaneus</i>
Pintail	<i>Anas acuta</i>
Rufous-sided towhee	<i>Pipilo erythrophthalmus</i>
Southeastern American kestrel	<i>Falco sparverius paulus</i>
Snowy egret	<i>Egretta thula</i>
Tricolored heron	<i>Egretta tricolor</i>
Wild turkey	<i>Meleagris gallopavo</i>
Wood duck	<i>Aix sponsa</i>
Woodstork	<i>Mycteria americana</i>
Worthington's marsh wren	<i>Cistothorus palustris griseus</i>
Reptiles	
Atlantic hawksbill turtle	<i>Eretmochelys imbricata</i>
Atlantic leatherback turtle	<i>Dermochelys coriacea</i>
Atlantic loggerhead turtle	<i>Caretta caretta</i>
Atlantic ridley turtle	<i>Lepidochelys kempii</i>
American alligator	<i>Alligator mississippiensis</i>
Box turtle	<i>Terrapene carolina bauri</i>
Eastern indigo snake	<i>Drymarchon corais couperi</i>
Florida cooter	<i>Pseudemys floridana</i>
Florida pine snake	<i>Pituophis melanoleucus mugitis</i>

Common and Scientific Names of Plants and Animals Referenced in this Environmental Assessment (Page 3 of 3)

Common Name	Scientific Name
Florida redbelly turtle	<i>Pseudemys nelsoni</i>
Green turtle	<i>Chelonia mydas</i>
Gopher tortoise	<i>Gopherus polyphemus</i>
Ground skink	<i>Scincella lateralis</i>
Six-lined racerunner	<i>Cnemidophorus sexlineatus</i>
Amphibians	
Gopher frog	<i>Rana capito</i>
Fish	
Atlantic sturgeon	<i>Acipenser oxyrinchus</i>
Bluegill	<i>Lepomis macrochirus</i>
Largemouth bass	<i>Micropterus salmoides</i>
Shortnose sturgeon	<i>Acipenser brevirostrum</i>

Appendix B

**Comments Received During
the Preparation of this
Environmental Assessment**

Appendix B-1

**Correspondence Received During
the Preparation of this
Environmental Assessment**



DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
P.O. BOX 190010
2155 EAGLE DRIVE
NORTH CHARLESTON, S.C. 29419-9010

064DM
December 5, 1996

Mr. Michael M. Bentzien, Asst. Field Supervisor
Fish and Wildlife Service
6620 Southpoint Drive South
Suite 310
Jacksonville, Florida 32216-0912

RE: FWS LOG NO. 4-1-96-540B, ENVIRONMENTAL ASSESSMENT (EA) FOR BASE
REALIGNMENT

Dear Mr. Bentzien:

In preparation of the Environmental Assessment for the Realignment of Naval Air Station (NAS) Jacksonville for S-3 squadrons, we have evaluated the potential impacts of the proposed actions with the presence of endangered and threatened species listed in your letter of September 16, 1996. Enclosure (1) is a map locating known locations of threatened and endangered species habitat on NAS Jacksonville. Enclosure (2) is a map of the proposed construction and renovation activities associated with this action. Enclosure (3) is a map depicting the predicted increases of noise contours associated with the addition of S-3 aircraft operations as compared to current noise contours. Based upon this information, we have concluded that the construction and operations associated with the proposed realignment of NAS Jacksonville will not have an adverse impact upon bald eagles, West Indian manatees, or eastern indigo snakes in the immediate vicinity of NAS Jacksonville.

We request your timely review of this material and would appreciate a written concurrence with our conclusions at the earliest possible date. Thank you for your cooperation and expedience in this matter. If you have any questions regarding the proposed actions, please contact Mr. Darrell Molzan, Code 064DM, at (803) 820-5796.



FWS Log No. 97-208E (Navy)

The Proposed action is not likely to adversely affect resources protected by the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.). This finding fulfills the requirements of the Act.

U.S. Fish & Wildlife Service
6620 Southpoint Drive South, Suite 310
Jacksonville, Florida 32216
(904) 232-2580 (FAX) (904) 232-2404

Michael M. Bentzien
Michael M. Bentzien
Assistant Field Supervisor

Sincerely,

L. M. Pitts
L. M. PITTS

Head, Environmental Division

12/9/96
Date

Habitat on NAS Jacksonville (Figure 3-8)
and, Renovated, or Modified at NAS Jacksonville

(Figure 2-4)

(3) Map of Comparison of Day-Night Average Sound Level Contours for Existing and Preferred Alternative Average Busy Day Airfield Operations at NAS Jacksonville (Figure 4-3)



United States Department of the Interior

FISH AND WILDLIFE SERVICE

6620 Southpoint Drive South
Suite 310

Jacksonville, Florida 32216-0912

SEP 16 1996

Commanding Officer, Southern Division
Naval Facilities Engineering Command
P.O. Box 190010
North Charleston, South Carolina 29419-9010

Attention: Darrell Molzan, Code 064DM

RE: FWS Log No. 4-1-96-540B
EA for Base Realignment

Dear Mr. Molzan:

This is in response to your letter of August 23, 1996, requesting comments on the proposed relocation of six aircraft squadrons from NAS Cecil Field, Florida to NAS Jacksonville, Florida. The action would also include the construction of a new building and aircraft test pad and renovations, additions, or modifications to seven existing buildings. Identified below are federally listed threatened and endangered species that may occur on NAS Jacksonville.

Eagle, Bald	<i>Haliaeetus leucocephalus</i>	T
Manatee, West Indian	<i>Trichechus manatus latirostris</i>	E/CH
Snake, Eastern Indigo	<i>Drymarchon corais couperi</i>	T

Please refer to the above FWS Log Number in future correspondence. Thank you for your interest in threatened and endangered species.

Sincerely,

Don Palmer
for Michael M. Bentzien
Assistant Field Supervisor

cc
Lora Smith
Water and Air Research
6821 S.W. Archer Road
Gainesville, Fl. 32608

DIVISIONS OF FLORIDA DEPARTMENT OF STATE
Office of the Secretary
Office of International Relations
Division of Administrative Services
Division of Corporations
Division of Cultural Affairs
Division of Elections
Division of Historical Resources
Division of Library and Information Services
Division of Licensing



MEMBER OF THE FLORIDA CABINET
Historic Florida Keys Preservation Board
Historic Palm Beach County Preservation Board
Historic Pensacola Preservation Board
Historic St. Augustine Preservation Board
Historic Tallahassee Preservation Board
Historic Tampa/Hillsborough County
Preservation Board
Ringling Museum of Art

FLORIDA DEPARTMENT OF STATE
Sandra B. Mortham
Secretary of State
DIVISION OF HISTORICAL RESOURCES

November 7, 1996

Mr. James D. Hirsch
Water & Air Research, Inc.
6821 S.W. Archer Road
Gainesville, Florida 32608

In Reply Refer To:
Scott B. Edwards
Historic Sites Specialist
(904) 487-2333
Project File No. 964451

RE: Cultural Resource Assessment Request
NAS Jacksonville - Construction Activities
Jacksonville, Duval County, Florida

Dear Mr. Hirsch:

In accordance with the procedures contained in 36 C.F.R., Part 800 ("Protection of Historic Properties"), we have reviewed the referenced projects for possible impact to historic properties listed, or eligible for listing, in the *National Register of Historic Places*. The authority for this procedure is the National Historic Preservation Act of 1966 (Public Law 89-665), as amended.

We have reviewed the information submitted by your office for the proposed projects. It is the opinion of this agency that all the proposed projects, except for those listed below, will have no effect on any sites or properties listed, or eligible for listing, in the National Register.

Unfortunately, we are unable to complete our review of the following proposed projects at this time. In order for this office to review these projects for possible impact to historic properties, we require plans showing the proposed renovations/additions and more specific information on each project. When this information is received we can quickly complete the review process.

PROJECTS THAT REQUIRE ADDITIONAL INFORMATION

- * **Hanger 113** - a contributing building to the proposed *Flight Line* Historic District
- * **BLDG 506** - adjacent to Bldg #1, which is eligible for the National Register

DIRECTOR'S OFFICE

R.A. Gray Building • 500 South Bronough Street • Tallahassee, Florida 32399-0250 • (904) 488-1480
FAX: (904) 488-3353 • WWW Address <http://www.dos.state.fl.us>

ARCHAEOLOGICAL RESEARCH
(904) 487-2299 • FAX: 414-2207

HISTORIC PRESERVATION
(904) 487-2333 • FAX: 922-0496

HISTORICAL MUSEUMS
(904) 488-1481 • FAX: 921-2503

Mr. Hirsch
November 6, 1996
Page 2

Please be aware that potential adverse effects to the two historic buildings may be avoided by undertaking new construction in accordance with the recommended approaches contained in the **Secretary of the Interior's Standards for Rehabilitation and guidelines for Rehabilitating Historic Buildings**, revised 1990. This office has several professional architects very experienced in evaluating such projects who can assist you in identifying acceptable alternatives that may result in this project having no, or minimum impacts to the historic properties. We encourage you to contact this office if you have any questions and for our assistance. We look forward to working with you on a successful project.

Sincerely,

Laura A. Kammerer

for

George W. Percy, Director
Division of Historical Resources
and
State Historic Preservation Officer

GWP/Ese

xc: Sandy Maynard

Sept. 1, 1996

Mr. Darrell Molzan
Commanding Officer
Southern Division, Naval Facilities Engineering Command
P.O. Box 190010
North Charleston, S.C. 29419-9010

Dear Mr. Molzan,

Please allow this letter to serve as a public comment solicited at a scoping meeting conducted Thursday, August 29, 1996, at the Jewish Community Alliance Building in Jacksonville, Fl.

These comments are made in connection with plans to conduct an environmental assessment for the proposed relocation of six S-3 aircraft squadrons from Naval Air Station Cecil Field to NAS Jacksonville.

First, I wish to register my concerns regarding the graphic presentations which were made at the meeting. Particularly I am concerned about the graphic which illustrated the existing flight paths of P-3 Orion aircraft from NAS Jacksonville. The diagrams clearly indicate that the aircraft do not fly over our residential area. However, from personal experience, I and my neighbors can attest that the P-3s fly over our houses at all hours of the day and night.

Given this concern about the accuracy of your graphic presentation, how are residents who attended the public hearing able to rely on the diagrams which depict the flight paths of the S-3 squadrons. The diagrams show the flight paths as not crossing the St. Johns River. Needless to say, I'm skeptical.

I respectfully request that the proposed environmental assessment include the San Jose area despite the fact that the area is not included in the flight path of the S-3 squadrons.

My particular concern is the impact of aircraft exhaust on air quality in the area. A trip through our residential area will reveal blackened roofs on many houses which

are beneath the P-3 Orion flight paths. I would request that these deposits be analyzed to determine composition and probable source. If as we suspect, it is found that aircraft operations are the source of the problem, I request that this factor be included in the projected environmental impact of the S-3s in our area.

Thank you for your time and consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "Dan Dundon". The signature is fluid and cursive, with a large initial "D" and "D".

Dan Dundon
4018 Mizner Circle South
Jacksonville, Fl. 32217

Naval Facilities Engineering Command
P O Box 190010
North Charleston. S.C. 29419

ATTN Mr. D Moizan:
REF Additional Aircraft NAS Jax.

We strongly protest the additional pollution resulting from the addition of 48 more aircraft at NAS JAX.

The current noise pollution is excessive not only in the noise level (approaches the pain level) on adjacent public and private, the frequency of the noise is extremely irritating in the area. The aircraft fan jets are run for hours on the runway at the same RPM.

Noise abatement seems to be none existing or ineffective. Noise confinement walls are not there.

Addition noise is created by the almost continual touch and go training exercises (full power takeoffs). Again noise abatement seems to be lacking.

All of these low level flights are a crash hazard in a very populated area.

It seems that maintenance waste along with the air population finds its way back to the surrounding area and the St Johns River.

Additional aircraft will only add to the unacceptable environmental pollution caused by operation at NAS JAX.



L T Weber
3928 McGirts Blvd.
Jacksonville FL. 32210
904-389-2815

09/01/96

August 28th. 1996

Commanding Officer
Southern Division
Naval Facilities Engineering Command
P.O. Box 190010
North Charleston, S.C. 29419-9010
FAX (803) 820-5993

Sir

I object to the relocation of the S-3 squadrons from NAS Cecil Field to NAS Jacksonville for the following reasons.

1- The air traffic noise pollution from and to NAS JAX was bad, is now terrible since a recent decision to have your jet aircrafts come in two at a time, side by side.

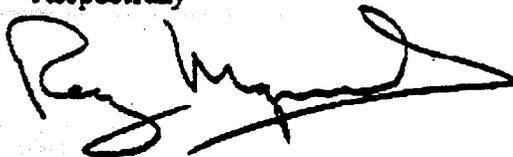
Whenever one of your planes fly over our house, the conversation is over while it is overhead. It's also keeping us from peacefully listening to music, the radio and the TV.

2- On a regular basis we hear news that one of our Military pilots ejected from his plane due to malfunction of the aircraft. NAS JAX is getting closer to be in the center of our beautiful city and adding the S-3 squadrons would only increase the potential of a major catastrophe.

I sometime question the wisdom of our government. It would seem to me that closing NAS JAX would have been more logical than closing Cecil Field which is more in open country minimizing the risk for accidents while making money by selling vast costly river front land to the private sector.

Your efforts to minimize the noise pollution not increasing it would be appreciated.

Respectfully



Ray Mayrand
7837 Baymeadows Circle West
Jacksonville, FL 32256
(904) 737-9428

cc: Letters From Readers
The Florida Times Union
FAX (904) 359-4090

To: <djmolzan@efisouth.navfac.navy.mil>
Cc:
Bcc:
From: Jorge Caspary TAL 904/488-0190 <CASPARY_J@dep.state.fl.us>
Subject: EA at NAS Jacksonville
Date: Friday, September 13, 1996 5:53:48 EDT
Attach: Headers.822
Certify: N
Forwarded by:

Dear Mr.Molzan:

I have reviewed the above referenced letter dated August 23, 1996 (received August 29, 1996) and don't have any comments on the proposed base realignment at the above referenced station.

ANY questions please call me at 904-921-9988

Sincerely,

Jorge R Caspary
Federal Facilities Group
FDEP

To: <djmolzan@efdsouth.navfac.navy.mil>
Cc:
Bcc:
From: "W.A. Killinger" <willik56@ix.netcom.com>
Subject: S-3 relocation
Date: Thursday, August 29, 1996 20:06:29 EDT
Attach: Headers.822
Certify: N
Forwarded by:

For years ortega residents have endured high noise levels from the neptunes landing pattern. The addition of the new S-3 squadrons will make the situation even more uncomfortable and may affect property values. Please consider this in your planning.

W. A. Killinger M. D.

Appendix B-2

**Comments Received at the
Public Scoping Meetings**

**Venetia Elementary School
4300 Timuquana Road
Jacksonville, Florida
7:00 P.M., August 15, 1996**

1
2 MR. JONES: My name is Charles Jones. I live
3 in Ortega Hills and I have been a resident there
4 for about 24 years. And I've been, lived there
5 after the Orion airplanes were there. They were
6 there before me. For the most part, they're not
7 disruptive in my life, but there are times when
8 they take a flight pattern that I think is
9 completely diametrically opposed to what the doctor
10 showed was the general impact area. They go so low
11 that we can almost count the rivets on the wings,
12 let alone read the lettering on the plane. And
13 there are times that they go over and over and over
14 and over. I think it's their touch and goes.

15 I've called on several occasions and asked
16 them to go up -- I don't know if it shows on your
17 chart. But there's, I think a high tension line
18 just north of Ortega Hills. I think it goes out
19 into the swamp. We've asked them to divert their
20 aircraft that way. And we've gotten laughs from
21 the Officer of the Day in the control tower,
22 Captain.

23 And I think somebody said that the addition of
24 the aircraft is going to increase activity a bit.
25 I don't know what a bit means. I know what a bit

1 is on a boat, but I don't know what a bit is to
2 what you're trying to say, Captain, or one of our
3 representatives.

4 I wholeheartedly agree that your job is to
5 train pilots, but my job is to come home and enjoy
6 the sanctity of my home as part of my way of living
7 in 24 years of being here. I'd like not to see it
8 compromised.

9 You say that Cecil Field is merely 12 miles
10 away. Well, merely 12 miles away, I can't recall a
11 Cecil Field aircraft that bothered me. 12 miles I
12 guess is something more than merely 12 miles away.
13 It's significantly more.

14 Someone said during the talk that a plane was
15 going to fly over the school here. And I think he
16 said that one flew over and we didn't notice it. I
17 don't think we can compare the acoustics of this
18 building to a private home.

19 And the doctor gave comment about the decibel
20 levels of various activities in our homes.
21 Probably you don't run a blender more than once a
22 day, a disposal more than once or twice a day,
23 compared to the level of activity the Orion planes
24 when they choose to drive over, choose or compelled
25 to. I'm saying that from my position on the

1 ground, two or three clicks to the right or left
2 will stop right over my house and that doesn't
3 occur.

4 And it sounds like simply the biggest impact
5 was the people of the Yukon area who happen to live
6 in trailers. They're people too. Not just because
7 they live in trailers.

8 I guess what I'm trying to say is I don't want
9 to inhibit the Department of Defense from taking
10 care of us, but I want to enjoy the quiet of my
11 home and have managed to do it.

12 Cecil Field, you're compelled to close because
13 the BRAC commission, but I think in my mind's eye
14 observing the Base, you could takeoff over the high
15 tension wires, go west over the swamps, cut down
16 the river or go out on to the St. Johns River.
17 There's people you have to speak to or already
18 spoken to over in the Mandarin area south of that
19 area. Go up and down the river and gain your
20 altitude and leave us to our peace.

21 Thank you.

22 LCDR SCOTT: Thank you for your comments.

23 The second individual we have this evening
24 that wished to speak, Mr. Charles Cibula. Would
25 you like to come forward. You feel comfortable

1 speaking there.

2 MR. CIBULA: I think they can hear me right
3 where I am.

4 My concerns are very similar to that young man
5 there. The reason I say that is I have a sneaky
6 suspicion that what you have here is going to take
7 off on the straight. What I'm concerned about,
8 they're going to start circling the field when they
9 come in, come clear across Orange Park. I want to
10 know what is the minimum height you're going to be
11 flying and how many DBs is that right below that
12 aircraft?

13 LCDR SCOTT: Let's see if we can tackle the
14 height issue. The majority of the flight --
15 correct me if I'm wrong -- this aircraft will be
16 flying at 1200 feet.

17 There are sometimes, as this is a
18 carrier-based aircraft, that it will have
19 operations as low as 600 feet. The majority of the
20 flight elevation will be 1200 feet but there will
21 be times when there will be lower elevations.

22 MR. CIBULA: How far will they go when they're
23 circling the field? Out to Orange Park, beyond
24 that, or just where? I might wind up being in that
25 pattern.

1 pattern.

2 CAPTAIN RENNINGER: Our pattern -- I'm not
3 sure where the power line is, but our pattern
4 would be east side, closer to the field than the
5 normal P-3. I'm not sure where the power line is.
6 Orange Park. No way. That's pretty far away.
7 About two or three miles.

8 MR. CIBULA: That's about two and a half
9 miles.

10 CAPTAIN RENNINGER: Our pattern will be inside
11 one mile.

12 LCDR SCOTT: If it will help, immediately
13 after the meeting, since we do have some better
14 maps over here, if you'd like to meet, we'd be more
15 than happy to get with you over there and actually
16 go through that layout. It was a little unclear in
17 the overhead and I apologize for that. But please
18 feel free. We'll be more than happy to go through
19 that.

20 Those are the only two comment cards I had
21 this evening. Is there anybody else who would like
22 to make a comment?

23 Here's one.

24 LCDR SCOTT: Mr. Greg Larson please.

25 MR. LARSON: I'm Greg Larson, representing

1 Timuquana Country Club and myself, I guess, and my
2 family. We live out in Bent Creek which is about
3 two and a half miles from Cecil Field. And we've
4 been living out there now for two years and I have
5 jets come a lot closer to my house. Both, I think
6 the FA-18s and the S-3.

7 Believe me, there's a big difference between
8 them. I'm glad the other jets are going up to
9 Norfolk or wherever they're going because they are
10 the noisy ones. These you can't compare the
11 noise.

12 I've got a son that's 17. He loves jets and
13 everything else. We've actually enjoyed seeing
14 some of the jets going over. FA-18s, they are loud
15 and they do fly at night and they are quite noisy.
16 We don't hear these S-3s like you do the FA-18s.
17 I'm not that concerned.

