

**EGLIN AIR FORCE BASE
Florida**

**FINAL
ENVIRONMENTAL ASSESSMENT**

**FOR CONSTRUCTION OF AN
ADDITION TO SUPPORT THE
JOINT STRIKE FIGHTER
REPROGRAMMING FACILITY,
BUILDING 614, ON EGLIN
AIR FORCE BASE, FLORIDA**



JANUARY 2007

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FINDING OF NO SIGNIFICANT IMPACT
FOR

**CONSTRUCTION OF AN ADDITION TO SUPPORT THE JOINT STRIKE FIGHTER
REPROGRAMMING FACILITY, BUILDING 614, ON EGLIN
AIR FORCE BASE, FLORIDA**

RCS 06-220

This finding, and the analysis upon which it is based, was prepared pursuant to the President's Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of the National Environmental Policy Act (NEPA) and its implementing regulations as promulgated at 40 Code of Federal Regulations (CFR) Part 1500 (40 CFR 1500-1508) plus:

- US Air Force *Environmental Impact Analysis Process* as promulgated at 32 CFR Part 989.

The Department of the Air Force has conducted an Environmental Assessment (EA) of the potential environmental consequences associated with the Construction of an Addition to Support the Joint Strike Fighter (JSF) Reprogramming Facility (JRF), Building 614, on Eglin Air Force Base (AFB), Florida. That January 2007 EA is hereby incorporated by reference into this finding.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

Proposed Action (Preferred Alternative)

The Proposed Action is to construct a 6,700 square-foot building addition, parking lot, and associated infrastructure at Building 614, located off Seventh Street. The Proposed Action would also include interior renovations, existing pavement demolition, new chillers, a transformer, and a back-up generator.

The new addition would support a classified conference room with a new entry lobby/security vestibule. Eglin AFB would construct the addition with a reinforced concrete foundation, steel member walls, roof, and masonry exterior. Construction would also include a new parking lot, utilities, site improvements, landscaping, communication support, force protection standoff measures, and other supporting features as necessary. Additionally, demolition of some existing pavement would occur at the proposed site for the new addition. The renovations to Building 614 would accommodate the housing of the Hardware-in-the-Loop laboratories. These renovations would include demolition of interior walls, construction of shielded interior walls, and the installation of environmental controls, communications support, raised flooring, and utilities. The JRF would process and store classified information; therefore, renovation and construction activities would meet Special Access Program Facility criteria, as well as provide radio frequency shielding for operational purposes.

The proposed site for the new addition consists of partially existing impervious surfaces and the proposed site for the new parking lot is a grassed area. The site would also feature a stormwater discharge system (retention pond or a series of swales) to temporarily store stormwater runoff (on-site). The proponent has not determined the size, type, and location of the stormwater discharge system. Therefore, the location of the system is not included in the Proposed Action footprint; however, it is likely that the stormwater discharge system would be located adjacent to the Proposed Action site.

No Action Alternative

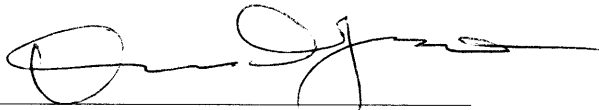
Under the No Action Alternative, Eglin AFB would not construct the building addition or renovate Building 614 in support of the JRF. As a result, the 53d Wing, 53d Electronic Warfare Group (53 WG/ 53 EWG) would be unable to verify that F-35 mission data meets functionality requirements with the F-35 system hardware, software, and firmware. Additionally, the 53 WG/53 EWG would be unable to provide mission data for F-35 operational testing. This would negatively impact F-35 operational testing and, as a result, jeopardize the aircraft's initial capability date.

Environmental Impacts

Analysis was conducted to determine the potential impacts to the human and natural environment resulting from the Proposed Action and the No Action Alternative. No significant impacts to resources have been identified. A detailed discussion of issues analyzed and management strategies used to reduce potential impacts is given in the Construction of an Addition to Support the Joint Strike Fighter Reprogramming Facility, Building 614 EA, Chapter 4: Environmental Consequences, and Chapter 5: Plans, Permits, and Management Actions.