18 My place of employment is right next door. We
19 hear the helicopters, we hear the P-3s and, of
20 course, every other year we do the Blue Angels
21 which are quite noisy also. But we don't notice
22 that much inside our building as well. There are
23 golfers that might jiggle a little bit over their
24 putt when any jet or helicopter goes by, but we
25 haven't had that much problem.

1 My only question was as far as my place of
2 employment on behalf of the members and so forth is
3 how many additional flights and takeoffs and
4 landings do we anticipate, not so much just for the
5 noise but maybe mishaps, whatever? Do we have any
6 idea what we're talking about?

7 LCDR SCOTT: Commander, do you have the data?
8 I don't have that off the top.

9 CAPTAIN WHITMIRE: I don't have the facts.

10 LCDR SCOTT: I don't have the exact number
11 myself.

12 CAPTAIN WHITMIRE: We can get that for you.

13 LCDR SCOTT: Right. We can get that for you
14 very easily.

15 Is there anybody else this evening.

16 MR. JONES: Just to follow on that additional
17 flights. I thought I read in the public notice
18 that they planned flights as late as 10:00 o'clock
19 at night.

20 LCDR SCOTT: That's currently similar to what
21 is happening at Cecil Field. The actual flight
22 operations hours --

23 CAPTAIN RENNINGER: Let me just -- as per time
24 of day, we're required to land on carrier day and
25 night. It's required. So, therefore, we've got to

1 practice both day and night.

2 Now, we like to sleep at night too. So, you
3 know, wintertime we'll fly five o'clock in the
4 afternoon, as long as it's dark. Official sunset.
5 Unfortunately, in the summertime, sunset's later.
6 We have to get nighttime practice. So, it will be
7 later in the summer than in the winter.

8 LCDR SCOTT: Did that answer your question?

9 MR. JONES: In generalities, not particulars.

10 LCDR SCOTT: I think that might be another one
11 to see if we can get more to the heart of it.

12 CAPTAIN WHITMIRE: I'll go ahead and add
13 something here. All the planes have to fly at
14 night. We don't have to fly all the planes at NAS
15 Jacksonville. Some of this them we do because
16 we're training brand new pilots. They have to
17 learn their own field. We don't fly at night as
18 much as we fly in day. We try to fly to other
19 bases, Savannah, fly down to Patrick Air Force
20 Base. The S-3s do a lot of operations out of
21 Whitehouse.

22 We don't want to increase flying any more than
23 we have to.

24 The P-3s and helicopters fly at night.

25 Obviously the level of activity is not what it is

1 during the daytime. We prefer that just like you
2 would. I think that's the reason we're going to
3 follow suit.

4 As far as hard numbers, as to what the number
5 of takeoffs and landings, we can get that. We
6 don't have that information handy and I don't want
7 to speculate at a public meeting and be incorrect.
8 We can get that for you, I'm pretty sure, and
9 project it.

10 I don't think that the flying habits of the
11 S-3 are going to be much different than what we
12 have now except that they are carrier-based and
13 their training requirements or a little bit
14 different. I say a little bit because I don't fly
15 those. They are somewhat different. They have to
16 practice doing their carrier practice landings.
17 They don't do all that at NAS Jacksonville.
18 Anything we can do to keep them at Whitehouse, keep
19 them at Cecil as much as possible. That would be
20 everybody's preference.

21 LCDR SCOTT: Maxine Kelley.

22 MS. KELLEY: He answered my question earlier.
23 He hit on it. I was concerned are we going to -- I
24 live right on Sanibel. I'm right in the pattern,
25 plus I'm a realtor here.

1 My concern is are they going to practice touch
2 and go like our P-3s. One comes around about every
3 five or six minutes.

4 Are the S-3s going to do that the same way or
5 touch and go Whitehouse, the carrier, anything like
6 that? Can you throw any light on that?

7 CAPTAIN WHITMIRE: Both. Because the P-3s
8 just don't just stay here. They go other places as
9 well. As much as we can we like to get away from
10 the traffic and congestion. The pilots don't like
11 flying over all the houses. They live there. They
12 don't want to fly over either.

13 MS. KELLEY: I know. I can time it right on
14 my deck out back the same three, which is great.
15 That's fine. I love you. But the thing about
16 whenever we have about 30 more of them, because
17 we're going to have 48, we're going to have a
18 third, we're going to have another 28, 30 planes
19 every day going in and out NAS.

20 So -- but my concern is if the Navy will help
21 us take them to Whitehouse or carriers or whatever,
22 that we don't have that continuous noise every
23 minute of the day, then I think it will be fine.

24 CAPTAIN WHITMIRE: I can assure you we're
25 looking at every option to minimize the noise. We

1 don't want it on the Base either. We have people
2 working on the Base.

3 MS. KELLEY: See, I don't want them to leave
4 but --

5 CAPTAIN WHITMIRE: All I can tell you is that
6 we're looking at every option to get our job done
7 and minimize the impact.

8 MS. KELLEY: Thank you.

9 LCDR SCOTT: Is there anyone else in the
10 audience that hasn't had an opportunity to speak
11 this evening?

12 Okay. We appreciate all your interests in
13 coming out this evening and serving in this very
14 important function in the Environmental Assessment
15 process.

16 The record from this evening will be in an
17 Appendix in the Environmental Assessment and
18 distributed about November 15th of this year.

19 Thank you again. And this meeting is closed.
20 (Recessed, 7:45 p.m.)

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**Jewish Community Alliance Center
8505 San Jose Boulevard
Jacksonville, Florida
7:00 P.M., August 29, 1996**

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First person to speak this evening, Marilyn Datz. Marilyn.

16

17

MRS. DATZ: Hi. I'm Marilyn Datz. I live approximately two blocks south of here and about two blocks east in Villa San Jose.

18

19

20

And I would like to know -- I see from your fact sheet that three percent of these operations are going to be at night from 10:00 p.m. to 7:00 a.m.

21

22

23

24

We have been reasonably lucky at night in that we don't get the planes at night, usually not after

25

1 11:00 o'clock. And I would like to know how you
2 think this would impact the residential
3 neighborhoods?

4 LCDR SCOTT: For the S-3 aircraft that we're
5 proposing here this evening, with the current
6 patterns that we anticipate, those aircraft are not
7 going to fly over the residential communities on
8 this side for instance.

9 Again, if there's some concerns with our
10 current operations, we would definitely like to --
11 since there's some specific ones with maybe where
12 you live, we really would like to stay after and
13 address those concerns independently.

14 MRS. DATZ: Right. But I'm talking about what
15 you are proposing now. Are you saying that these
16 nighttime operations would not be flying over
17 residential areas on this side of the river? Do I
18 understand you correctly?

19 LCDR SCOTT: There will be continued nighttime
20 operations where the aircraft will be making
21 approaches, their landing and takeoffs that will
22 actually cross over the neighborhoods here.

23 Their primary operating pattern though will
24 turn in over the river before they actually
25 approach over.

1 In the diagram we have over here shows that,
2 demonstrates that, what we anticipate for the S-3.

3 CAPTAIN WHITMIRE: I think I can help clarify
4 in that the patterns are not going to change
5 dramatically from what we have now.

6 We're going to continue to fly -- we don't
7 want to fly at night any more than you want to hear
8 us flying at night. We're going to try to minimize
9 that as much as we can. It's very important to
10 us. We don't want people operating in the middle
11 of the night. We want it quiet just like you want
12 it quiet.

13 There are times when we have operations now
14 that planes fly. We stay open 24 hours for
15 emergency landings. We try to knock the flights
16 off in the evening so that we don't impact people
17 when they're trying to go to sleep at night. We
18 have people sleeping on the Base.

19 So, we're going to continue to conduct our
20 operations in a very similar manner to what we have
21 now.

22 MRS. DATZ: Well, your fact sheet says that
23 you expect that three percent of your operations
24 are going to be occurring at night between 10:00
25 p.m. and 7:00 a.m.

1 CAPTAIN WHITMIRE: We have a small percentage
2 now that operate during that period. So, that's
3 pretty consistent with what we have now. I don't
4 have the exact percentage that we operate now.

5 MRS. DATZ: Will these planes fly higher? Are
6 you saying that they will fly higher than the other
7 planes that we now deal with?

8 CAPTAIN WHITMIRE: No. They're going to fly
9 about the same patterns. Except the S-3, when they
10 fly their normal training patterns over the Base,
11 will actually be closer to the airfield.

12 MRS. DATZ: Thank you.

13 LCDR SCOTT: Thank you for your comments.

14 Robert Corsat.

15 MR. CORSAT: Robert Corsat. I live at 3970
16 San Bernado, about two blocks south.

17 I'm not going to get into past patterns with
18 P-3s and transient jet aircraft that have come
19 through, but they do give me a concern because even
20 with the transients that have come through -- I
21 don't know how these noise decibel diagrams were
22 made. I'd like to have some questions or some
23 answers to that, what type of monitoring was done
24 to get these patterns created, because I don't see
25 any decibels over 50 decibels coming across the

1 river.

2 I'd be glad for you to put one of your meters
3 at my house at 3:00 in the morning. That's what I
4 have concern about. There are times when you have
5 transient traffic come through and I sure don't
6 want to hear it.

7 I have my voice on tape over at the Base
8 probably than most people here, not to be a crank
9 but to ask why we have to have a jet come over our
10 house at 500 feet at 3:00 in the morning. I think
11 that's unwarranted.

12 And sometimes I get comments like, "It's just
13 transient aircraft. We have no control over
14 that."

15 I can't believe that you don't have control
16 over your own aircraft and pilots and they can't be
17 admonished for flying lower than they should be
18 flying over residential areas. That's my concern.

19 I understand your flight patterns as far as
20 when you do your touch and goes, takeoffs and land
21 like the P-3 do now. But I don't see any pattern
22 here where you're showing where these planes ever
23 come in from anywhere else. And when they do,
24 because of the runway that you do use, your primary
25 8,000 foot runway, this facility sits about three

1 and a quarter miles due east of that runway.

2 And P-3s and all the jet aircraft come in
3 varying heights. I'm curious if you hold a
4 specific glide slope, minimum glide slope they have
5 to come in on. They can be anywhere from under,
6 certainly well under a thousand feet to well over a
7 thousand feet. There doesn't seem to be any rhyme
8 or reason. That's the complaint that I have.

9 As far as decibels go, I think we've all
10 experienced mobile boom boxes cars have. You have
11 a low-frequency boom that might not be very loud
12 but you can be deaf and feel it through your
13 torso. And that's what P-3s I guess known for --
14 the jets, the S-3s, I think, have those
15 high-pitched squeals. And we -- all the people in
16 this neighborhood certainly experienced that during
17 the Gulf War. Had tremendous influx of all kinds
18 of aircraft coming in.

19 I've been in my house here for almost 14 years
20 and the air traffic has increased dramatically
21 since we first moved here. I've been in
22 Jacksonville all my life. I'm not trying to beat
23 up the Navy. But I am concerned about additional
24 air traffic, especially jet traffic that's going to
25 come and impact this neighborhood.

1 I would like to get some questions and also --
2 some answers to my questions, but I'd also like to
3 find out is there any recourse we're going to have
4 when this comes about as far as having some
5 non-deaf ears for complaints to fall on. My
6 complaints have fallen on deaf ears for the last
7 five or six years.

8 LCDR SCOTT: It is clearly the Navy's intent
9 here to minimize the impact on the community.
10 That's part of the process we're going through here
11 tonight.

12 Again, your concerns is exactly what we want
13 to hear. We'll take those on board and address
14 those. If you'd like to stay afterwards, we'll be
15 more than happy to talk as well.

16 Again, in this process, we're trying to gather
17 these concerns, address them, look at what we can
18 do, if anything, and go through the process of the
19 Environmental Assessment and collect these. That
20 becomes a very important part.

21 MR. CORSAT: I have one more comment I want to
22 ask -- a question I want to ask: Is there any
23 study that's going to be done about residue or any
24 type of fallout from the planes. From time to time
25 we get deposits on our cars and on our windows

1 outside the house where there's P-3 jet traffic.
2 I've never had that anywhere in my life. I'm
3 curious about what it is. It's damaging my paint
4 job. If you don't get it off, it's a mess. I'm
5 seeing that more and more in recent years and I'm
6 curious as to whether or not the S-3s are going to
7 create more of a problem.

8 MR. DAWN: Are these white droppings from two
9 or three millimeters?

10 MR. CORSAT: No. Not that big. Like small
11 droplets. Almost like an atomized fuel, whether
12 it's oil or whatever else.

13 Our house just seems to be right in the path.
14 We're right in line with the runway. When they're
15 coming in, they're right over our house. I'm
16 concerned about that as far as what's in the
17 exhaust the S-3s are raining down on us?

18 LCDR SCOTT: Thank you for that comment.
19 We'll consider that as part of this assessment.

20 Bill?

21 DR. ZEGEL: Back here we have some more maps
22 that show varying flight patterns in the study that
23 was completed, so you'll be able to take a look at
24 the different types of flight patterns here and see
25 where your house is at and kind of gauge what's

1 going on.

2 LCDR SCOTT: Next speaker, Cal Chisholm.

3 MR. CHISHOLM: I'm Cal Chisholm with the
4 Ortega Preservation Society and I have a number of
5 questions that I'd like to have entered on the
6 record so that they can be addressed rather than to
7 engage in a --

8 LCDR SCOTT: That's fine.

9 MR. CHISHOLM: One is what is -- some of these
10 may sound a little ignorant. We're just trying to
11 develop some knowledge about the situation.

12 I went to Pensacola two weeks ago to visit my
13 parents. And I'm proud to say my father was a
14 Naval aviator. But I did visit the site of where a
15 child was killed about a half mile from my parents'
16 house by a Navy aircraft that crashed about three
17 weeks ago.

18 So, question one is: What is the frequency of
19 accident rates for these aircraft per hour of
20 flight time over the last five years at Cecil
21 Field?

22 Information is requested on a
23 squadron-by-squadron basis.

24 How many crashes have occurred within a
25 ten-mile radius of Cecil Field since the start of

1 these aircraft being used there?

2 Of those crashes that have occurred, what
3 number of them also involve the explosion or
4 detonation of military ordnance of any kind?

5 2. What ordnance will the aircraft have on
6 board while engaged in flight operations in NAS
7 Jacksonville area?

8 3. Do these aircraft jettison fuel into the
9 atmosphere prior to landing?

10 If so, what is the approximate number of
11 pounds of fuel that will be projected for jettison
12 purposes over a year?

13 At what height is the fuel normally
14 jettisoned?

15 Has the Navy completed any studies as to just
16 where this fuel goes and will it be JP-5?

17 How many additional civil service employees
18 will be employed at NAS Jax?

19 And how many active-duty dependents will be
20 allowed to be there?

21 And the total number of automobiles that will
22 be impacted or added to the normal number that
23 drive on to the Base during a normal day?

24 Finally, if there is ordnance on board these
25 aircraft, is the ordnance kept in an area where a

1 date on the nitrocellulose or nitroglycerin-based
2 propellants is noted?

3 And where will any nitroglycerin or
4 nitrocellulose-based propellants be disposed of and
5 by what manner?

6 And, finally, what is, if anything, the
7 carcinogenic potential for by-products of
8 nitroglycerin or nitrocellulose-based propellants
9 being burned?

10 Thank you.

11 LCDR SCOTT: Good questions. We have our
12 homework cut out for us.

13 Walter Dawn, please.

14 MR. DAWN: Considering the few people that are
15 around tonight, this is not much of a meeting. We
16 live -- my name is Walter Dawn. This is my wife.
17 We've been living here about one year. We live at
18 the juncture of Baymeadows and San Jose.

19 And we have these P-3s flying over daily,
20 morning and evening particularly. Sometimes the
21 flights seem to be so close that they don't have
22 any pattern at all.

23 We can't use our deck or dock at all. The
24 nails on the boards of the dock are slowly popping
25 out of the wood. When we sit on a bench, we can

1 feel the vibration from these engine prop jobs.

2 And they're not always -- the patterns always
3 aren't due to weather patterns and so forth.

4 So, I don't know with this new movement
5 they're having now whether this noise will increase
6 in the section where we are. We're in Goodbys
7 Creek. I guess you people know where that area
8 is. We're lined up with the east-west runway.

9 Most of the times in the summer and the fall,
10 the winds, the prevailing winds are from the west
11 and south, so the planes are right over our heads.
12 And sometimes they're really low. The tops of the
13 trees, the leaves are shaking.

14 As a matter of fact, on one job that came
15 over, a big C-130 was President Clinton's last
16 visit to Jacksonville. It came in to pick up
17 some equipment that he had forgotten. The plane
18 literally brushed the tops of the trees they were
19 that low.

20 There's always an accident possibility. One
21 never knows what will happen there.

22 Also, the other gentleman mentioned this fluid
23 that he found. Twice while we've been living
24 there, we found this white type of material. It
25 looks something like bird droppings but it's not

1 bird droppings. It's the size -- all different.
2 From two or three millimeters up to maybe 25 or 30
3 millimeters. And it's a long pattern. The way we
4 see the droppings, the drops have no angle to them,
5 so they're from a high altitude. In other words,
6 when they come down, they hit flat. They're not
7 from birds. I don't know what kind of stuff this
8 is, whether it's carcinogenic or not. That's my
9 comment.

10 LCDR SCOTT: Thank you.

11 Again, since those concerns also deal with our
12 current operations, if you'll stay with us
13 afterwards, we'd like to talk to you some more this
14 evening to help us understand.

15 LCDR SCOTT: That's the last comment card I
16 have. Is there anyone else who wishes to speak
17 this evening?

18 State your name.

19 MS. SANTIAGO: My name is Milagros Santiago.
20 M-i-l-a-g-r-o-s S-a-n-t-i-a-g-o. I live near San
21 Jose and Sunbeam.

22 My concern right now is I have been here only
23 for a year. We're trying to figure out if we will
24 like to buy a house here.

25 The place that I came from before, I used to

1 live about, maybe a couple miles from the airport.
2 I work at the airport also, so I know what all this
3 noise is about. Even though you don't really feel
4 like it's going through your ears, it is affecting
5 your hearing.

6 What I want to know is what is the frequency
7 that those planes are going to be flying by?

8 And even though you have like an area that is
9 covered to the noise level, what you going to do
10 with all those houses that you have in that area
11 over there, okay, that are right there through the
12 path of the planes? Are you going to buy those
13 houses? Are you going to pay the people for going
14 through that air space? That basically is what it
15 is.

16 The place that I came from, they have a noise
17 zone. And when you buy houses, you have to tell
18 them right away if your house is in that path or
19 not.

20 For some reason, even though they said that
21 they're not going to go far from that area,
22 sometimes they do. And most of the time when they
23 have to fix a runway or something, they have to
24 close that area. They have to fly. They have to
25 go and do it. You're going to keep doing those

1 things, you have to pay the people for using that
2 space.

3 I don't know how that will work here in
4 Jacksonville or in Florida for that matter. But
5 where I came from, that's the way they work. That
6 is something that we really need to know what
7 they're going to do about it.

8 LCDR SCOTT: A couple concerns I hear, the
9 frequency. I don't have an answer for the
10 frequency. That's something that we will have to
11 address in this as well.

12 And the second item about the concern with the
13 actual neighborhoods that we currently fly over.

14 And, again, if you wouldn't mind sticking
15 afterwards, since we have a lot of current
16 operations, I think there's some interest in
17 tonight we need to discuss that further.

18 MS. SANTIAGO: Just one more comment. The
19 only thing I can see over here -- I know there is a
20 lot of people that are going to be affected for all
21 these. And really myself, I don't see that many
22 people. We only saw one ad in the newspaper
23 regarding this. If you don't read the newspaper,
24 you're not aware of all these meetings that are
25 going on. I don't know if people knows about it.

1 I don't know if people really don't care, you
2 know. I don't know.

3 UNIDENTIFIED SPEAKER: I can tell you that
4 there was an ad in both the Sunday and Wednesday
5 edition regarding this public meeting. It was also
6 advertised on the radio. That's another one from
7 before. We had two more that ran this Sunday and
8 ran yesterday.

9 LCDR SCOTT: Is there anybody else who wishes
10 to comment?

11 MR. CHISHOLM: One other additional question.
12 My name is Cal Chisholm, Ortega Preservation
13 Society.

14 Approximately could you project in your study
15 how many pounds of various industrial solvents will
16 be utilized per year in the painting or maintenance
17 of these aircraft?

18 What specific solvents will be used and how
19 many pounds will be projected to be lost to the
20 atmosphere from normal operation?

21 LCDR SCOTT: We're at the end of the comment
22 card requests. One last check with anybody before
23 we close out the meeting. As we said, we'll stick
24 around here to meet with all of you if you have any
25 additional, anything else you wish to talk about.

1 With that we appreciate -- one more? Yes,
2 please. Come forward.

3 MS. HARVIN: Thank you, sir. I'm not good at
4 speaking before crowds, but my name is Nancy Harvin
5 and I'm here tonight just to offer a comment that I
6 support NAS Jax and I support the F-1 Viking Air
7 Wing at NAS Jax. And as far as I'm concerned, as
8 an American citizen, it's a sound of freedom and I
9 love it. Thank you.

10 LCDR SCOTT: Thank you.

11 Anyone else?

12 Yes. I mustn't forget. We do have some
13 refreshments in the back. Please feel free after
14 the meeting to help yourself.

15 As I said, we're going to stick around.

16 We do appreciate you very much for coming out
17 this evening for this very important function in
18 this Environmental Assessment process.

19 The record from this evening will be an
20 appendix to the Environmental Assessment and
21 distributed about November 15th of this year.

22 Thank you again. And this meeting is closed.

23 (Recessed, 7:55 p.m.)

24 - - -

25

Appendix B-3

**Responses to Comments on the
Draft Environmental Assessment**

5051 Ortega Forest Dr.
Jacksonville, Fla., 32210
3 Jan., 1997

R/Adm. Kevin F. Delaney
Cmdr, Naval Base, JAX
P. O. Box 102
Naval Air Station , Jacksonville
32212-0102

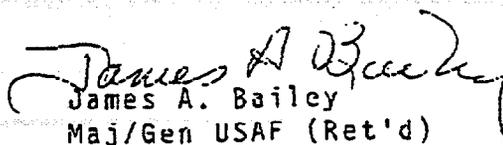
Dear Admiral Delaney:

I read with a great deal of interest the article in the Florida Times Union of 27 December, 1996 in regard to the noise impact coincident with the move of aircraft to NAS, JAX. The environmental study was quoted as "would not result in significant air quality or noise impacts". The term "significant" is not defined and sounds as if it came straight from the Pentagon. The 17,331 annual operations figure did not specify whether these were additional flights or total flights. Assuming the figure is the total, the result is about one take-off/landing every six minutes during a normal work week and day. Since I live on the downwind leg for Runway 09 I would consider this an increase. The article does not give differences in decibel levels between P-3 and S-3 aircraft which is probably significant.

I have lived on an airfield or adjacent to one for all of my adult life and aircraft noise sort of blends into the background. I suspect that you also have developed a deaf ear when it comes to an aircraft over head. In the current situation there seems to be an easy solution to noise abatement that I hope you will consider. I strongly recommend that the traffic pattern for Runway 09 be changed from left to right. This action would parallel the flight pattern for Runway 27 but on a reverse course. Such action would virtually eliminate overflight of populated areas. I am aware of long standing Naval Aviation requirements for left circular patterns associated with carrier operations and as a pilot, I too, would prefer left patterns. The opportunity to take action benefiting those who have long given support to the USN here in Jacksonville should not be lightly considered. I note with a great deal of interest that the DOD Instrument Landing Procedure for NASJAX Runway 09 requires a right hand circular approach.

Please allow me to thank you in advance for any consideration you might give to my suggestion for reversing the traffic pattern for Runway 09.

Sincerely,


James A. Bailey
Maj/Gen USAF (Ret'd)
B-3

Letter 1 James A. Bailey
Maj/Gen USAF (ret'd)
January 3, 1997

Comment
Number Response

1 The environmental assessment did find that the realignment of the S-3 squadrons to NAS Jacksonville would not result in significant air quality or noise impacts. Air quality impacts are considered significant if they cause the air quality in the project area to exceed state and federal standards. The air quality determination for this assessment was made by comparing the estimated air emissions associated with the realignment to applicable federal and state air quality regulations (see Section 4.1 and Appendix C of the environmental assessment). Of primary concern to air quality in Jacksonville were volatile organic compounds (VOCs) and nitrogen oxides (NO_x). The annual emissions that would result under the proposed action were determined to be less than the regulatory thresholds for these pollutants.

Section 4.2 of the environmental assessment discusses the noise impacts under realignment. The total off-station land area within the DNL 65 dBA would increase by 77 acres compared to the 1994 condition and would decrease by 1,398 acres compared to the 1978 Air Installation Compatible Use Zone (AICUZ) noise contours. The off-station population within the DNL 65 dBA noise contour is expected to increase by 41 persons compared to 1994 conditions and to decrease by 3,995 persons compared to the 1978 AICUZ noise contours. Residential development is considered compatible with airfield operations producing noise levels between DNL 65 to 75. Based on these findings, the noise changes resulting from the realignment of the S-3 squadrons would not have significant adverse effects.

2 The 17,331 annual operations by the S-3 aircraft are additional operations that would be conducted at NAS Jacksonville.

The flight operations used to establish the existing condition in the noise modeling are based on 1994 operations. Modeled operations totalled 97,349 operations in 1994. The aircraft with the greatest number of operations were P-3 aircraft with 71,230 operations (73.2 percent of the total operations) and H-3 and H-60 helicopters with 19,357 operations (19.8 percent of the total operations). All other aircraft totalled 6,762 operations (6.9 percent of the total operations). Table 3-4 of the environmental assessment has been revised to include not only the total operations by aircraft but also the type of operations (e.g., departures, overhead arrivals, touch-and-go).

The number of operations modelled for 1998 total 108,673. By 1998, H-60/H-3 helicopter operations and P-3 flight operations would decrease by 3,869 and 2,138, respectively, partially offsetting, in terms of the number of operations, the 17,331 additional operations from the introduction of the S-3 at NAS Jacksonville. Operations from all other aircraft remained unchanged in the modeling for 1998. Overall, the number of operations modelled increased by 11,324 operations for 1998 compared to the operations modelled for 1994. Table 4-1 of the environmental assessment has been revised to include the operations modelled from 1994 that are not anticipated to change and to provide a summary of modelled operations by aircraft to allow easier comparison with Table 3-4.

- 3 There are two primary reasons not to change the traffic pattern on Runway 09 from left to right. First, on an aircraft carrier, fixed-wing aircraft take off to the left to avoid the superstructure of the carrier. Pilots benefit from practicing land-based take-offs and landings in situations similar to carrier-based operations. A second reason is that in a two-seat aircraft the pilot's seat is on the left. As the pilot makes the turn to the runway, he or she can see out of the left window the planes with which he or she is sequenced.
- 4 Instrument landings at NAS Jacksonville on Runway 09 do require a right-hand approach; instrument approaches are under the guidance of the air traffic controller. In approaches by pilots operating under Visual Flight Rules, the pilot has the responsibility to see and to be seen; these are the operations that primarily use the left circular approach on Runway 09.

3809 Timuquana Road
Jacksonville, FL 32210
January 4, 1997

Commanding Officer
Box 2 (Code 00G)
Naval Air Station
Jacksonville, FL 32212-5000 Fax: (904) 772-2413

Re: NAS Jacksonville Environmental Assessment for Relocation of S-3 Aircraft from NAS Cecil Field

Dear Sir:

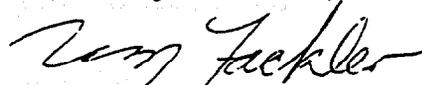
After reviewing the Environmental Assessment, I am concerned that there is a serious omission in evaluating the impact of noise on the Venetia-Timuquana neighborhood north of NAS. I refer to two specific issues:

The first is that the noise modeling omits any assessment of the impact of using Runway 14-32 (the "short" runway). If the sound level contours for the use of Runway 09-27 (the "main" runway) are laid over Runway 14-32, there is significant impact readily apparent. Evidently this has been ignored on the basis that this runway is used only "infrequently." For those of us who live in this neighborhood, "infrequent" is quite subjective. Our experience is that the "short" runway is used frequently throughout the year for unknown reasons as well as when routine maintenance of the main runway is required (as it has been for the past several weeks) and at times when the main runway requires major repair (periods of some six months for the last two repairs). A factor in omission of data for the use of Runway 14-32 appears to be that the impact of noise in this area has never been evaluated as it has for the main runway. We feel that this is a major oversight and minimizes the adverse effect on surrounding neighborhoods by understating the magnitude of the noise impact.

The second relates to the proposed S-3 Flight Track (0903) which is shown in Figure 4-1 of the EA as going directly over our neighborhood--again with no apparent assessment of increased noise being accounted for. We can only assume that such a flight track, and its associated noise, would have a negative impact on our environment.

While I do not pretend to have a technical understanding of the terminology used in the EA, I do know that use of Runway 14-32 and the establishment of a flight track directly over our homes should be properly evaluated; without such an assessment, it appears that the EA fails to appropriately and realistically provide an accurate evaluation of the impact the relocation of S-3 Aircraft from NAS Cecil Field will have on one of Jacksonville's older established neighborhoods.

Respectfully submitted,


William M. Fackler

Letter 2 William M. Fackler
January 4, 1997

Comment

Number Response

- 1 Runway 14-32 rarely is used by fixed-wing military aircraft. It is used primarily by general aviation (Flying Club) aircraft and for pattern work by helicopters. This runway is used more frequently when Runway 09-27 is closed for periods of repair such that no aircraft operations can be conducted. Routine maintenance is conducted periodically on Runway 09-27, often during Christmas when runway usage is lower. Runway 09-27 was closed from December 20, 1996, to January 6, 1997, for routine maintenance (stripping and repairing cracks and repainting). During this period, Runway 14-32 was used primarily by the Flying Club with limited use by military aircraft. Major maintenance of the runways occurs every twelve to fifteen years and last occurred for Runway 09-27 in 1993 (see Table 3-2 of the environmental assessment). Given this maintenance schedule, the next major maintenance on Runway 09-27 would occur between 2005 and 2008.

Fixed-wing operations on Runway 14-32 (5,589 operations for 1994) were not counted in the noise modeling since only 26 of these were military jet aircraft. The contribution of these military jet operations was considered insignificant when compared to the overall noise environment. This is consistent with the previous noise survey. The touch-and-go operations for the H-3 and H-60 helicopters totalled 10,978 operations in 1994 and were modeled based on use of Runway 14-32. Additionally, 8,783 touch-and-go operations for the H-3 and H-60 were anticipated in the 1998 modeling for Runway 14-32. These reductions have been incorporated into the noise modeling for 1998 conditions.

In summary, Runway 14-32 is not anticipated to be used routinely by military jet aircraft. It may be used by military jet aircraft when Runway 09-27 is undergoing repairs or is closed for other reasons, but these periods are expected to be infrequent. The use of the runway for helicopter touch-and-go operations is expected to decrease from 10,978 operations in 1994 to 8,783 operations in 1998.

- 2 Flight Track 0903 is for the S-3 overhead arrival operations and was included in the noise modeling. The 0903 flight track would be used an average of 6.79 times per average busy day and an average of 0.21 times per night. Figure 4-3 of the environmental assessment compares the noise contours for the proposed action with 1994 conditions and the 1978 Air Installation Compatible Use Zone (AICUZ) noise contours. As the hatched areas in green, yellow, and red indicate, the area within the DNL 65, 70, and 75 dBA noise contours would increase compared to 1994 conditions. The total new off-station land area within the DNL 65 dBA noise contour would be approximately 77 acres. The area within the 1978 AICUZ 65

dba noise contour would decrease by 1,398 acres. Though this means that the overall impacts would not be significant, impacts to the noise environment in some areas would change.

8605 Villa San Juan Dr E.
Jacksonville, Florida
January 5, 1997

The Commanding Officer
Box 2 (Code 005)
Naval Air Station
Jacksonville, Florida 32212

Dear Sir,

This letter is in response to the many articles and meetings regarding the transfer of planes from Cecil Field to NAS Jax.

I have attended the meeting for the public at the JCA on the Southside and have spoken at length with Pat Dooling and Bill Dougherty regarding the noise we get with the F-3 airplanes, flying at low levels over our house. Two weeks ago, a C-5 came over at 500 feet (verified by your Air Command) and we thought it was coming straight into the house.

I am fairly sure "this study of noise impact" was a "done deal" before it

ever was completed, because sometimes the noise is deafening. Planes coming over now sometimes come in every 3 minutes for long periods of time over densely populated residential areas. I just want to go on record as saying this is a disaster waiting to happen.

I do want to commend Pat Darling and Bill Daugherty for lending a willing ear, and being most concerned with our problems in the neighborhood. They have been most helpful to see if we can alleviate some of the noise.

I pray that when the new planes arrive, they will not add to our distress.

Thank you for being interested in my comments.

Mrs. Bernard S. Datz

Letter 3 Mrs. Bernard S. Datz
January 5, 1997

Comment
Number Response

1 Comments noted. The noise from the S-3 aircraft should not appreciably change the noise environment in your neighborhood on the east side of the St. Johns River.

LAW OFFICES

DATZ, JACOBSON, LEMBCKE & CARFINKEL

Albert J. Datz
Samuel S. Jacobson
Charles B. Lembcke
Lawrence C. Datz
David A. Garfinkel
Karen L. Lippes
Kenneth B. Wright

ONE INDEPENDENT DRIVE, SUITE 2902
JACKSONVILLE, FL 32202-5023
TELEPHONE (904) 355-5467
FACSIMILE (904) 633-9328

January 6, 1997

Commanding Officer
Box 2 (Code 00G)
Naval Air Station
Jacksonville, FL 32212-5000

Re: Comments Regarding Preliminary Environmental Impact
Statement for S-3 Operations at Jacksonville NAS

Dear Sir:

I am writing on behalf of myself, an interested and affected person, regarding from the transfer of the S-3 jet aircraft to Jacksonville NAS from its present facilities at Cecil Field, Jacksonville. I reside at 8550 Cathedral Oaks Place West, Jacksonville, Florida, across the St. Johns River from Jacksonville NAS.

According to the preliminary draft of the environmental impact statement ("draft statement"), the Navy has concluded the transfer of the S-3 jet aircraft to Jacksonville NAS "... would not result in significant air quality or noise impacts ... [and] ... would result in no potentially significant adverse effects on the environment." For the reasons set forth below in this letter, I believe the conclusions of the draft statement are flawed because there has been an incomplete and insufficient review of the impact the proposed transfer of the S-3 jet aircraft squadrons would have upon the environment and its conclusions are not supported by the written review and public comments taken as a whole.

While the draft statement considered two other facilities as alternative sites for the transfer of the S-3 jet aircraft, the study failed to consider a significant and more responsible alternative. When the base closes, Cecil Field will be taken over by the City of Jacksonville which has indicated it will operate Cecil Field, at least in part, as an air field. An alternative to the transfer of the S-3 aircraft would be for the Navy to lease the

Commanding Officer
NAS Jacksonville
January 6, 1997
Page 2

existing S-3 facilities at Cecil Field from the City of Jacksonville. This would save the government the millions of dollars it will cost to construct the S-3 facilities at Jacksonville NAS. It would permit the continued use of the high power run-up pad at Cecil Field. The run-up pad at Cecil Field is not on the water and therefore it would not substantially increase the air, noise and water pollution which will occur if it is built as proposed on the edge of the St. Johns River at Jacksonville NAS. Moreover, by leaving the 48 jet aircraft at Cecil Field there will be no additional pollution of the St. Johns River resulting from the increased use of Jacksonville NAS. Leasing Cecil's facilities would also be advantageous to the Navy personnel who are presently residing in the area more closely and proximately located to Cecil Field. The use of Cecil Field by jet aircraft is accepted in that less populous area.

The joint Navy and civilian use of Cecil Field is not unique. There are multiple facilities which successfully operate in this fashion including Jacksonville International Airport.

The draft statement fails to take into account the impact the operation of the high power run-up pad on the land adjacent to the seawall along the St. Johns River would have upon air, noise and water pollution. The additional operations of testing 48 jet aircraft on a high power run-up pad along the river is a substantial environmental change with a material impact upon the area. Testing and trimming the S-3 jet engines with the high power run-up pad creates a great deal of noise which will be directed out onto and across the St. Johns River. The procedure will generate loud noise for a considerable length of time. Would the procedure be done at night? It is elementary that sound travels farther across water than it does land and especially land covered with vegetation and structures. Furthermore, the running of these engines at the high power run-up pad will generate additional pollutants into the air. Additionally, since the high power run-up pad is proposed to be built on the edge of the St. Johns River, it is possible there will be run-off from the pad into the St. Johns River which would violate the Clean Water Act. None of these considerations has been addressed in the draft statement.

The draft statement further does not take into account the impact the introduction of the S-3 jet aircraft into the regular operations of Jacksonville NAS will have upon the safety of the community. It is well documented that the accident rate per flight

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January 6, 1997
Page 3

hour for S-3 jet aircraft far exceeds the accident rate per flight hour for P-3 aircraft. In addition to the higher rate, if an accident were to occur with a S-3 jet aircraft, the crew would eject from the aircraft. This is in contrast to the P-3 which has four engines which is less likely to "fall out of the sky" and the crew does not eject from the aircraft. The areas around Jacksonville NAS contains substantial concentrations of civilian populations and this is particularly true on the east side of the St. Johns River and north of the field.

The draft statement is further flawed by its methodology and its underlying data. The impact of the noise pollution (which the draft acknowledges is an, if not the most, important consideration surrounding the transfer of the S-3 to Jacksonville NAS) is flawed. The draft statement relies upon the Wyle Laboratories work on noise levels around Jacksonville NAS reported in 1996. Unfortunately, (and I hope not intentionally) the Wyle report was not to be found at the Wesconnett Library. It is not based upon actual testing. The report was based upon theoretical assumptions. These assumptions are profoundly flawed. The Wyle report shows the effect of the noise of aircraft at Jacksonville NAS to have a co-equal effect extending west from the field (inland) as going east (across water). Sound travels differently across land than it does water. One would reasonably expect sound to have a far greater impact going across water (eastward) rather than across land (westward). The comments from citizens provide ample evidence that the results in the Wyle report are flawed. There are substantial and well stated complaints about aircraft noise on the east side of the river. I can personally state that when a jet goes over our home, conversations must cease including telephone conversations. (I could produce a multitude of neighbors and fellow civilians who suffer the same effects as a result of jet noise.) This real life experience is contrary to the theoretical Wyle report.

Late last year, some person came to our house asking to place a noise recording instrument along the shore as part of a study for the Department of Defense related to military airfield noise and the effect of the adjacent water environment at Jacksonville NAS and another military air station. My son told him we would be happy to cooperate with the study; he did not return to install a recording monitor device. The draft statement does not mention that Department of Defense study or the undertaking of that study.

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The draft statement is further flawed in that it fails to take into account the impact the noise from these jets will have on an average busy day usage of these aircraft. According to the draft statement, the average busy day use would be 242 operations. If that is correct, then the impact of those operations upon the civilian population, if each operation were one minute, would be 242 minutes or more than four hours a day (if 2 minutes per operation then eight hours a day). Four hours a day of new jet traffic in and around Jacksonville NAS would result in a substantial increase in the sound level and its duration. 6

The draft statement does not address the particular sound of a jet and its effect upon the environment. The introduction of 48 jets for regular, everyday operations at Jacksonville NAS is substantial. It is not just the dBA level that affects the environment. (For example, a chalk squeaking across a blackboard has a high impact on the environment even though its dBA level may be "moderate.") The type of sound is also a substantial part of the evaluation. 7

The study conducted by Water and Air Research, Inc., on September 19, 1996, between 12:00 noon and 12:30 P.M. and reported in the draft statement is also inadequate. The "study" consists of sound measurements of one jet aircraft making one complete FCLP pattern going in an elliptical pattern to the north of Jacksonville NAS. The two recording sites on the east side of the river (numbers 5 and 6) were in close proximity at Epping Forest. Why didn't the study separate the sites and use a recording site south of Epping Forest which may be closer to the flight pattern? By the study's own admission, this flight pattern constitutes only 55 percent of the FCLP flight patterns. (The other 45 percent of the flights are projected to be southward.) The test was done at noon when ambient noise is at its highest level. Both by my own personal experience living with the P-3s and with discussions with former Navy aviators, the FCLP operations occur in the early evening and throughout the night. This is the time when the ambient noise is at its lowest in the civilian residential areas affected by the FCLP and other flight operations. Moreover, when there are FCLP operations, there are always multiple aircraft operating for multiple touch-and-goes. This study hardly takes into account any of those considerations. The study further utilized a "minimum noise level" by using a one minute average of times collected during the monitoring event at each station. This would hardly be fair in establishing the minimum noise level 8

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NAS Jacksonville
January 6, 1997
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because the tests were not done at the quieter times of the day (evening) and one entire flight pattern of the FCLP is said to be three minutes and therefore the jet noise of that one airplane would affect each station for only a fraction of a minute. The flight used for the "study" is also not representative of a real life situation because it was done under controlled circumstances. It is only reasonable to expect the S-3 crew flying the test pattern knew their flight was being recorded to evaluate the plane's noise level as part of this environmental impact statement. The crew possessed the ability to affect the power changes to the aircraft to keep the noise at the lowest possible level. (The use of multiple aircraft and multiple operations would almost necessarily result in a range of readings from the measuring instruments and increase the "minimum noise level.") As such, the noise readings from the "study" do not reflect the noise normally generated by S-3 jet crews conducting the FCLP operations in the early evening and at night. The Navy also knew if the minimum noise level was greater than 65 dBA then there would have to be additional testing and study conducted.