Finding of No Significant Impact

Based on my review of the facts and the environmental analysis contained in the attached EA, and as summarized above, I find the proposed decision of the Air Force to allow the renovation and construction of an addition to Building 614 in support of the JRF at Eglin AFB, Florida at the Proposed Action (Preferred Alternative) site will not have a significant impact on the human or natural environment; therefore, an environmental impact statement is not required. This analysis fulfills the requirements of the NEPA, the President's CEQ, and 32 CFR Part 989.



DENNIS D. YATES, Colonel, USAF
Commander, 96th Civil Engineer Group

6 FEB 07

Date

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ENVIRONMENTAL ASSESSMENT

FOR CONSTRUCTION OF AN
ADDITON TO SUPPORT THE JOINT
STRIKE FIGHTER
REPROGRAMMING FACILITY,
BUILDING 614, ON EGLIN
AIR FORCE BASE, FLORIDA**

Submitted to:

**96th Civil Engineer Group
Environmental Management Division
96 CEG/CEV
Eglin AFB, FL 32542**

JANUARY 2007



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LIST OF ACRONYMS, ABBREVIATIONS, AND SYMBOLS

°C	Degrees Celsius
µg/m ³	Micrograms per Cubic Meter
53 EWG/EWX	53d Electronic Warfare Group, Electronic Ware Plans/Programs
53 EWG	53d Electronic Warfare Group
53 WG	53d Wing
96 CEG/CEVC	96 th Civil Engineer Group, Environmental Compliance Branch
96 CEG/CEVCE	96 th Civil Engineer Group, Environmental Engineering Section
96 CEG/CEVCP	96 th Civil Engineer Group, Pollution Prevention Section
96 CEG/CEVR	96 th Civil Engineer Group, Environmental Restoration Branch
96 CEG/CEVSN	96 th Civil Engineer Group, Natural Resources Section
96 CEG/CEVSP	96 th Civil Engineer Group, Environmental Analysis Section
96 CES	96 th Civil Engineer Squadron
96 CEG/CEVH	96 th Civil Engineer Group, Cultural Resources Branch
AAC	Air Armament Center
ACAM	Air Conformity Applicability Model
ACC	Air Combat Command
ACM	Asbestos Containing Material
AF	Air Force
AFB	Air Force Base
AFI	Air Force Instruction
BMP	Best Management Practice
BRAC	Base Realignment and Closure
BX	Base Exchange
CAA	Clean Air Act
CE	Civil Engineering
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DoD	Department of Defense
DTRA	Defense Threat Reduction Agency
EA	Environmental Assessment
EO	Executive Order
EPCRA	Emergency Planning and Community Right-to-Know
ERP	Environmental Restoration Program
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FEMA	Federal Emergency Management Agency
FS	Florida Statutes
Ft	Foot or Feet
ft ²	Square Foot/Feet
ft ³	Cubic Foot/Feet
GIS	Geographic Information System
GWEF	Guided Weapons Evaluation Facility
HAP	Hazardous Air Pollutant
HITL	Hardware-In-the-Loop
IAW	In Accordance With
ITC	Integrated Training Center
IWR	Impaired Waters Rule
JRAG	Joint Strike Fighter Reprogramming Advisory Group
JRF	Joint Strike Fighter Reprogramming Facility

LIST OF ACRONYMS, ABBREVIATIONS, AND SYMBOLS CONT'D

JSF	Joint Strike Fighter
LBP	Lead Based Paint
Lbs	Pounds
mg/m³	Milligram per Cubic Meter
Mph	Miles per Hour
NAAQS	National Ambient Air Quality Standards
NEI	National Emissions Inventory
NEPA	National Environmental Policy Act
NESHAP	National Emissions Standards of Hazardous Air Pollutants
NFA	No Further Action
NO₂	Nitrogen Dioxide
NOI	Notice of Intent
NO_x	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resource Conservation Service
NWS	National Weather Service
O&M	Operations and Maintenance
O₃	Ozone
OSHA	Occupational Safety and Health Administration
OT	Other
OWS	Oil/Water Separator
Pb	Lead
PM₁₀	Particulate Matter with a Diameter Less Than or Equal to 10 Microns
PM_{2.5}	Particulate Matter with a Diameter Less Than or Equal to 2.5 Microns
PMEL	Precision Measurement Equipment Laboratory
POL	Petroleum, Oil, and Lubricant
Ppm	Parts per Million
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
RF	Radio Frequency
ROI	Region of Influence
SAPF	Special Access Program Facility
SARA	Superfund Amendments and Reauthorization Act of 1986
SD	Site Disposal
SER	Significant Emissions Rate
SIP	State Implementation Plan
SLOSH	Sea, Lake, and Overland Surges from Hurricanes
SO₂	Sulfur Dioxide
SS	Spill Site
ST	Storage Tank
StimSIS	Stimulation System Integration System
SWPPP	Stormwater Pollution Prevention Plan
TSP	Total Suspended Particulate
U.S.	United States
U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
VOC	Volatile Organic Compounds
WG	Wing
yd³	Cubic Yards