Another defect in the draft statement is its failure to consider and examine the effects the maintenance of the S-3 aircraft could have upon the St. Johns River. Late last year, it was reported that water and cadmium mixtures used in cleaning the P-3 engines were running off Jacksonville NAS into the St. Johns River. The S-3 engines are cleaned with a similar solution. This cleaning method also poses a substantial danger to the St. Johns River. As you are fully aware, cadmium is a heavy metal and its introduction into the St. Johns River is a serious violation of the Clean Water Act. If a civilian entity were to allow a mixture with cadmium to enter the St. Johns River (with knowledge or not), it would face criminal prosecution. The draft statement failed to address whether the corrective measures, if any, have been instituted to insure these toxic mixtures do not flow into the St. Johns River. It should be remembered that the St. Johns River is the major waterway through Northeast Florida and for which the City of Jacksonville relies upon for its beauty, good health, water and future growth.

The draft statement is woefully insufficient and its conclusion invalid. Its defects are all the more apparent when one considers the evidence contained in the statements given by the affected Jacksonville citizens. The draft statement does not in any way attempt to evaluate, ameliorate or implement corrective

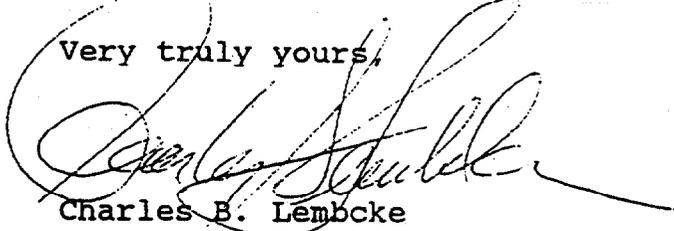
Commanding Officer
NAS Jacksonville
January 6, 1997
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measures to meet the complaints of excessive noise and air pollution resulting from Jacksonville NAS. The addition of the 48 S-3 jet aircraft, with more than 17,000 operations annually at Jacksonville NAS, with a new type of sound and new maintenance operations will multiply the adverse effects of Jacksonville NAS upon the noise, air and water qualities of the area.

The Navy should also negotiate a lease with the City of Jacksonville to use the existing facilities at Cecil Field. This arrangement would be beneficial to the Navy, the City of Jacksonville and the citizens living around Jacksonville NAS.

Finally, please provide me written notice of the final action of the Navy regarding the environmental impact statement. I am requesting the opportunity to review the final report of the environmental impact statement before any action is taken to transfer the S-3 jet aircraft to Jacksonville NAS or to commence construction of its support facilities.

Very truly yours,



Charles B. Lembcke

CBL/fg

cc: Representative Tillie Fowler
Mayor John Delaney
Eric Smith, Council President
Howard Dale, Councilman

Letter 4 Charles B. Lembcke
January 6, 1997

Comment
Number Response

1 The rationale for eliminating the alternative of leasing NAS Cecil Field rather than relocating the S-3 operations has been added to the alternatives analysis in Chapter 2 of the environmental assessment and is discussed below.

As discussed in Section 2.1 of the environmental assessment, the DBCRC-95 recommended that the receiving sites for NAS Cecil Field aircraft, personnel, equipment, and support were "other naval air stations...or other Naval or Marine Corps Air Stations with the necessary capacity and support infrastructure." For the Navy to lease property at NAS Cecil Field from the City of Jacksonville would be contrary to the recommendations and intent of the DBCRC-95. The executive summary of the DBCRC 1995 Report to the President states the following:

Base closures must be undertaken to reduce our nation's defense infrastructure in a deliberate way that will improve long-term military readiness and ensure that taxpayer dollars are spent in the most efficient way possible. The Commission's challenge was to develop a list of base closures and realignments that allows the Defense Department to maintain readiness, modernize our military, and preserve the force levels needed to maintain our security.

Leasing property and facilities at a base for the same purpose for which that base formerly was used would defeat the purpose of closure. Inherent in the DBCRC-95 recommendation to close NAS Cecil Field is reduction of excess capacity. The 1995 report also specifically mentions the "operational advantages including the collocation of carrier-based anti-submarine warfare aircraft with land-based anti-submarine warfare aircraft at NAS Jacksonville" (DBCRC 1995, page 1-50).

As discussed in Chapter 2 of the environmental assessment, Public Law 101-510 (the Defense Base Closure and Realignment Act of 1990) does not require the Department of Defense to consider in its environmental documentation: (1) the need for closing or realigning the military installation that has been recommended for closure or realignment by the Defense Base Closure and Realignment Commission; (2) the need for transferring functions to any military installation that has been selected as the receiving installation; or (3) alternative military installations to those recommended or selected. The environmental assessment follows the direction provided by Public Law 101-510 in its alternatives analysis. The National Defense Authorization Act for Fiscal Year 1996, Section 2837—Lease Back of Property Disposed From Installations Approved for Closure or Realignment—provides for the lease back of all or a portion of NAS Cecil Field, but only by other federal agencies. The law specifies that the Navy cannot lease

back any portion of a naval facility affected by base closure. Lease back of the property for the same purpose for which NAS Cecil Field was used would defeat the purpose of closure and would be contrary to the recommendations and intent of the DBCRC-95.

- 2 The proposed location of the high-power runup pad has been moved as shown in Figure 2-4. The new proposed location is approximately 1,144 feet from the St. Johns River. The nose of aircraft using the runup pad would be pointed north, and a sound deflector would be placed at the south end of the pad. The noise modeling has been revised to reflect this change, and the results have been incorporated into the environmental assessment. The new location for the high-power runup pad does not result in any substantial expansion or reduction to off- or on-station land areas within the DNL 65 dBA noise contour.

High-power runups of S-3 aircraft were assumed in the noise modeling to occur 999 times annually at power settings ranging from 64.7 percent to 96 percent. The total duration of high-power runups would be 216 hours per year, with each event lasting between 3 and 5 minutes. This equates to 36 minutes a day, 4 hours and 12 minutes a week, or 16 to 20 hours a month. High-power runups at night would occur approximately 250 times annually at the same power settings as the daytime events. Total duration would be approximately 54 hours per year, 9 minutes a day, 1 hour a week, or 4 to 5 hours per month.

Potential air quality impacts from the realignment are discussed in Section 4.1 and Appendix C of the environmental assessment. Air quality impacts were determined to not be significant in terms of exceedances of regulatory standards. Any pollutants resulting from the use of the runup pad would be treated through the existing stormwater and retention basins for the airfield.

- 3 Data for Class A mishaps (those resulting in loss of life, permanent total disability, cost in excess of \$1 million, destruction of an aircraft, or damage to an aircraft beyond economical repair) for the P-3 and S-3 aircraft were obtained from the Naval Safety Center. Data for S-3 mishaps at NAS Cecil Field also were compiled. The data contained records of two Class A mishaps for S-3 aircraft at NAS Cecil Field during the seventeen-year period spanning January 1980 through January 1997. Both of these mishaps occurred in the immediate vicinity of the runway, posing no threat to area residents.

The data contained no record of Class A mishaps for P-3 aircraft at NAS Jacksonville. However, two Class A mishaps were not included in the database records. One was a P-3 mishap that took place at NAS Cecil Field. This mishap may have occurred at NAS Jacksonville, but when it became evident that problem would occur during landing, the P-3 aircraft was routed to NAS Cecil Field since

they have two runways and were able to dedicate one to controlling the damage after landing. One S-3 mishap that did not appear in the data was reported by the NAS Cecil Field safety officer, as discussed in Section 4.12. This mishap also occurred in the immediate vicinity of the runway.

A database search was performed by the Naval Safety Center to compare Class A mishap data for Navy-wide land-based operations of the P-3 aircraft, S-3 aircraft, and all Navy aircraft. Two time periods were examined: calendar year (CY) 1980 to present and the ten-year period from CY 1987 through CY 1996. The overall average mishap rates for 1980 to present for all P-3 (0.25 mishaps per 100,00 flight hours) and all S-3 aircraft (1.35 mishaps per 100,000 hours) indicate that both are inherently safer than the overall average for all Navy aircraft (2.05 mishaps per 100,000 hours). The 1987 through 1996 data show decreases in mishap rates for P-3, S-3, and all Navy aircraft (0.21, 1.11, and 1.67 mishaps per 100,000 hours, respectively) indicating that flight operations are becoming safer.

4

State-of-the-art methodology in aircraft noise modeling assumes the terrain surrounding a runway is flat and has normal impedance properties affecting the propagation of noise. This assumption is adequate for most aircraft noise analyses, but for airports in hilly terrain or close to water, the noise impact analysis could be overstated or understated. Sound travels over water more efficiently than over land where fields, trees, varying terrain, and buildings affect the propagation of noise. Currently, the U.S. Department of Defense is investigating the phenomenon of propagation of noise over water. Initial efforts indicate the sound propagation theories are complex and require a better understanding of various factors such as the meteorological conditions above the surface of the water (wind, temperature, and humidity). One such noise study is currently being conducted at NAS Jacksonville (see response 5).

Recently, the Federal Interagency Committee on Noise (FICON) reviewed the current metrics for evaluating aircraft noise. FICON concluded that the day-night average sound level (DNL) is an appropriate metric for describing long-term noise exposure at both civilian and military airports. In addition, FICON continued to endorse the current land use planning guidelines for evaluating land use compatibility in the vicinity of airports. Residential development is compatible with airfield operations producing noise levels between DNL 65 to 75 dBA. On a nationwide average, current construction standards provide between 15 to 25 dBA of sound attenuation with windows open or closed, respectively. As shown in Figure 4-3, the proposed action will produce DNL 65 dBA noise contours extending partially across the St. Johns River from NAS Jacksonville to within approximately 2,500 feet of the San Jose community. Although these noise contours do not account for the effects of noise propagation over water (since appropriate analytic methodology does not exist), initial data and field observations

suggest that, even with some intuitive adjustment for a slight increase in noise, the residential development along the St. Johns River will continue to be compatible with the proposed aircraft operations.

5 The U.S. Department of Defense and the Armed Forces Kingdom of Sweden is currently conducting a noise study: *Aircraft Noise: Effects of Wind, Water, and Terrain on Noise Propagation in the Vicinity of Military Airfields*. Part of this study will examine the effects of water bodies on noise. Monitors were placed in areas near NAS Jacksonville in 1996, and data will begin to be processed in spring of 1997. The Navy appreciates your willingness to assist in this study.

6 The Aircraft Noise Study for Naval Air Station Jacksonville, Florida (June 1996), discusses how the average busy day operations were tabulated:

The noise environment around a military or civil airfield is normally described in terms of time-averaged sound levels generated by aircraft operating at that facility. These operations consist of flight activities conducted during an average day at airfields where operations generally adhere to a fixed schedule (most commercial airports) or during a typical "busy day" at airfields where operations vary from day to day or between weekdays and weekends (most military airfields). Operations generally include fixed-wing aircraft, and helicopter arrivals and departures at the airfield, flight patterns in the vicinity of the airfield, and aircraft engine "run-ups" associated with engine pre-flight and maintenance checks.

To prepare noise contours, NOISEMAP requires the number of daily operations. Aircraft noise surveys conducted by NAVFACENCOM [Naval Facilities Engineering Command] require identification of the number of operations on an "average busy day" or a typical day when the airfield is in full operation. A day is considered to be a "busy" day when its total operations are at least 50 percent of the annual average daily operations. The average busy-day number of operations is then determined by calculating the mean of the operations on all of the busy days over a period of one year. For 321 days of ATAA [Air Traffic Activity Analyzer] data for CY94, 213 of these days were "busy." Scaling to 365 days (one year) yields 242 busy days.

Using this methodology, the average number of busy day operations in 1994 was 402 (97,349 operations divided by 242 busy days). The average number of busy day operations in 1998, following arrival of the S-3 aircraft, would be 449 (108,673 operations divided by 242 busy days). Table 3-4 of the environmental assessment shows the modelled aircraft used in the calculation of operations for the existing environment, and Table 4-1 shows the forecasted operations. The noise modeling is based on the speed, altitude, power setting, and distance involved in each operation.

7 As previously discussed in Response 4, FICON recently reviewed the current metrics for evaluating aircraft noise and concluded that the DNL was the

appropriate metric for describing long-term noise exposure at both civilian and military airfields. It also determined that the DNL is a function of the cumulative sound energy of the individual noise events occurring during the averaging interval. The sound energy is expressed in terms of A-weighted decibels (dBA), which means that the measurement of sound energy at different frequencies is adjusted to mimic the human ear's sensitivity to certain frequencies of sound.

The primary difference between sound of the existing P-3 aircraft and that of the relocating S-3 aircraft is that the P-3 aircraft generate more low-frequency sound and the S-3 aircraft generate more middle- and high-frequency sound. The low-frequency sound from the P-3 aircraft primarily comes from the propellers. Low-frequency sound is more likely to cause vibrations of buildings and in human bodies; therefore, it is felt as well as heard. This type of noise is not attenuated by buildings as well as higher frequency sound is since it is transmitted to some degree by the vibrations of the building.

The familiar sound of a typical jet engine, as is the S-3 engine, occurs more in the middle and high frequencies. The human ear is more sensitive to sound energy in these frequencies, which are closer to the range of sounds used for human speech. This type of sound is more likely to interfere with conversation but also is attenuated much more effectively by buildings.

Neither DNL nor the A-weighted scale of sound energy measurement accounts for an individual's propensity for annoyance for certain types of noise, since this is subjective and differs between individuals. Some may find the vibration of low-frequency sounds to be particularly annoying, while others may be more annoyed by the sound of a jet engine. It often depends on the lifestyle of the individual.

FICON has continued to endorse the current land use planning guidelines for evaluating land use compatibility in the vicinity of airports. Residential development is compatible with airfield operations between DNL 65 to 75 dBA since current construction standards provide between 15 to 25 dBA of sound attenuation with the windows open or closed, respectively. Although the noise contours for the proposed action at NAS Jacksonville do not account for the effects of propagation over water, initial data and observations suggest that the residential development along the St. Johns River across from NAS Jacksonville will continue to be compatible with proposed aircraft operations.

The planning guidelines accept that some degree of annoyance is experienced even in areas considered compatible with the noise exposure. This results from the high degree of variability in annoyance expressed by individuals. The planning guidelines are meant to protect public health and guide compatible development in areas with significant sources of noise.

The purpose of the noise measurements was to acquire additional aircraft-related noise data associated with potential S-3 FCLP pattern operations at NAS Jacksonville. Single-event levels were monitored. Monitoring Stations 5 and 6 were located near the east bank of the St. Johns River within the San Jose residential community. Factors in determining the location of these stations included distance to flight track, engine power setting, aircraft altitude, aircraft speed, and land use. Both proposed S-3 FCLP pattern flight tracks (09T8 and 27T8) were reviewed to determine which would be the most appropriate track to use; the 09T8 track was selected for several reasons. The distance from the selected stations to track 09T8 is approximately 5,000 feet (San Jose residential area) compared to the approximately 6,000 feet from the nearest land-based area (residential area north of Plummers Cove) to track 27T9. On track 09T8, S-3 aircraft operate at an engine power setting of 80 percent, an altitude of 600 feet, and a speed of 130 knots near monitoring stations 5 and 6. On track 27T8, the power setting is 75 percent and the speed is 120 knots. The difference in power settings and air speed at these two locales in relationship to the two different flight tracks is due to the fact that these two tracks are completed in opposite directions. Track 09T8 departs to the east and approaches from the west whereas track 27T8 departs to the west and approaches from the east. Land uses at either of the possible areas is low-density residential. Based on these factors, the station locations and flight track selected were appropriate for the purposes of this assessment.

The S-3 noise assessment was conducted between the hours of 12:00 P.M. and 12:30 P.M.. Typically, ambient noise levels increase during this period because of lunch-hour traffic from area businesses. However, since the noise monitoring stations were located in residential areas, ambient noise levels were not as affected by increased lunchtime traffic activity, although vehicular traffic was noted at each station during the monitoring period and the corresponding noise level was recorded. A review of this data verified that few vehicles traveled through the residential areas during the monitoring period. The minimum ambient noise levels observed during the assessment ranged from 45.0 dBA to 52.5 dBA for all six stations. These noise levels are typical for residential areas during evening and early morning hours. The S-3 FCLP pattern would be conducted between the hours of 9:00 A.M. and 7:00 P.M., Monday through Friday. The noise modeling (Wyle Laboratories 1996) reported that 97 percent of the S-3 FCLP pattern operations would be conducted during daytime hours (7:00 A.M. to 10:00 P.M.), Monday through Friday and 3 percent would be conducted at night (10:00 P.M. to 7:00 A.M.). However, as discussed in Section 2.2.2, FCLP operations normally would be performed at OLF Whitehouse. They would be conducted at NAS Jacksonville on an unanticipated schedule only when weather conditions are poor and visibility is degraded at OLF Whitehouse.

The monitored FCLP Track 09T8 has a cumulative distance of approximately 40,000 feet. The average travel speed of the aircraft is 120 knots (138 miles per hour). The total travel time to complete one FCLP pattern is approximately 3 minutes. As many as six S-3 aircraft can be in an FCLP pattern configuration at once.

9

The environmental assessment has been expanded to more fully discuss potential water quality impacts associated with existing and projected aircraft operations and maintenance.

No processes associated with the operation and maintenance of aircraft at NAS Jacksonville result in direct discharges of industrial wastewater to the St. Johns River or other surface water bodies. Water from washing the exterior of the aircraft is collected and discharged to the wastewater treatment plant at NAS Jacksonville. This water has been tested and found to be nonhazardous. Previously, the internal wash process for the P-3 engine compressors was allowed to collect on the apron and enter the stormwater system. However, this washwater was found to contain cadmium, a heavy metal. The cadmium comes from an alloy used in the engine compressor. The P-3 engine washwater now is collected and disposed as hazardous waste, so no cadmium or other potential pollutants are discharged to the river. Subsequent testing of water and sediment at the stormwater outfall to the St. Johns River found that cadmium levels were below the detection limits of the analytical procedure (Ford 1997).

The current process of collecting and disposing of engine washwater is expected to be replaced by a washrack with a pretreatment module to remove contaminants from the washwater. The washwater then can be discharged to the wastewater treatment plant at NAS Jacksonville. This system is expected to be in place in April 1998. At present, approximately twelve aircraft per month (forty-eight engines per month) undergo engine washdowns (Ford 1997).

The S-3 aircraft undergo regular washdowns, similar to those for the P-3 aircraft, including an engine wash, an aircraft exterior wash, and an exterior rinse to remove salt. These activities would not affect the ongoing P-3 washdown activities. The S-3 aircraft compressors do not contain cadmium, and testing of washwater from the S-3 aircraft engines at NAS Cecil Field has found all concentrations of heavy metals to be below regulatory levels. Washwater from S-3 aircraft maintenance at NAS Jacksonville will be retested. If this washwater is found to be nonhazardous, it will be collected and managed in accordance with state and federal regulations.

Appendix C

Clean Air Act Conformity

RECORD OF NONAPPLICABILITY
for
Clean Air Act General Conformity
for Base Realignment for S-3 Squadrons
at Naval Air Station Jacksonville, Florida

CLEAN AIR ACT
RECORD OF NONAPPLICABILITY
(40 CFR Part 93)

To the best of my knowledge the information contained in this applicability analysis is correct and accurate. By signing this statement, I am in agreement with the finding that this action is below appropriate de minimis values, therefore the proposed action is presumed to conform to the State Implementation Plan.



R.D. Whitmire, Captain, U.S. Navy
Commanding Officer
Naval Air Station, Jacksonville, Florida

12 December 1996
Date

Applicability Analysis for Clean Air Act General Conformity for Base Realignment for S-3 Squadrons from Naval Air Station Cecil Field, Florida

EXECUTIVE SUMMARY

The Navy proposes to relocate six squadrons of S-3 aircraft currently located at Naval Air Station (NAS) Cecil Field, Florida. Of the alternative locations considered, NAS Jacksonville, Florida, is the preferred location. The President's 1993 Defense Base Closure and Realignment Commission recommended the closure of NAS Cecil Field, and the 1995 Defense Base Closure and Realignment Commission redirected the receiving sites for the S-3 squadrons to include NAS Jacksonville and other air stations with suitable capacity and support infrastructure. This report is part of an environmental assessment that examines the potential environmental impacts that would result from relocating the squadrons to NAS Jacksonville.

This applicability analysis was performed to determine whether the requirements of the General Conformity Rule (40 CFR Part 93, *Federal Register*, November 30, 1993) apply to the proposed action. The Conformity Rule is considered applicable if the action's net direct and indirect emissions of any criteria pollutant for which an area is in nonattainment or maintenance exceed the de minimis levels presented in the rule.

NAS Jacksonville is located in Duval County, which is classified as a *maintenance area* for the pollutant ozone. Duval County is an *attainment area* for the other five federal criteria pollutants: sulfur dioxide, nitrogen oxides, lead, carbon monoxide, and particulate matter less than 10 micrometers in diameter. Ozone is not emitted directly by emissions sources, it is formed in the atmosphere from a photochemical reaction (i.e., caused by sunlight) between ozone precursors—primarily volatile organic compounds (VOCs) and nitrogen oxides (NO_x; nitrogen oxide plus nitrogen dioxide). Regulatory agencies act to control ozone formation by controlling the emissions of VOCs and NO_x. The applicable de minimis levels for VOCs and NO_x are 100 tons (91 metric tons) per year for each.

Since both NAS Cecil Field and NAS Jacksonville are located in the same air quality control region (Duval County), relocating the S-3 squadrons within Duval County would not result in an increase in emissions within the air quality control region. Sources of emissions that would relocate to NAS Jacksonville without foreseeably increasing their emissions are not required to be included in the emissions inventory that is compared to the de minimis thresholds. Only new sources of emissions or sources that increase their emissions as a result of the relocation are considered to represent a net increase in emissions.

Since no new operations are planned in addition to the relocation, the net emissions increases consist of the emissions associated with the construction and renovation projects at NAS Jacksonville to accommodate the S-3 squadrons, and the increase in the distance traveled by squadron personnel commuter vehicles. All other operational emissions were excluded since these emissions already occur within Duval County and would not increase as a result of the relocation. Emissions were calculated for the calendar years 1997, 1998, and 1999. The best available construction scheduling information was used to distribute construction activities between 1997 and 1998. All construction would be completed during 1998. Full operational emissions (commuter vehicles) were assumed to apply to 1997 and subsequent years. 1999 was assumed to contain only operational emissions, as construction will have been completed. The actual schedule of construction and relocation may differ somewhat from these assumptions.

Total emissions of NO_x resulting from the proposed relocation would be highest in 1997, at 2.98 tons (2.70 metric tons) per year. Operational activities would comprise 2.24 tons (2.03 metric tons) per year of this total, with a contribution of 0.74 tons (0.67 metric tons) per year from construction sources. The annual NO_x emissions for full operational conditions with no construction (1999 and subsequent years) would be 2.19 tons (1.98 metric tons) per year, resulting from commuter vehicles.

Total emissions of VOCs would be highest in 1998, estimated at 7.01 tons (6.37 metric tons) per year. The largest contributor to this total would be the paints and adhesives component of construction emissions (4.31 tons per year, 3.91 metric tons per year). The VOC emissions for full operational conditions with no construction (1999 and subsequent years) would be 2.67 tons (2.43 metric tons) per year and would result from commuter vehicles.

Both NO_x and VOC emissions for all years of the project's duration, including the period of overlap between construction activities and operational activities, are well below their de minimis levels of 100 tons (91 metric tons) per year for all direct and indirect emissions under federal control. Therefore, a conformity determination for this action is not required under 40 CFR Part 93.153. Additionally, the proposed relocation action is in conformance with the purpose of the Florida State Implementation Plan (SIP).

1 INTRODUCTION

The Navy proposes to relocate six squadrons of S-3 aircraft from NAS Cecil Field, Florida, to NAS Jacksonville, Florida. This action is directed by the Defense Base Closure and Realignment Commission of 1993, which listed NAS Cecil Field for closure, and by the Defense Base Closure and Realignment Commission of 1995, which redirected the relocation of the S-3 squadrons from NAS Cecil Field to other air stations. NAS Jacksonville is the preferred installation for the relocation of the S-3 squadrons.

Seven projects are proposed to provide adequate facilities for the operations of the six squadrons. New construction would include the simulator training facility and the tactical support center addition to Building 506. The high-power runup pad may require resurfacing for use by S-3 aircraft. For this analysis it is assumed that the entire pad and taxiway would be resurfaced and would require approximately 32,000 square feet of new pavement and the installation of the anchoring devices. Internal renovations and modifications to existing hangars and buildings are planned for the remainder of the projects. These projects primarily involve moving some existing walls and constructing new internal walls to provide areas for training, offices, and aircraft storage and maintenance. Table 1 contains a summary of the projects and the approximate amounts of sitework, demolition, new construction, and internal renovations and modifications associated with each project. These projects are still in the early design stage, so the information presented are rough estimates based on the preliminary design documents (SOUTHNAVFACENCOM 1996).

In addition to the associated facility constructions and renovations, the operational use of these facilities and the numbers of personnel involved were examined to identify potential conflicts with the SIP provisions for Duval County. The realignment would relocate approximately 2,274 civilian and military jobs to NAS Jacksonville. The flight activity of the six squadrons in the vicinity of NAS Jacksonville, approximately 17,331 operations per year, would be based out of NAS Jacksonville. Maintenance operations would be performed at NAS Jacksonville as they were at NAS Cecil. Minor and intermediate maintenance would be performed at the squadron level, and major overhauls of the aircraft would be performed at specialized facilities at other installations.

2 CLEAN AIR ACT CONFORMITY

2.1 Applicability Analysis

Federal actions, such as the relocation of the six S-3 squadrons from NAS Cecil Field to NAS Jacksonville, are required under Section 176(c) of the Clean Air Act to demonstrate conformance to the SIP before they can be implemented. Federal actions must not (1) cause or contribute to any new violation of any standards, (2) increase the frequency or severity of any existing violation, or (3) delay timely attainment of any standard or required interim milestone. The Navy is responsible for demonstrating that the emissions associated with the proposed relocation would conform to the state implementation plan goals of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards and of achieving expeditious attainment of these standards.

NAS Jacksonville is located in Duval County, which is classified as a *maintenance area* for ozone. Duval County has not reported any violations of the ozone standard since 1987 (McElveen 1996). Duval County is classified an *attainment area* for the other five federal criteria pollutants: sulfur dioxide, nitrogen oxides, lead, carbon monoxide, and particulate matter less than 10 micrometers in diameter. Ozone is not emitted directly by emissions sources; it is formed in the atmosphere from a photochemical reaction (i.e., caused by sunlight) between ozone precursors—primarily VOCs and NO_x. Regulatory agencies act to control ozone formation by controlling the emissions of VOCs and NO_x.

This applicability analysis will determine whether the requirements of the General Conformity Rule (40 CFR Part 93, *Federal Register*, November 30, 1993) apply to the proposed relocation of the squadrons to NAS Jacksonville. The General Conformity Rule is considered applicable if the action's net total of direct and indirect emissions of any criteria pollutant for which an area is in nonattainment or maintenance exceeds the de minimis levels presented in the rule. The de minimis level for the precursors to ozone formation are 100 tons (91 metric tons) of VOCs (as defined in Chapter 62-210 of the FAC) and 100 tons of NO_x per year. Since Duval County is in attainment for all other federal criteria pollutants, emissions analyses of only VOCs and NO_x are required.

All potential sources of net emissions increases under control of the Navy resulting from the proposed relocation of the squadrons are inventoried in this applicability analysis. Typically, project-related emissions would result from various sources such as natural gas or fuel oil heating, aircraft engine exhausts and evaporative emissions, aircraft painting and stripping operations, commuter vehicle emissions, volatile maintenance solvents, and any other project-specific emissions source. Emissions that occur as a result of construction activities, such as operating heavy machinery, transporting materials, and emitting VOCs from paints and adhesives typically also are inventoried in this analysis.

However, since NAS Cecil Field and NAS Jacksonville are located within the same air quality control region (Duval County), almost all of the emissions associated with the operations of the six squadrons of S-3 aircraft already occur within the maintenance area. The only sources of emissions that need to be inventoried are new sources that result from the proposed relocation of the squadrons and existing sources at NAS Cecil Field that increase their emissions as a result of the relocation. All construction-related emissions under federal control for the projects associated with the proposed relocation are determined in this analysis as described in the following section. The only operational-phase emissions source that is foreseeably expected to experience an increase as a result of the proposed relocation would be mobile-source emissions associated with squadron personnel commuter vehicles. This increase would result because the personnel in on-station housing at NAS Cecil Field currently do not commute but likely would commute after the relocation because of limited on-station housing at NAS Jacksonville. Commuter vehicles are considered an indirect emission source under Navy control.

For an applicability analysis, the construction and operation emissions are inventoried and totaled on an annual basis in units of tons per year for comparison with the de minimis levels presented in 40 CFR Part 93 Section 93.153.

Construction is scheduled to be distributed between 1997 and 1998, and the relocation is expected to occur in stages through 1997 and 1998. The best available construction project schedule was used to distribute the construction activities between 1997 and 1998. However, full operations are assumed to occur throughout 1997 and subsequent years. The first year of full operation with no construction would be 1999. The SIP attainment date for Duval County has already passed, but 2005 is included in the Duval County Maintenance Plan as a ten-year milestone. Results for 1999 conditions were assumed to remain constant for each year thereafter through 2005.

2.1.1 Estimation of Construction Emissions

Construction-related direct emissions and indirect emissions under Navy control and resulting from the proposed relocation of the S-3 squadrons to NAS Jacksonville are included in this applicability analysis. Only those direct and indirect emissions under federal control are considered to be caused by the action. Typically, emissions from activities within the Navy property boundaries are included, but emissions from off-site travel and activities are not considered to be under federal control and are not included. Emissions sources considered to be under federal control include the on-site use of gasoline- or diesel-powered construction equipment, on-site mileage for trucks hauling bulk materials or supplies, and VOC emissions from paints and adhesives. Sources considered to be outside federal control include construction employee commutes and off-site truck and equipment mileage.

Emissions were estimated for each type of significant source participating in the proposed construction. The number of hours of operation for each heavy machine and the number of vehicle trips for delivery and haul trucks were determined for each of the projects associated with the relocation of the squadrons to NAS Jacksonville. Sources such as bulldozer operations and fill dirt hauling were assumed to occur at the initial stages of construction projects, and painting was assumed to occur at the end of the projects. Other sources such as materials delivery and use of cranes and fork lifts were assumed to occur throughout the projects. The construction hours and vehicle trips for all projects were summed by calendar year.

Hours for heavy machinery use and trips for construction-related trucks were estimated using previous studies where similar construction techniques were used for similar construction and renovations (SOUTHNAVFACENGCOM 1994a; SouthStreet 1995). In these studies, equipment use and truck trips were estimated by experienced Navy construction engineers involved in planning those projects.

The equipment hours were estimated by determining the approximate number of days that a machine would be required at each specific project multiplied by the usage factor, the

approximate percentage of that time that the machine actually would be in operation. Haul truck and delivery truck trips were estimated by estimating the amount of material to be moved and the capacity of the trucks. The hours or trips for each source then were totaled for all of the projects and distributed between the 1997 and 1998 calendar years. This distribution was based on the best available schedule and type of construction activity to be performed. For example, land clearing sources such as bulldozers and graders were assumed to occur at the start of the projects and were placed in the 1997 inventory. Painting emissions and other later construction activities were attributed to the 1998 inventory. Some sources, such as forklifts, were assumed to be spread throughout the projects and were split evenly between 1997 and 1998. Attachment A contains the construction equipment operations and heavy truck trips for each realignment project.

Table 2 lists the construction equipment sources considered and the total annual operating hours or trips for each source for all construction projects. All construction activities would be completed in 1998 and none would take place in 1999. The highest levels of operating hours would be for the rough-terrain forklift (364 hours), the front-end loader (312 hours), and the crane (250 hours). The most truck trips would be generated by deliveries of construction materials (502 trips).

VOC and NO_x emissions were calculated from the hours or trips for each construction source, using the appropriate emission factors from Volume II of AP-42 (USEPA 1985). The emission factors and other data used in the emissions calculations are listed in Table 3. The most accurate method of estimating emissions from large equipment requires the grams (g) per horsepower (hp) per hour (hr) or grams per Joule (J) emission factor and the estimated output of the equipment. Representative horsepower estimates for each diesel machine were obtained from equipment rental firms (Kronz 1994). Horsepowers ranged from 40 hp (29,828 J per second) for an air compressor to 150 hp (111,855 J/second) for a large bulldozer. Emission factors in AP-42 are given for a variety of equipment similar but not identical to those used for the proposed construction. Equipment was matched with those of similar horsepower range and usage type. For example, the project bulldozer was matched to the "Track-Type Tractor" entry in AP-42. The NO_x emissions factors for various equipment lie within a fairly narrow range (7.14 to 11.01 g/hp-hr; 2.66×10^{-6} to 4.10×10^{-6} g/J); VOC emissions factors range from 0.36 to 1.01 g/hp-hr (1.34×10^{-7} to 3.76×10^{-7} g/J) (USEPA 1985).

Truck emissions are based on trips, which are converted to distance traveled, based on the assumption that each trip requires an average of 4 miles (6 kilometers)—2 miles (3 kilometers) each way from the NAS Jacksonville gate to the construction site. Off-site travel is not under federal control and is not included. The AP-42 emission factors from heavy-duty diesel vehicles operated at 10 miles per hour (mph) (16 kilometers per hour [kph]) were used as a conservative estimate (lower speeds result in higher emissions per unit of distance). The emission factors for VOCs and NO_x were 16.54 g/mile (10.28 g/kilometer [km]) and 4.47 g/mile (2.78 g/km), respectively (USEPA 1985).

VOC emissions from the application of paints and adhesives during construction and renovation projects were determined based on the floor space of the projects and the VOC content of the materials applied. The total floor space of the new construction and renovation projects were determined either from the project design descriptions or by analysis of the design drawings. All new construction and renovation projects were assumed to require new paint and flooring. No estimates are available on a per-project basis for area of carpet, walls, windows, floor tile, and other surfaces. Therefore, a multiplier of 4 was applied to the project floor space where new construction or renovation is planned to estimate the area of floor and walls. Southern Division Naval Facilities Engineering Command (SOUTHNAVFACENGCOM) indicated that this was an appropriate factor for such institutional or industrial projects (Parker 1994). All wall and floor area were assumed to require painting or adhesive for flooring or carpet. A review of product information for various floor and window adhesives and paints indicated similar VOC contents and coverage properties. Therefore, floor and window adhesives were considered roughly equivalent to paints in that floors and walls would contribute the same amount of VOCs on an areal basis. Most ceilings were assumed not to require painting, since drop ceilings (or possibly unfinished ceilings) are preferred for these types of projects. The factor of 4 applied to floor square footage should adequately cover the amount of ceiling that may require painting.

A rate of 200 square feet per gallon (70 square meters per liter) was assumed for covering floors (with adhesive) and walls (with paint), with the wall paint coverage assuming two coats of application. Paint or adhesive was assumed to contain approximately 3.5 pounds per gallon (0.4 kilograms/liter) of VOCs, based on the review of paint and adhesive product information. The amount of paint and adhesive applied per project yields VOC emissions in tons (or metric tons) per year. The VOC releases were based on the assumption that the entire VOC content of the paints and adhesives would be emitted to the atmosphere. Table 4 lists the estimates for VOC emissions from paints and adhesives for the projects associated with the proposed relocation.

Table 5 summarizes the estimated annual emissions of VOCs and NO_x for construction activities associated with the proposed relocation. The total VOC emissions for 1997 would be 0.081 tons (0.073 metric tons). Emissions in 1998 would be considerably higher, at 4.343 tons (3.940 metric tons), because of the large contribution of paints and adhesives (4.309 tons; 3.909 metric tons). No construction VOC emissions would occur after 1998.

Annual total NO_x emissions from all project-related construction sources would be 0.74 tons (0.67 metric tons) for 1997 and 0.39 tons (0.31 metric tons) for 1998. No construction emissions would occur in 1999 since all projects are assumed to be complete in 1998. Section 2.1.4 further discusses annual totals of VOC and NO_x emissions.

2.1.2 Estimation of Mobile Source Annual Emissions

Vehicle commutes for employees associated with the proposed relocation of S-3 squadrons to NAS Jacksonville are considered indirect emissions under control of the federal action, so

they were evaluated as part of the proposed relocations. Trips for purposes other than those directly associated with activities at NAS Jacksonville are not under federal control and are not part of the action; therefore they were not included in the emissions analysis.

Estimating mobile-source emissions requires the increase in the number of commuter vehicle-miles traveled as a result of the proposed relocation and the vehicle emission rates. These data were determined by the following methodologies.

Approximately 2,274 civilian and military personnel associated with the six S-3 squadrons would be relocated to NAS Jacksonville. Since NAS Jacksonville and NAS Cecil Field both are located in Duval County and the residential areas used by personnel from both sites overlap considerably, the average commuter distances associated with vehicles transferring to NAS Jacksonville from NAS Cecil Field were assumed not to increase. This assumption is supported further by the fairly high turnover in the training programs and the fact that new personnel would locate closer to NAS Jacksonville. The result of these assumptions is that some commuter information that previously was determined for existing NAS Jacksonville employees (SOUTHNAVFACENCOM 1994) can be applied to the relocating S-3 squadron personnel. This information is summarized below and also is tabulated in Table 6.

The total number of commuter personnel associated with the S-3 squadrons is expected to increase as a result of the relocations to NAS Jacksonville. The portion of S-3 personnel that lived in on-site housing at NAS Cecil Field is not expected to find on-site housing at NAS Jacksonville and is assumed to commute. The number of S-3 personnel that lived in on-site housing at NAS Cecil Field is estimated as the ratio of on-site housing units (298 family housing units plus 500 bachelor enlisted and officer quarters) to total military personnel (only military personnel can stay in on-site housing) at NAS Cecil Field (6,779 persons) times the total number of S-3 military personnel (2,180 persons). This results in 257 S-3 personnel in on-site housing at NAS Cecil Field that would have to commute after the relocation to NAS Jacksonville. Each new commuter was assumed to drive separately, resulting in an increase of 257 commuter vehicles.

The average vehicle speed for commuters that would travel to NAS Jacksonville was estimated using the results of the zip code distribution analysis and the Florida Department of Transportation roadway network model. The results of the countywide and roadway systemwide analyses estimate the average vehicle speed along principal arterial systems to be 28 mph (45 kph). For modeling purposes, a more conservative average speed of 25 mph (40 kph) was used.

The distance traveled (one trip) to NAS Jacksonville by current commuters and their counties of residence were determined by a zip code distribution analysis. The average commute distance was estimated to be 10 miles (16 km) per trip per employee. Each new person commuting as a result of the relocation was assumed to make two trips per day, one trip to

NAS Jacksonville and one trip from NAS Jacksonville. Each employee was assumed to work 240 days per year.

Based on the results of the zip code distribution analysis, approximately 50.7 percent of current commuters were determined to reside in Duval County. The remaining 49.3 percent of the personnel primarily live in neighboring Clay County, with smaller proportions in St. Johns, Nassau, or other nearby Florida counties. The distribution of personnel between counties with and without vehicle inspection and maintenance programs was required since the vehicle emission factors were different for each group, as explained below.

Mobile-source emission factors for ozone precursors (VOCs and NO_x) were determined using the most recent version of the U.S. Environmental Protection Agency mobile-source emission factor model, MOBILE 5A (USEPA 1993). The model estimates an emission factor for total hydrocarbons, which is conservatively assumed to be equal to the VOC emission factor (VOCs are actually a subset of total hydrocarbons). The emission factors were determined for 1997 and 1998 (Table 6). The 1998 emission factors were assumed to apply to all subsequent years.

MOBILE 5A input assumptions used in the 1994 applicability analysis for NAS Jacksonville were based on area-specific data, recommendations from the Florida Department of Environmental Protection, and U.S. Environmental Protection Agency requirements (SOUTHNAVFACENGCOM 1994a). Printouts of MOBILE 5A output files are included in Attachment 2. These files list the model input variables and their assigned values used in calculating emission factors for each year of the analysis.

Vehicle inspection and maintenance programs were included in the emission factor models for personnel living in counties requiring inspections. Currently, Duval County is the only county in the region with an inspection and maintenance program. Personnel living outside Duval County were modeled separately without an inspection and maintenance or antitampering program. However, Commander Naval Base Jacksonville has, in compliance with Section 118 of the Clean Air Act, directed that over the next three years all employees operating their vehicles on naval property in Duval County, regardless of where these vehicles are registered, will comply with Duval County's inspection and maintenance program. MOBILE 5A default vehicle travel mixes for each year analyzed were adjusted to more accurately reflect commuter conditions. No personnel are assumed to commute in heavy-duty (gasoline or diesel) vehicles.

Total yearly mobile-source emissions (E_m) for vehicles associated with personnel relocating to NAS Jacksonville were estimated using the following equation:

$$E_m \text{ (tons or metric tons per year)} = \text{ERATE (grams per mile or kilometer)} \times \text{VMT (vehicle miles or kilometers traveled per year by all personnel)} \times \text{conversion factors}$$

where

ERATE = vehicle pollutant emission factor for each vehicle type modeled from MOBILE 5A

VMT = commuter vehicles × commute distance per trip × 2 trips per day per vehicle × 240 work days per year

Mobile-source emissions calculations and results are summarized in Table 6. VOC and NO_x emissions are estimated separately for counties with and without inspection and maintenance programs. Results of the two analyses then were combined to predict the annual total pollutant emissions that would result from the proposed relocation of S-3 squadrons to NAS Jacksonville. VOC emissions would decrease from 2.78 tons (2.52 metric tons) in 1997 to 2.67 tons (2.43 metric tons) in 1998. Total pollutant emissions for NO_x would decrease from 2.24 tons (2.03 metric tons) in 1997 to 2.19 tons (1.98 metric tons) in 1998. The decrease in emissions in 1998 results from the MOBILE 5A predicted emission factors decreasing as emissions control technologies improve. This analysis assumes that the mobile-source emissions remain constant after 1998 through the SIP maintenance plan milestone year of 2005. In reality, decreasing emission factors would cause the emission levels after 1997 to progressively decrease.

2.1.3 Estimation of Stationary-Source Annual Emissions

Stationary sources of new emissions associated with an action similar to the proposed relocation of S-3 squadrons could include natural gas combustion to supply heat to new buildings, aircraft painting and stripping operations, aircraft engine exhaust resulting from maintenance runups, and aircraft engine exhaust resulting from flight operations.

However, because all of the operations projected to relocate to NAS Jacksonville already occur within the same air quality maintenance area, no net change in emissions of VOCs or NO_x would result from the operation of these sources.

Heating emissions would not increase because the S-3 facilities would not occupy more space at NAS Jacksonville than they did at NAS Cecil Field. In fact, this source of emissions would actually decrease somewhat because some of the new or renovated space is planned to be heated by electric heat as opposed to boilers and much of the space to be occupied is in existing buildings that already are heated.

All aircraft maintenance emissions from stripping and painting, degreasing and engine overhauls, and engine runups would remain unchanged from the level that existed at NAS Cecil Field. Minor and intermediate maintenance would continue to be performed at the squadron level, and major work would continue to be performed at specialized facilities at other installations.

Aircraft flight exhaust emissions within the air quality maintenance area would not increase as a result of the proposed relocation because the number and types of operations to be flown by these aircraft is not expected to change. The distance to be flown to some of the outlying

training areas may increase slightly, but this portion of the flights would be flown above the assumed mixing zone height of 3,000 feet (914 meters). Emissions above this level are considered not to occur within an air quality control area and are not included in emissions inventories.

2.1.4 Combined Annual Emissions

Table 7 summarizes the estimated annual emissions at NAS Jacksonville from construction sources and from operational sources for which emissions would increase beyond levels that occurred at NAS Cecil Field as a result of the relocation to NAS Jacksonville. The annual emissions are combined for comparison to the de minimis levels presented in the General Conformity Rule. VOC emissions would be highest in 1998 at 7.01 tons (6.37 metric tons). Paint and adhesive emissions would be the largest contributor at 4.31 tons (3.91 metric tons); mobile sources would contribute 2.67 tons (2.43 metric tons), and construction equipment would contribute 0.03 tons (0.03 metric tons). The VOC emissions for operational conditions only (1999 and subsequent years) would remain at 2.67 tons (2.43 metric tons) per year, consisting only of commuter vehicle emissions. These annual emissions are all well below the de minimis levels of 100 tons (91 metric tons) per year each for NO_x and VOC.

Proposed-action annual combined emissions for NO_x would be highest in 1997 because of heavier construction equipment use and operational emissions. NO_x emissions for 1997 would be 2.98 tons (2.70 metric tons), consisting of 2.24 tons (2.03 metric tons) for commuter vehicles emissions and 0.74 tons (0.67 metric tons) for construction sources. The annual NO_x emission for operational emissions with no construction emissions (1999 and subsequent years) would be 2.19 tons (1.98 metric tons) per year, consisting only of commuter vehicle emissions.

2.2 CONFORMITY DETERMINATION

Both VOC and NO_x emissions under the proposed relocation are each less than the de minimis levels of 100 tons (91 metric tons) per year for all direct and indirect emissions under federal control for all project years up to the SIP milestone year 2005. Therefore, a conformity determination is not required, as specified in 40 CFR Part 93.153.

3 CONCLUSIONS

The total of all reasonably foreseeable VOC and NO_x direct and indirect emissions from the proposed relocation are each below de minimis levels for all years of the project's duration, including the period of overlap between construction activities and operational activities. Accordingly, the action is in conformance with the purpose of the SIP.

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Table 1. Summary of Construction Activities for Projects Associated with the Proposed S-3 Squadron Relocation to NAS Jacksonville

Project Name	Site Work		Demolition of Pavement		Demolition of Walls		New Slab		New Interior Floor Space		Interior Renovation Floor Space	
	(square feet)	(square meters)	(square feet)	(square meters)	(linear feet)	(linear meters)	(square feet)	(square meters)	(square feet)	(square meters)	(square feet)	(square meters)
New simulator training facility	90,000	8,361	0	0	0	0	28,520	2,650	24,370	2,264	0	0
Tactical Support Center addition to Building 506	10,000	929	5,000	465	100	30	2,800	260	2,800	260	1,040	97
High-power runup pad*	32,000	2,973	2	0	0	0	32,000	2,973	0	0	0	0
Renovation to Hangar 113	0	0	0	0	0	0	0	0	0	0	7,801	725
Renovation to Hangar 1000 (subdivided below)						0						
Segment 4 level 1	0	0	0	0	162	49	0	0	2,128	198	900	84
Segment 4 level 2	0	0	0	0	137	42	1,024	95	1,024	95	11,155	1,036
Segment 5 level 1	0	0	0	0	42	13		0	1,054	98	1,300	121
Segment 5 level 2	0	0	0	0	219	67	1,024	95	1,024	95	11,155	1,036
S-3 AIMD shops	0	0	0	0	50	15	0	0	0	0	14,971	1,391
Modifications to Building 850	0	0	0	0	80	24	0	0	0	0	12,500	1,161
Modifications to Buildings 848, 851, and 858	0	0	0	0	0	0	0	0	0	0	29,890	2,777
Total	132,000	12,263	5,002	465	790	241	65,368	6,073	32,400	3,010	90,712	8,427

* Assuming resurfacing of the entire pad and taxiway.

SOURCE: SOUTHNAVFACENCOM 1996.

Table 2. Estimated Construction Equipment Operating Hours and Heavy Truck Trips for Proposed Action Construction Activities

Emission Source	Units	Usage Factor*	1997	1998	1999
Emissions by operating hours					
Crane	hours	80%	96	154	0
Bulldozer	hours	50%	36	0	0
Backhoe	hours	50%	80	0	0
Front-end loader	hours	50%	312	0	0
Motor grader	hours	80%	38	0	0
Rough-terrain forklift	hours	50%	212	152	0
Asphalt paving machine	hours	75%	42	0	0
Air compressor	hours	50%	100	100	0
Emissions by trip					
Heavy truck deliveries	trips	100%	411	91	0
Haul truck excursions	trips	100%	49	23	0

* Usage factor represents the overall percentage of working hours the equipment is actually in use while it is at the construction site.

SOURCE: Blackmore 1994.

Table 3. Emission Factors for Various Types of Construction Equipment

Emissions Source	Engine Output		AP-42 Source [†]	Emission Factors			
	Horsepower [*]	Joules/second		NO _x		VOC	
				(g/hp-hr)	(g/Joule)	(g/hp-hr)	(g/Joule)
Emissions by Hour							
Crane	100	74,570	miscellaneous	11.01	4.10 x 10 ⁻⁶	1.01	3.76 x 10 ⁻⁷
Bulldozer	150	111,855	track-type tractor	7.81	2.91 x 10 ⁻⁶	0.75	2.79 x 10 ⁻⁷
Backhoe	65	48,471	wheeled loader	8.81	3.28 x 10 ⁻⁶	0.97	3.61 x 10 ⁻⁷
Front-end loader	75	55,928	wheeled loader	8.81	3.28 x 10 ⁻⁶	0.97	3.61 x 10 ⁻⁷
Motor grader	100	74,570	motor grader	7.14	2.66 x 10 ⁻⁶	0.36	1.34 x 10 ⁻⁷
Rough-terrain forklift	65	48,471	wheeled loader	8.81	3.28 x 10 ⁻⁶	0.97	3.61 x 10 ⁻⁷
Asphalt paver	150	111,855	track-type tractor	7.81	2.91 x 10 ⁻⁶	0.75	2.79 x 10 ⁻⁷
Air compressor	40	29,828	miscellaneous	11.01	4.10 x 10 ⁻⁶	1.01	3.76 x 10 ⁻⁷
Emissions by trip	miles/trip[‡]	kilometers/trip	AP-42 Source[§]	(g/mile)	(g/kilometer)	(g/mile)	(g/kilometer)
Construction deliveries	4	6.4	HDDV @ 10 mph	16.54	10.28	4.47	2.78
Haul truck	4	6.4	HDDV @ 10 mph	16.54	10.28	4.47	2.78

NOTE: NO_x = nitrogen oxides
 VOC = volatile organic compound

* Horsepower estimates by Kronz 1994.

† Construction equipment was matched with comparable equipment from the emission factor reference AP-42 (USEPA 1985) to obtain emission factors.

‡ On-base distance only, assumes 2 miles (3.2 kilometers) each way, gate to site.

§ The emission factor for trucks was taken from AP-42: heavy-duty diesel vehicle at 10 miles per hour (16 kilometers per hour)

SOURCES: USEPA 1985.
 Kronz 1994.

Table 4. Volatile Organic Compound Emissions from Paints and Adhesives for Projects Associated with the Proposed S-3 Squadron Relocation

Project Name	New Interior Floor Space		Interior Renovation Floor Space		New Interior Walls and Floor*		Renovated Walls and Floors*		Total Area of Wall and Floor†		Paint and Adhesive Required‡		VOC Content of Paint and Adhesive§		VOC Emissions¶	
	(square feet)	(square meters)	(square feet)	(square meters)	(square feet)	(square meters)	(square feet)	(square meters)	(square feet)	(square meters)	(gallons)	(liters)	(pounds)	(kilograms)	(tons)	(metric tons)
New simulator training facility	24,370	2,264	0	0	97,480	9,056	0	0	97,480	9,056	487	1,845	1,706	774	0.85	0.77
Tactical Support Center addition to Building 506	2,800	260	1,040	97	11,200	1,040	4,160	386	15,360	1,427	77	291	269	122	0.13	0.12
High-power runup pad	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00
Renovation to Hangar 113	0	0	7,801	725	0	0	31,204	2,899	31,204	2,899	156	591	546	248	0.27	0.25
Renovation to Hangar 1000 (subdivided below)																
Segment 4 level 1	2,128	198	900	84	8,512	791	3,600	334	12,112	1,125	61	229	212	96	0.11	0.10
Segment 4 level 2	1,024	95	11,155	1,036	4,096	381	44,620	4,145	48,716	4,526	244	922	853	387	0.43	0.39
Segment 5 level 1	1,054	98	1,300	121	4,216	392	5,200	483	9,416	875	47	178	165	75	0.08	0.07
Segment 5 level 2	1,024	95	11,155	1,036	4,096	381	44,620	4,145	48,716	4,526	244	922	853	387	0.43	0.39
S-3 AIMD shops	0	0	14,971	1,391	0	0	59,884	5,563	59,884	5,563	299	1,133	1,048	475	0.52	0.48
Modifications to Building 850	0	0	12,500	1,161	0	0	50,000	4,645	50,000	4,645	250	946	875	397	0.44	0.40
Modifications to Buildings 848, 851, and 858	0	0	29,890	2,777	0	0	119,560	11,107	119,560	11,107	598	2,263	2,092	949	1.05	0.95
Total	32,400	3,010	90,712	8,427	129,600	12,040	362,848	33,709	492,448	45,748	2,462	9,320	8,618	3,909	4.31	3.91

* Wall and floor area was determined by multiplying floor space by a factor of 4.

† All new and renovated walls were assumed to require paint; floors would require adhesive.

‡ A coverage of 200 square feet per gallon (70.33 square meters per liter) was assumed for floor adhesives and for two coats of paint.

§ A volatile organic compound content of 3.5 pounds per gallon (0.419 kilogram per liter) was assumed for both paints and adhesives.

¶ 100 percent of the volatile organic compound content of paint and adhesives is assumed to be released to the atmosphere.

SOURCE: SOUTHNAVFACENCOM 1996.

Attachment A

**Estimated Construction Equipment
Usage for S-3 Squadron
Relocation Construction
Projects**

Table 5. Estimated Nitrogen Oxide and Volatile Organic Compound Emissions from Construction Equipment and Paints and Adhesives

Emission Source	Construction Emissions by Calendar Year					
	1997		1998		1999	
	(tons)	(metric tons)	(tons)	(metric tons)	(tons)	(metric tons)
NO_x sources*						
Crane	0.117	0.106	0.186	0.169	0.00	0.00
Bulldozer	0.046	0.042	0.000	0.000	0.00	0.00
Backhoe	0.050	0.046	0.000	0.000	0.00	0.00
Front-end loader	0.227	0.206	0.000	0.000	0.00	0.00
Motor grader	0.030	0.027	0.000	0.000	0.00	0.00
Rough terrain forklift	0.134	0.121	0.096	0.087	0.00	0.00
Asphalt paver	0.054	0.049	0.000	0.000	0.00	0.00
Air compressor	0.049	0.044	0.049	0.044	0.00	0.00
Heavy truck deliveries	0.030	0.027	0.007	0.006	0.00	0.00
Haul truck excursions	0.004	0.003	0.002	0.002	0.00	0.00
Annual NO _x total	0.74	0.67	0.34	0.31	0.00	0.00
VOC sources†						
Crane	0.0107	0.0097	0.0171	0.0155	0.00	0.00
Bulldozer	0.0045	0.0040	0.0000	0.0000	0.00	0.00
Backhoe	0.0056	0.0050	0.0000	0.0000	0.00	0.00
Front-end loader	0.0250	0.0227	0.0000	0.0000	0.00	0.00
Motor grader	0.0015	0.0014	0.0000	0.0000	0.00	0.00
Rough terrain forklift	0.0147	0.0134	0.0106	0.0096	0.00	0.00
Asphalt paver	0.0052	0.0047	0.0000	0.0000	0.00	0.00
Air compressor	0.0045	0.0040	0.0045	0.0040	0.00	0.00
Heavy truck deliveries	0.0081	0.0073	0.0018	0.0016	0.00	0.00
Haul truck excursions	0.0010	0.0009	0.0005	0.0004	0.00	0.00
Equipment VOC subtotal	0.081	0.073	0.034	0.031	0.00	0.00
Paints and adhesives‡	0.00	0.00	4.31	3.91	0.00	0.00
Annual VOC total	0.08	0.07	4.34	3.94	0.00	0.00

* NO_x = nitrogen oxides = nitrogen oxide plus nitrogen dioxide

† VOC = volatile organic compounds, as defined in Chapter 62-210 Florida Administrative Code.

‡ Paint and adhesive emissions were calculated separately.

Table 6. Commuter Vehicle Emissions for the Proposed S-3 Squadron Relocation
(Page 1 of 2)

Analysis Parameter	1997	1998	1999
Operational personnel information			
Total commuter personnel	257	257	257
Personnel living in inspection and maintenance program counties	50.7%	50.7%	50.7%
Personnel living in non-inspection and maintenance program counties	49.3%	49.3%	49.3%
Average commute distance per trip			
miles	10	10	10
kilometers	16.1	16.1	16.1
Average commute speed			
miles per hour	25	25	25
kilometers per hour	40.2	40.2	40.2
Ratio of commuters to personnel	100%	100%	100%
Average vehicle trips per day per person	2	2	2
Work days per year per person	240	240	240
Inspection and maintenance program counties			
Commuter personnel	130	130	130
Commuter vehicles	130	130	130
Vehicle trips per day	260	260	260
Vehicle trips per year	62,400	62,400	62,400
Vehicle distance traveled per year			
miles	624,000	624,000	624,000
kilometers	1,004,016	1,004,016	1,004,016
Nitrogen oxides (NO_x) emission factor			
grams per mile	1.63	1.59	1.59
grams per kilometer	1.01	0.99	0.99
Volatile organic compounds (VOC) emission factor			
grams per mile	1.89	1.82	1.82
grams per kilometer	1.17	1.13	1.13
NO_x emissions			
tons per year	1.12	1.09	1.09
metric tons per year	1.02	0.99	0.99
VOC emissions			
tons per year	1.30	1.25	1.25
metric tons per year	1.18	1.13	1.13
Non-inspection/maintenance program counties			
Commuter personnel	127	127	127

Table 6. Commuter Vehicle Emissions for the Proposed S-3 Squadron Relocation
(Page 2 of 2)

Analysis Parameter	1997	1998	1999
Commuter vehicles	127	127	127
Vehicle trips per day	254	254	254
Vehicle trips per year	60,960	60,960	60,960
Vehicle miles traveled per year	609,600	609,600	609,600
Nitrogen oxides (NO _x) emission factor			
grams per mile	1.67	1.63	1.63
grams per kilometer	1.04	1.01	1.01
Volatile organic compounds (VOC) emission factor			
grams per mile	2.20	2.12	2.12
grams per kilometer	1.37	1.32	1.32
NO _x emissions			
tons per year	1.12	1.09	1.09
metric tons per year	1.02	0.99	0.99
VOC emissions			
tons per year	1.48	1.42	1.42
metric tons per year	1.34	1.29	1.29
Total pollutant emissions			
NO _x emissions			
tons per year	2.24	2.19	2.19
metric tons per year	2.03	1.98	1.98
VOC emissions			
tons per year	2.78	2.67	2.67
metric tons per year	2.52	2.43	2.43

NOTE: 1998 emission factors and annual emissions are assumed to apply to all subsequent years.

SOURCE: SOUTHNAVFACENCOM 1994a.

Table 7. Summary of Annual Emissions Resulting from the Proposed Relocation of S-3 Squadrons to NAS Jacksonville

Pollutant and Source	1997		1998		1999	
	tons per year	metric tons per year	tons per year	metric tons per year	tons per year	metric tons per year
NO_x emissions						
Construction sources						
Construction equipment	0.74	0.67	0.34	0.31	0.00	0.00
Operational sources						
Mobile sources	2.24	2.03	2.19	1.98	2.19	1.98
Total annual NO _x emissions	2.98	2.70	2.53	2.29	2.19	1.98
VOC emissions						
Construction sources						
Construction equipment	0.08	0.07	0.03	0.03	0.00	0.00
Paints and adhesives	0.00	0.00	4.31	3.91	0.00	0.00
Operational sources						
Mobile sources	2.78	2.52	2.67	2.43	2.67	2.43
Total annual VOC emissions	2.86	2.59	7.01	6.37	2.67	2.43

- NOTES: (1) NO_x = nitrogen oxides = nitrogen oxide plus nitrogen dioxide
VOC = volatile organic compounds, as defined in Chapter 62-210, Florida Administrative Code
(2) It is assumed that 1999 emissions apply to all following years.

**Monitoring of Noise Levels
Associated with Flight Operations
of the S-3 Aircraft at
Naval Air Station Jacksonville, Florida**

prepared for

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Figure

- 1 Location of Noise Monitoring Stations and S-3 Field Carrier Landing Practice Pattern on Track 09T8 at NAS Jacksonville, Florida

Table

- 1 Summary of Noise Conditions Associated with the S-3 Aircraft Field Carrier Landing Practice Pattern on Track 09T8 at NAS Jacksonville, Florida.

1 INTRODUCTION

Water & Air Research, Inc. (W&AR), conducted noise measurements at Naval Air Station (NAS) Jacksonville, Florida. NAS Jacksonville is located on the west side of the St. Johns River approximately 10 miles south of downtown Jacksonville on Roosevelt Boulevard (State Road 17) and 3 miles south of Interstate Highway 295 (Figure 1). The purpose of these measurements was to acquire additional aircraft-related noise data associated with potential S-3 field carrier landing practice (FCLP) pattern operations at NAS Jacksonville and to provide actual noise levels to be experienced along new S-3 flight tracks. The FCLP operations will only be flown at NAS Jacksonville during periods of inclement weather or when ceilings are less than 1,000 feet. This is due to the fact that no approach radars are located at the Outlying Field Whitehouse where normal FCLP operations would occur. For modeling purposes, it is anticipated that 2,000 FCLP operations will be performed at NAS Jacksonville per year by the S-3 aircraft. The *Wyle Research Report (WR 96-4), Aircraft Noise Study for Naval Air Station Jacksonville, Florida*, of June 1996 (Wyle 1996) documents the modeled day-night noise averages associated with the realignment of the S-3 squadrons from NAS Cecil Field, Florida, to NAS Jacksonville. The Wyle report introduced and modeled new flight tracks for the S-3 aircraft. However, the community has voiced concern about these new tracks and the single-event levels (SELs) of noise they would experience. As a result, it was determined that SEL noise monitoring at various locations along the new flight tracks would provide valuable information in completing the environmental assessment for the S-3 realignment. The noise measurements and methodologies are discussed in detail in the following sections.

2 SUMMARY OF FIELD ACTIVITIES

Noise monitoring was conducted within communities adjacent to NAS Jacksonville on Thursday, September 19, 1996, between 1200 and 1230. Six stations were established, four on the west side of the St. Johns River and two on the east side of the river (Figure 1). Stations 1 through 3 were located in the residential community of Venetia located north of NAS Jacksonville and included the Venetia Elementary School (Station 1). Station 4 was located directly west of NAS Jacksonville Runway 09 in the community of Yukon, which is an area composed primarily of industrial and residential land uses. The areas represented by these four stations are expected to experience the greatest noise impact since they are located below the selected S-3 flight track and because the existing land uses are considered noise sensitive.

Monitoring Stations 5 and 6 were located near the east bank of the St. Johns River within the San Jose residential community, situated nearest the selected S-3 flight track. Station 5 was located near the Harbor Master Office on Epping Forest Drive, and Station 6 was located on a pier at the end of Epping Forest Drive. The residential land uses within these areas also are considered noise sensitive. However, because of their distant locations relative to the selected S-3 flight track, a noticeable change in the noise environment is not expected under realignment.

Under realignment, the S-3 squadrons would require four new flight tracks at NAS Jacksonville (two each on Runways 09 and 27) to accommodate the FCLP pattern and overhead break arrivals; the existing flight tracks used by the P-3 aircraft are too large for these S-3 maneuvers.

To determine the potential community impact, noise from the S-3 aircraft was monitored at the established stations during a single-event flight pattern. The S-3 FCLP pattern was selected because it is conducted at the lowest (50 feet to 600 feet) maneuvering attitudes of any of the required S-3 patterns. Track 09T8 was selected because it approaches the runway from the west with a departure break to the north, which is the area directly over the nearest residential community. This pattern and track combination is expected to result in the greatest community noise impact associated with flight operations from the S-3 aircraft.

During the FCLP pattern, the S-3 is at an altitude of approximately 600 feet above the Venetia area and 325 feet above the Yukon area. East of NAS Jacksonville, the aircraft is at an altitude of approximately 600 feet at the track's closest point to the residential areas on the east bank of the St. Johns River. The S-3 takes approximately 3 minutes to complete the FCLP pattern.

The instrument selected for noise monitoring was a Quest M-27 Noise Logging Dosimeter, which was calibrated-checked prior to and after use. The noise level range of the dosimeter was set at 30 to 126 A-weighted decibels (dBA), which is appropriate for measuring community noise levels. The Quest M-27 was selected for its data logging capabilities, which enabled data to be downloaded after collection.

3 SUMMARY OF DATA

3.1 Comparison of Minimum Noise Levels

Minimum or ambient noise levels were monitored at each station during one complete cycle of the S-3 FCLP pattern and are reported in the attached table. Typically, minimum noise levels at each station were observed prior to arrival and upon departure of the S-3 aircraft. The minimum noise levels were determined from 1-minute averages collected during the monitoring event at each station. Minimum noise levels ranged from 45.0 dBA at Station 2 to 52.5 dBA at Station 1 for monitoring stations located within the noise-sensitive areas adjacent to NAS Jacksonville. Minimum noise levels observed along the east bank of the St. Johns River were 46.9 dBA at Station 5 and 51.4 dBA at Station 6.

3.2 Comparison of Maximum Noise Levels

Maximum noise levels were monitored at each station during one complete cycle of the S-3 FCLP pattern and are reported in the attached table. The maximum level occurred as the aircraft passed directly overhead or at the flight track's nearest location to the monitored stations. Maximum noise levels ranged from 71.3 dBA at Station 1 to 94.5 dBA at Station 4 for monitoring stations located within the noise-sensitive areas adjacent to NAS Jacksonville.

Maximum noise levels observed along the east bank of the St. Johns River were 72.8 dBA at Station 5 and 75.8 dBA at Station 6.

3.3 Comparison of Time-Averaged Noise Levels

The average noise level observed at each monitoring station was determined for one complete cycle of the S-3 FCLP pattern and is presented in the attached table. This average noise level is referred to as the equivalent noise level (L_{eq}) and represents the time average of all noise levels measured during a given sampling event. L_{eq} values ranged from 55.2 dBA at Station 3 to 74.7 dBA at Station 4 for monitoring stations located within the noise-sensitive areas adjacent to NAS Jacksonville. L_{eq} values ranged from 51.9 dBA at Station 5 to 56.8 dBA at Station 6 for monitoring stations located along the east bank of the St. Johns River.

4 FIELD OBSERVATIONS

The observations of field personnel, while subjective, can provide information on site conditions and on the perceived volume of various noises. During this monitoring effort, W&AR personnel noted the presence of noise-producing activities, including vehicular traffic and horns, truck deliveries, garbage collection, lawn mowers, and animals.

The ambient noise environment near Stations 1 through 3 and Stations 5 and 6 is typical of most residential areas, which ranges from 45 dBA to 55 dBA. Activities that generated noise in these areas during the monitoring effort included vehicles (light-duty passenger cars) passing through the neighborhood at slow travel speeds, equipment associated with lawn care services, and barking dogs. In addition, the Venetia Elementary School had several truck deliveries and a garbage pick-up prior to noise monitoring at this site (Station 1). The ambient noise environment at Stations 5 and 6 also is influenced by noise from boats, wind, and wave action from the St. Johns River. The ambient noise environment at Station 4 is influenced highly by industrial activities in Yukon and by vehicular traffic associated with State Road 17.

Noise produced from these community activities were recorded during the monitoring effort. Light-duty gasoline vehicles at a distance of approximately 10- to 20 feet produced noise levels ranging from 55 dBA to 61 dBA. At approximately 10 feet, light-duty gasoline trucks produced noise levels ranging from 63 dBA to 69 dBA, and a semi-tractor and trailer produced noise levels ranging from 73 dBA to 77 dBA. The reverse buzzer on a commercial vehicle produced a noise level of approximately 56 dBA.

5 FINDINGS

The minimum noise level observed within the noise-sensitive areas neighboring NAS Jacksonville during this effort was 45.0 dBA at Station 2, which is located in the residential community of Venetia at the intersection of Garibaldi and Roma Boulevard. The Venetia Elementary School station (Station 1) had the highest minimum noise level observed at 52.5 dBA. Station 4 was expected to have the highest minimum noise level because of its location and surrounding land uses. However, this station had the second lowest minimum

level at 49.5 dBA. The minimum noise level observed at the stations along the east bank of the St. Johns River was 46.9 dBA at Station 5, which is located near the Harbor Master Office on Epping Forest Drive.

The maximum noise level observed within the noise-sensitive areas surrounding NAS Jacksonville was 94.5 dBA at Station 4 in Yukon. The second highest observed noise level was 81.8 dBA at Station 2, in the residential community of Venetia. Station 1, located at the Venetia Elementary School, had the lowest observed maximum of 71.3 dBA. The maximum noise level observed at stations located along the east bank of the St. Johns River was 75.8 dBA at Station 6, which is located on a pier at the end of Epping Forest Drive.

The highest L_{eq} observed within the noise-sensitive areas adjacent to NAS Jacksonville was 74.7 dBA at Station 4 in Yukon. The second highest L_{eq} observed was 63.3 dBA at Station 2, in the residential community of Venetia. Station 1, located at the Venetia Elementary School, had an observed L_{eq} of 56.1 dBA. The highest L_{eq} observed along the east bank of the St. Johns River was 56.8 dBA at Station 6.

6 CONCLUSIONS

A comparison of data collected during this monitoring effort indicates that the noise environment during one complete cycle of the S-3 FCLP pattern on Track 09T8 averaged 56.1 dBA, 63.3 dBA, 55.2 dBA, and 74.7 dBA for Stations 1 through 4, respectively. During the S-3 FCLP pattern execution, the noise environment at Stations 1 through 4 fluctuated from 52.5 dBA to 71.3 dBA, 45.0 dBA to 81.8 dBA, 51.0 dBA to 73.1 dBA, and 49.5 dBA to 94.5 dBA, respectively. Compared to Stations 1 and 3, the slightly higher average and maximum noise levels observed at Station 2 can be attributed to the location of this station, which is directly beneath the flight track.

The noise environment averaged 51.9 dBA and 56.8 dBA at Stations 5 and 6, respectively. Noise fluctuated from 46.9 dBA to 72.8 dBA at Station 5 and from 51.4 to 75.8 dBA at Station 6.

For model verification and calibration purposes, monitored results were compared to predicted model results for this S-3 pattern and flight track. At Station 2, the maximum noise level observed was 81.8 dBA and the value predicted by the model was 87.1 dBA, for a relative difference of 6 percent. In general, model results tend to be slightly more conservative (over-estimated) than actual field measurements since the modelling program does not account for reduction in noise from local land features. This could explain the minor discrepancy between the monitored value and the predicted value.

The Wyle Report estimates that approximately 2,016 FCLP operations will be performed by the S-3 squadrons at NAS Jacksonville, resulting in approximately 4.17 average busy-day

flight operations. Approximately 55 percent of these flight operations, or 2.29 average busy-day flight operations, will be conducted on Track 09T8.

Attachment B

**MOBILE 5A: Commuter Vehicle
Emissions Factors for
NAS Jacksonville Personnel
(SouthStreet 1995)**

Attachment A. Estimated Construction Equipment Usage for S-3 Squadron Relocation
Construction Projects (Page 1 of 3)

Construction Project Name	Calendar Year 1997	Calendar Year 1998	Calendar Year 1999
Construction equipment days of operation			
Crane			
Simulator training facility	15	15	
Tactical support center	0	5	
High-power runup pad	0	0	
Renovation to Hangar 113	0	0	
Renovation to Hangar 1000	0	4	
Modifications to Building 850	0	0	
Modifications to Buildings 848, 851, and 858	0	0	
Total	15	24	0
Bulldozer			
Simulator training facility	5	0	
Tactical support center	1	0	
High-power runup pad*	3	0	
Renovation to Hangar 113	0	0	
Renovation to Hangar 1000	0	0	
Modifications to Building 850	0	0	
Modifications to Buildings 848, 851, and 858	0	0	
Total	9	0	0
Backhoe			
Simulator training facility	15	0	
Tactical support center	5	0	
High-power runup pad	0	0	
Renovation to Hangar 113	0	0	
Renovation to Hangar 1000	0	0	
Modifications to Building 850	0	0	
Modifications to Buildings 848, 851, and 858	0	0	
Total	20	0	0
Front-end loader			
Simulator training facility	50	0	
Tactical support center	15	0	
High-power runup pad*	3	0	
Renovation to Hangar 113	2	0	
Renovation to Hangar 1000	4	0	
Modifications to Building 850	2	0	

Attachment A. Estimated Construction Equipment Usage for S-3 Squadron Relocation
Construction Projects (Page 2 of 3)

Construction Project Name	Calendar Year 1997	Calendar Year 1998	Calendar Year 1999
Modifications to Buildings 848, 851, and 858	2	0	
Total	78	0	0
Motor grader			
Simulator training facility	3	0	
Tactical support center	0	0	
High-power runup pad*	3	0	
Renovation to Hangar 113	0	0	
Renovation to Hangar 1000	0	0	
Modifications to Building 850	0	0	
Modifications to Buildings 848, 851, and 858	0	0	
Total	6	0	0
Rough-terrain fork lift			
Simulator training facility	20	20	
Tactical support center	7	8	
High-power runup pad	1	0	
Renovation to Hangar 113	5	0	
Renovation to Hangar 1000	10	10	
Modifications to Building 850	5	0	
Modifications to Buildings 848, 851, and 858	5	0	
Total	53	38	0
Asphalt paving machine			
Simulator training facility	3	0	
Tactical support center	1	0	
High-power runup pad*	3	0	
Renovation to Hangar 113	0	0	
Renovation to Hangar 1000	0	0	
Modifications to Building 850	0	0	
Modifications to Buildings 848, 851, and 858	0	0	
Total	7	0	0
Air compressor			
Simulator training facility	15	15	
Tactical support center	5	5	
High-power runup pad	0	0	
Renovation to Hangar 113	0	0	
Renovation to Hangar 1000	5	5	

Attachment A. Estimated Construction Equipment Usage for S-3 Squadron Relocation
Construction Projects (Page 3 of 3)

Construction Project Name	Calendar Year 1997	Calendar Year 1998	Calendar Year 1999
Modifications to Building 850	0	0	
Modifications to Buildings 848, 851, and 858	0	0	
Total	25	25	0
Heavy truck deliveries of construction materials			
Simulator training facility	277	66	
Tactical support center	27	7	
High-power runup pad*	88	0	
Renovation to Hangar 113	4	4	
Renovation to Hangar 1000	8	8	
Modifications to Building 850	3	2	
Modifications to Buildings 848, 851, and 858	4	4	
Total	411	91	0
Haul truck excursions for soil, debris, etc.			
Simulator training facility	15	5	
Tactical support center	5	3	
High-power runup pad*	29	0	
Renovation to Hangar 113	0	2	
Renovation to Hangar 1000	0	5	
Modifications to Building 850	0	3	
Modifications to Buildings 848, 851, and 858	0	5	
Total	49	23	0

* Assuming resurfacing of entire pad and taxiway.

Appendix D

September 1996 Noise Assessment

1MOBILE 5A: DUVAL COUNTY, NAS JACKSONVILLE CONFORMITY DETERMINATION, '98 EF'S
MOBILE5a (26-Mar-93)
OI/M program selected:

0 Start year (January 1): 1991
Pre-1981 MYR stringency rate: 26%
First model year covered: 1975
Last model year covered: 2020
Waiver rate (pre-1981): 1.%
Waiver rate (1981 and newer): 1.%
Compliance Rate: 100.%
Inspection type: Test Only
Inspection frequency: Annual
Vehicle types covered: LDGV - Yes
LDGT1 - Yes
LDGT2 - Yes
HDGV - No
Idle

1981 & later MYR test type:
Cutpoints, HC: 220.000 CO: 1.200 NOx: 999.000

0Functional Check Program Description:

0Check Start	Model Yrs	Vehicle Classes Covered	Inspection Type	Comp Rate
(Jan1)	Covered	LDGV LDGT1 LDGT2 HDGV	Type Freq	Rate
ATP 1991	1975-2020	Yes Yes Yes No	Test Only Annual	100.0%
0Air pump system disablements:		No	Catalyst removals:	Yes
Fuel inlet restrictor disablements:		No	Tailpipe lead deposit test:	No
EGR disablement:		No	Evaporative system disablements:	No
PCV system disablements:		No	Missing gas caps:	Yes

0DUVAL COUNTY FL

Minimum Temp: 67. (F) Maximum Temp: 95. (F)
Period 1 RVP: 7.8 Period 2 RVP: 7.8 Period 2 Yr: 1992

0VOC HC emission factors include evaporative HC emission factors.

0Emission factors are as of July 1st of the indicated calendar year.

0Cal. Year: 1998 Region: Low Altitude: 500. Ft.
I/M Program: Yes Ambient Temp: 88.0 / 88.0 / 88.0 F
Anti-tam. Program: Yes Operating Mode: 20.6 / 27.3 / 20.6
Reformulated Gas: No

0Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
+ Veh. Spd.:	25.0	25.0	25.0		25.0	25.0	25.0	25.0	25.0	
VMT Mix:	0.687	0.208	0.094		0.000	0.002	0.001	0.000	0.008	
0Composite Emission Factors (Gm/Mile)										
VOC HC:	1.67	1.88	2.52	2.08	5.53	0.58	0.81	1.90	5.22	1.82
Exhst HC:	0.97	1.18	1.66	1.32	2.63	0.58	0.81	1.90	1.61	1.08
Evap. HC:	0.26	0.33	0.39	0.35	2.12				3.18	0.31
Refuel HC:	0.00	0.00	0.00	0.00	0.00					0.00
Runing HC:	0.36	0.31	0.41	0.34	0.66					0.35
Rsting HC:	0.07	0.07	0.07	0.07	0.11				0.43	0.07
Exhst CO:	12.82	15.60	20.68	17.18	0.00	1.29	1.45	0.00	19.53	14.16
Exhst NOx:	1.48	1.65	2.25	1.84	0.00	1.35	1.53	0.00	0.86	1.59

1MOBILE 5A: DUVAL COUNTY, NAS JACKSONVILLE CONFORMITY DETERMINATION, '98 EF'S
MOBILE5a (26-Mar-93)
ODUVAL COUNTY FL

Minimum Temp: 67. (F) Maximum Temp: 95. (F)
Period 1 RVP: 7.8 Period 2 RVP: 7.8 Period 2 Yr: 1992

OVOC HC emission factors include evaporative HC emission factors.

0

OEmission factors are as of July 1st of the indicated calendar year.

OCal. Year: 1998 Region: Low Altitude: 500. Ft.
I/M Program: No Ambient Temp: 88.0 / 88.0 / 88.0 F
Anti-tam. Program: No Operating Mode: 20.6 / 27.3 / 20.6
Reformulated Gas: No

OVeh. Type: LDGV LDGT1 LDGT2 LDGT HDGV LDDV LDDT HDDV MC All Veh

Veh. Spd.:	25.0	25.0	25.0		25.0	25.0	25.0	25.0	25.0	
VMT Mix:	0.687	0.208	0.094		0.000	0.002	0.001	0.000	0.008	
OComposite Emission Factors (Gm/Mile)										
VOC HC:	1.91	2.27	3.06	2.52	5.53	0.58	0.81	1.90	5.22	2.12
Exhst HC:	1.21	1.56	2.18	1.75	2.63	0.58	0.81	1.90	1.61	1.38
Evap. HC:	0.26	0.33	0.40	0.35	2.12				3.18	0.31
Refuel HC:	0.00	0.00	0.00	0.00	0.00					0.00
Runing HC:	0.36	0.31	0.41	0.34	0.66					0.35
Rsting HC:	0.07	0.07	0.07	0.07	0.11				0.43	0.07
Exhst CO:	15.94	19.97	27.52	22.32	0.00	1.29	1.45	0.00	19.53	17.85
Exhst NOX:	1.51	1.74	2.35	1.93	0.00	1.35	1.53	0.00	0.86	1.63

1MOBILE 5A: DUVAL COUNTY, NAS JACKSONVILLE CONFORMITY DETERMINATION, '97 EF'S
 MOBILE5a (26-Mar-93)
 OI/M program selected:

0 Start year (January 1): 1991
 Pre-1981 MYR stringency rate: 26%
 First model year covered: 1975
 Last model year covered: 2020
 Waiver rate (pre-1981): 1.%
 Waiver rate (1981 and newer): 1.%
 Compliance Rate: 100.%
 Inspection type: Test Only
 Inspection frequency: Annual
 Vehicle types covered:
 LDGV - Yes
 LDGT1 - Yes
 LDGT2 - Yes
 HDGV - No
 Idle
 1981 & later MYR test type:
 Cutpoints, HC: 220.000 CO: 1.200 NOx: 999.000

0Functional Check Program Description:

Check	Start (Jan1)	Model Yrs Covered	Vehicle Classes	LDGV	LDGT1	LDGT2	HDGV	Inspection Type	Freq	Comp Rate
ATP	1991	1975-2020	Yes	Yes	Yes	No	Test Only	Annual	100.0%	
Air pump system disablements:			No	Catalyst removals:					Yes	
Fuel inlet restrictor disablements:			No	Tailpipe lead deposit test:					No	
EGR disablement:			No	Evaporative system disablements:					No	
PCV system disablements:			No	Missing gas caps:					Yes	

0DUVAL COUNTY FL

Minimum Temp: 67. (F) Maximum Temp: 95. (F)
 Period 1 RVP: 7.8 Period 2 RVP: 7.8 Period 2 Yr: 1992

0VOC HC emission factors include evaporative HC emission factors.

0Emission factors are as of July 1st of the indicated calendar year.

0Cal. Year: 1997 Region: Low Altitude: 500. Ft.
 I/M Program: Yes Ambient Temp: 88.0 / 88.0 / 88.0 F
 Anti-tam. Program: Yes Operating Mode: 20.6 / 27.3 / 20.6
 Reformulated Gas: No

0Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
+ Veh. Spd.:	25.0	25.0	25.0		25.0	25.0	25.0	25.0	25.0	
VMT Mix:	0.689	0.206	0.094		0.000	0.002	0.001	0.000	0.008	
0Composite Emission Factors (Gm/Mile)										
VOC HC:	1.73	1.97	2.68	2.19	6.09	0.61	0.86	1.95	5.23	1.89
Exhst HC:	1.00	1.23	1.76	1.40	2.96	0.61	0.86	1.95	1.61	1.12
Evap. HC:	0.28	0.35	0.43	0.37	2.31				3.18	0.33
Refuel HC:	0.00	0.00	0.00	0.00	0.00					0.00
Runing HC:	0.37	0.32	0.42	0.35	0.70					0.36
Rsting HC:	0.08	0.08	0.07	0.07	0.12				0.43	0.08
Exhst CO:	13.21	16.27	21.67	17.97	0.00	1.33	1.51	0.00	19.53	14.65
Exhst NOX:	1.53	1.70	2.28	1.88	0.00	1.42	1.63	0.00	0.86	1.63

1MOBILE 5A: DUVAL COUNTY, NAS JACKSONVILLE CONFORMITY DETERMINATION, '97 EF'S
 MOBILE5a (26-Mar-93)
 0DUVAL COUNTY FL

Minimum Temp: 67. (F) Maximum Temp: 95. (F)
 Period 1 RVP: 7.8 Period 2 RVP: 7.8 Period 2 Yr: 1992

0VOC HC emission factors include evaporative HC emission factors.

0Emission factors are as of July 1st of the indicated calendar year.

0Cal. Year: 1997 Region: Low Altitude: 500. Ft.
 I/M Program: No Ambient Temp: 88.0 / 88.0 / 88.0 F
 Anti-tam. Program: No Operating Mode: 20.6 / 27.3 / 20.6
 Reformulated Gas: No

0Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
+ Veh. Spd.:	25.0	25.0	25.0		25.0	25.0	25.0	25.0	25.0	
VMT Mix:	0.689	0.206	0.094		0.000	0.002	0.001	0.000	0.008	
0Composite Emission Factors (Gm/Mile)										
VOC HC:	1.98	2.37	3.22	2.64	6.09	0.61	0.86	1.95	5.23	2.20
Exhst HC:	1.25	1.63	2.29	1.83	2.96	0.61	0.86	1.95	1.61	1.42
Evap. HC:	0.28	0.35	0.43	0.38	2.31				3.18	0.33
Refuel HC:	0.00	0.00	0.00	0.00	0.00					0.00
Runing HC:	0.37	0.32	0.42	0.35	0.70					0.36
Rsting HC:	0.08	0.08	0.07	0.07	0.12				0.43	0.08
Exhst CO:	16.42	20.79	28.55	23.22	0.00	1.33	1.51	0.00	19.53	18.44
Exhst NOX:	1.55	1.78	2.37	1.97	0.00	1.42	1.63	0.00	0.86	1.67

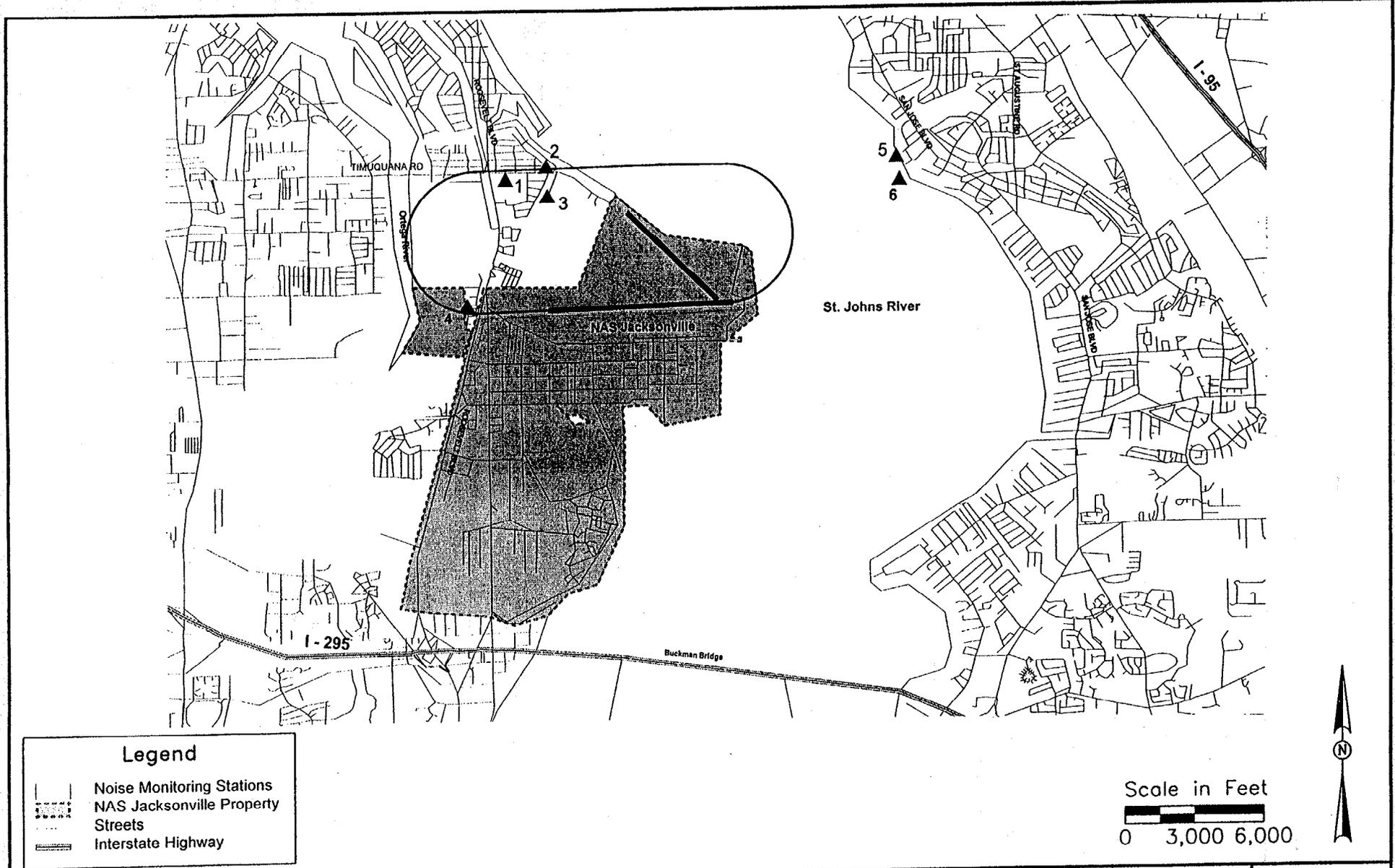


Figure 1.
 Location of Noise Monitoring Stations and S-3 Field Carrier Landing Practice
 Pattern on Track 09T8 at NAS Jacksonville, Florida

Source: Wyle Laboratories 1996.



Table: Summary of Noise Conditions Associated with the S-3 Aircraft Conducting a FCLP Pattern on Track 09T8 at NAS Jacksonville, Florida.

	Station Identification					
	1	2	3	4	5	6
Minimum Noise Level	52.5	45.0	51.0	49.5	46.9	51.4
Average Noise Level (L_{eq})	56.1	63.3	55.2	74.7	51.9	56.8
Maximum Noise Level	71.3	81.8	73.1	94.5	72.8	75.8

NOTES:

The minimum noise level is the one minute average minima of ambient noise levels expressed A-weighted decibels.

The average noise level is the time average of all noise levels observed expressed in A-weighted decibels.

The maximum noise level is the single highest recorded level observed expressed in A-weighted decibels.

Appendix E

**Florida Coastal Management Program
Consistency Review**

Florida Coastal Management Program Consistency Review for the Base Realignment for S-3 Squadrons from Naval Air Station Cecil Field, Florida

1 PROPOSED ACTION DESCRIPTION

The proposed action is the relocation of six S-3 squadrons from NAS Cecil Field to NAS Jacksonville. The squadrons to be relocated include five S-3B Viking squadrons (carrier-based antisubmarine warfare aircraft) and one ES-3A Shadow squadron (carrier-based electronic reconnaissance aircraft). Eight aircraft will be assigned to each squadron. On a rotating basis, one of the five S-3 squadrons and two of the eight ES-3 aircraft will be forward-deployed. Therefore, permanent hangar facilities will be needed for only five squadrons. The six squadrons have a combined complement of 2,180 military and 94 civilian personnel. Personnel from the squadrons and their dependents already live in the Jacksonville area and would not need to change their places of residence since NAS Cecil Field and NAS Jacksonville are only 12 miles apart.

Air operations in the vicinity of NAS Jacksonville would include ground control approach landing and departure patterns, touch-and-go patterns, field carrier landing practice (FCLP) patterns, and less frequent departures to and arrivals from aircraft carriers. S-3 squadrons relocated to NAS Jacksonville would continue to use Outlying Landing Field (OLF) Whitehouse, located approximately 15 miles northwest of NAS Jacksonville, for FCLP patterns. S-3 squadrons also would continue to use the Pinecastle Range Complex, which is within approximately 70 miles (115 kilometers) of NAS Jacksonville, for land-based target range training, the Atlantic Undersea Test and Evaluation Center (AUTEK) range near Andros Island, Bahamas, for a torpedo range, and offshore areas off the coasts of Florida, Georgia, and North Carolina for training.

In order to support the maintenance and operation of five S-3 squadrons and one ES-3 squadron at NAS Jacksonville, two construction projects, three renovation projects, and four building modification projects are proposed. Descriptions of these projects are provided below.

- Construction of a simulator training facility—The S-3 simulator training facility would include all functions related to flight training, including two full-motion simulators, two weapons trainers, computer support space, and pump rooms. Administration, classrooms, training laboratories, and secure spaces for classified equipment also would be contained within this facility. The proposed facility would be a one-story structure approximately 155 feet by 184 feet (24,370 square feet) and would include a high bay area to support the two full-motion simulators. An associated parking lot would be constructed to accommodate at least sixty-five vehicles.

- Construction of an S-3 tactical support center (TSC) addition to Building 506—Building 506 is currently the P-3 TSC. The S-3 TSC would use 1,040 square feet of the existing building, and the remaining space would continue to be used for the P-3 TSC. The proposed addition would provide a 2,800-square-foot elevated addition to the second level at the south end of the existing building. Part of the existing parking lot would be demolished to construct the addition, and the adjacent parking area would be modified.
- Renovation of a high-power runup pad—The high-power runup pad would be used whenever aircraft engine maintenance is performed on an S-3 aircraft. An existing pad located northeast of Runway 14-32 would be used. Aircraft on the pad would be oriented with the nose of the aircraft to the north and a blast deflector would be located at the south end of the pad. The high-power runup pad may be renovated by resurfacing the pad area.
- Renovation to Hangar 113—Internal modifications would be made to Hangar 113 to accommodate the ES-3 squadron. Modifications would include an upgrade to the electrical distribution system and replacement of existing chillers. Repairs also would be made to the pavement near the hangar.
- Renovation to Hangar 1000—Four S-3 squadrons would be relocated to Hangar 1000, with all required spaces located within present hangar space. All maintenance-related functions would be located on the first level, and administrative functions would be on the second level. In addition to renovation and modification, some new construction would be required on the first level on each side of the hangar bays to accommodate the shop requirements. The second level would require more extensive renovation, modifications, and some new construction.
- Modifications to Building 850—Interior modifications would be made to 12,500 square feet of Building 850 to accommodate the administrative functions for the S-3 squadrons. Building 850 is a one-story structure (approximately 45,260 square feet). The remaining space in the building would continue to be used for P-3 training. The film library at the north end of the building would be modified to create administrative spaces. Demolition would be kept to a minimum, adding walls to modify the space.
- Modifications to Buildings 848, 851, and 858—Minor internal renovations would be made to Buildings 848, 851, and 858 to accommodate maintenance training functions for the six S-3 squadrons.

2 ALTERNATIVES

Relocation to two other locations with antisubmarine warfare assets, Naval Station (NAVSTA) Mayport and NAS Brunswick, and the no-action alternative were evaluated as reasonable alternatives to the proposed action.

2.1 Relocation to NAVSTA Mayport

NAVSTA Mayport is located within the city limits of Jacksonville in Duval County, Florida. Homeported units at the station include one aircraft carrier, twenty-five surface combatants, five squadrons of SH-60B (Seahawk) helicopters (total of approximately sixty-five to seventy helicopters), and one C-12 aircraft. The runway at the station is 8,000 feet long and meets S-3 operational requirements for runway length.

The capacity of NAVSTA Mayport in terms of hangar modules, maintenance, and ordnance storage capabilities is not adequate to handle the six S-3 squadrons. The Aircraft Intermediate Maintenance Department facility at NAVSTA Mayport is equipped for maintaining and repairing helicopters, and additional personnel, space, and equipment would be required to support S-3 aircraft. Existing ordnance storage capacity is used for ship and helicopter supply.

To support S-3 operations at NAVSTA Mayport, construction of an S-3 simulator training facility and an S-3 tactical support center would be required. A Tactical Air Navigation System (TACAN) is present at the station, and an arresting gear is present at each end of the runway. The station has one Fresnel lens, but it is being replaced by a PAPI (precision approach path indicator) system. An automatic carrier land system (ACLS) is not present at the station.

2.2 Relocation to NAS Brunswick

NAS Brunswick is located on the south coast of Maine and consists of approximately 15,800 acres. Four active-duty squadrons of P-3C Orion aircraft (thirty-six aircraft) and two naval reserve squadrons are based at the station. The reserve squadron aircraft include nine P-3C aircraft and four C-130T cargo planes. The station also supports two UH-1 search and rescue helicopters and a C-12 aircraft. Currently, approximately 2,500 active-duty personnel and 800 reservists train at NAS Brunswick.

The airfield has two active, parallel runways oriented north-south and an abandoned, crosswind runway. The active runways are both 8,000 feet long and meet S-3 operational requirements for runway length.

The station's excess hangar capacity is limited and could provide partial support for only one S-3 squadron. Relocating S-3 aircraft to NAS Brunswick would require substantial new construction of hangar modules for at least four S-3 squadrons and one ES-3 squadron.

NAS Brunswick presently has the capability to provide intermediate-level maintenance and supply support for the five P-3C squadrons and the C-130T squadron stationed there. Additional personnel, space, and equipment would be required to provide intermediate-level maintenance service for S-3 power plants, ejection seats, and aviation life support systems specific to S-3 aircraft.

S-3 squadrons would use the land-based target range at Fort Drum, New York, and the torpedo range at the AUTEK range near Andros Island, Bahamas.

To support S-3 operations at NAS Brunswick, construction of an S-3 simulator training facility and an S-3 tactical support center would be required. Only the north end of Runway 01-19 is equipped with an emergency arresting gear that can be raised or removed as needed. Although the airfield does have a TACAN, it does not have a Fresnel lens or an ACLS.

2.3 No Action

Under the no-action alternative, NAS Cecil Field would not be closed and the six S-3 squadrons would not be relocated. Air operations and land uses at NAS Cecil Field would remain as they are under existing conditions. However, failure to close NAS Cecil Field and relocate its air squadrons to other air stations would be inconsistent with the intent of the DBCRC-93 and the DBCRC-95. The Defense Base Closure and Realignment Act of 1990 also exempts the no-action alternative for base closure from the National Environmental Policy Act process and its inclusion in the environmental assessment process. The no-action alternative, which would involve not relocating the S-3 squadrons from NAS Cecil Field, is not a reasonable alternative because the closure is mandated, and this alternative is dismissed from further consideration.

3 ANALYSIS

The following policies of the Florida Coastal Management Program, developed in response to the Federal Coastal Zone Management Act of 1972, were reviewed during preparation of this environmental assessment with respect to the proposed action. Applicable sections of the environmental assessment have been referenced.

Chapter 161—Beach and Shore Preservation (Section 2.2.1)

Chapter 253—State Lands

Archaeological and historic resources (Section 4.13), water resources (Section 4.5), fish and wildlife resources (Section 4.6.2), and wetlands (Section 4.5)

Chapter 267—Historic Preservation (Section 4.13)

Chapter 334—Public Transportation (Section 4.10)

Chapter 372—Living Land and Freshwater Resources (Section 4.6)

Chapter 373—Water Resources

Withdrawal, diversion, storage, and consumption of water (Sections 4.5 and 4.11)

Chapter 376—Pollutant Spill Prevention and Control (Section 4.3)

Chapter 403—Environmental Control

Sources of water (Section 4.5) and air pollution (Section 4.1), dredging and filling (Section 4.5), control of hazardous wastes (Section 4.3), and resource recovery (Section 4.3)

Chapter 582—Soil and Water Conservation (Sections 4.4 and 4.5)

Implementation of the proposed action would have no direct significant adverse impact upon Florida's coastal uses and resources. The simulator training facility and the addition to Building 506 would be constructed in previously developed areas of NAS Jacksonville. The proposed construction sites for these facilities are in upland areas above the 100-year flood level. Therefore, the construction and operation of these facilities would not result in the development or degradation of the floodplain. No prime or unique farmlands would be impacted by construction of the facilities or by S-3 aircraft operations at NAS Jacksonville or OLF Whitehouse. The construction of the facilities would require a small stand (less than 2 acres) of oak and pine trees to be cleared for construction of the simulator training facility. No federal- or state-listed species would be impacted by the action.

The construction of the proposed simulator training facility and the addition to Building 506 would disturb approximately 2 acres (0.8 hectare) of existing soils and would increase the amount of impervious surface and stormwater runoff at the construction sites. Temporary, localized impacts to surface waters could occur as a result of this construction activity. Wetlands at NAS Jacksonville consist of artificial lakes, ditches, and marshes associated with the St. Johns River and the Ortega River. The most extensive marshes are located west of U.S. Highway 17 on the Ortega River. These wetland areas would not be impacted by the proposed construction.

Possible resurfacing of the existing high-power runup pad on the northeast side of Runway 14-32 would not be expected to significantly impact nearby surface waters or wetlands. All necessary permits would be obtained from the Florida Department of Environmental Protection prior to any renovation of the pad.

The Florida Department of Environmental Protection issues air permits in accordance with Chapter 403, Florida Statutes, and Chapter 62-200 and 62-4, Florida Administrative Code, and delegates federal authority pursuant to Title 42, U.S. Code, §7401 and *et seq.*, as expressed in 40 CFR parts 50, 51, 52, and 60. All necessary permits for new sources would be obtained in accordance with state regulations.

Relocation of the six S-3 squadrons would result in air pollutant emissions from construction activities and a minor annual increase from existing conditions of mobile-source emissions at NAS Jacksonville. Duval County currently is designated as a maintenance area for ozone. The de minimis levels for the precursors to ozone formation—volatile organic compounds and nitrogen oxides—are 100 tons (91 metric tons) per year for each in maintenance areas. An applicability analysis performed under the General Conformity Rule (40 CFR Part 93) determined that increases in both volatile organic compound and nitrogen oxide emissions from all project-related sources are well below de minimis values of 100 tons (91 metric tons) per year for total direct and indirect emissions under federal control. Therefore, the action is presumed to conform to the state implementation plan and, under the General Conformity Rule, a conformity determination is not required.

Hazardous wastes would be generated under the proposed action by operational and maintenance activities. However, the existing hazardous waste facilities at NAS Jacksonville are adequate to handle these wastes.

Potential impacts to archaeological and cultural resources at NAS Jacksonville and OLF Whitehouse have been evaluated in compliance with Section 106 of the National Historic Preservation Act (of 1966), as amended. None of the proposed construction activities at NAS Jacksonville are expected to impact known archaeological resources. However, should ground-disturbing activities uncover any archaeological resource, the State Historic Preservation Office will be notified immediately in order to prepare plans for mitigating potential adverse effects. Modifications to Hangar 113 will be coordinated with the State Historic Preservation Office and will be completed in accordance with the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitation of Historic Buildings. Consultation with the State Historic Preservation Office is underway regarding the designs for the addition to Building 506. Preliminary cultural resource survey results indicate that archaeological resources have been identified at OLF Whitehouse. However, continued use of the airfield for S-3 flight operations would not impact identified archaeological resources (Johnson 1996).

Based on information presented in this environmental assessment and summarized above, the proposed action is not considered controversial and does not conflict with coastal resource protection and permits.

4 DETERMINATION

Based on the preceding analysis, the proposed action is not expected to significantly alter the quality or use of Florida's coastal resources. In accordance with 15 CFR 930 Subpart C, consistency for federal agencies, a determination is herewith made that the base realignment for S-3 squadrons to NAS Jacksonville is consistent, to the maximum extent practicable, with the goals and objectives of the Florida Coastal Management Program.