1. PURPOSE AND NEED FOR ACTION

1.1 PROPOSED ACTION

The Air Force proposes to renovate and build an addition to Building 614 in support of the Joint Strike Fighter (JSF) Reprogramming Facility (JRF) at Eglin Air Force Base (AFB), Florida (Figure 1-1). The proposed project would include the construction of a 6,700 square-foot building addition, a parking lot, interior renovations, existing pavement demolition, force protection standoff measures, new chillers, a transformer, a back-up generator, and associated infrastructure. The proposed project would provide a lab, control room, conference room, and supporting spaces for the JSF Stimulation System Integration System (StimSIS) equipment necessary to test mission data. Building construction and renovation activities would meet Special Access Program Facility (SAPF) criteria for processing and storing classified information and provide radio frequency (RF) shielding for operational purposes.

1.2 BACKGROUND

The JRF would support the 53d Wing (53 WG)/53d Electronic Warfare Group (53 EWG). The 53 WG/53 EWG's core mission is to provide validated mission data for all Air Combat Command (ACC) aircraft in accordance with (IAW) Air Force Instruction (AFI) 10-703. The JRF would allow JSF mission data to be optimized, validated, and verified prior to downloading the mission data into the aircraft, thereby ensuring functionality between mission data and the JSF mission systems hardware, software, and firmware.

1.3 NEED FOR THE PROPOSED ACTION

The Department of Defense (DoD) has a need for a JRF to support the JSF's F-35 Joint Reprogramming Center mission. The JSF reprogramming mission is an ACC program involving the Air Force, Marines, Navy, and various foreign entities, such as the United Kingdom's Royal Navy and other allied services that have a stake in the JSF. The JRF requirement is for space to house the F-35 hardware-in-the-loop (HITL) laboratory scheduled for delivery in Fiscal Year 2009 and initial operational capability by September 2010. This facility would provide validated aircraft mission data for the Combat Air Forces, support rapid reprogramming for the F-35 in accordance with AFI 10-703, and is required to allow F-35 mission data to be optimized, verified, and validated prior to download into the aircraft.

1.3.1 Objective of the Proposed Action

The objective of the Proposed Action is to construct a 6,700 square-foot building addition, parking lot, and associated infrastructure at Building 614, located off Seventh Street (Figure 2-1). The Proposed Action would also include interior renovations, existing pavement demolition, force protection standoff measures, new chillers, a transformer, a back-up generator, and a stormwater discharge feature. The JRF would provide a lab, control room, conference room and support spaces for the JSF StimSIS equipment necessary for testing and validating F-35 mission data. The JRF would process and store classified information; therefore, Eglin AFB would design and construct the facility to meet SAPF criteria.



Figure 1-1. Geographic Region of the Project Site for the Addition to the JRF, Building 614

1.4 RELATED ENVIRONMENTAL DOCUMENTS

There are no related environmental documents at this time.

1.5 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

This document was prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality (CEQ) regulations of 1978, and Title 32 Code of Federal Regulations (CFR) Part 989. To initiate the environmental analysis, the 53d Electronic Warfare Group, Electronic Warfare Plans/Programs (53 EWG/EWX), submitted an Air Force (AF) Form 813, Request for Environmental Impact Analysis, to the Environmental Management Division, Stewardship Branch, and Environmental Analysis Section (96 CEG/CEVSP). The 96 CEG/CEVSP reviewed the AF Form 813 and determined that the Environmental Impact Analysis Process Working Group should address the Proposed Action.

1.5.1 Issues Eliminated from Detailed Analysis

Based on the scope of the Proposed Action and the No Action Alternative, as well as preliminary analyses, Eglin AFB eliminated the following issues from further analysis.

Utilities

Issues associated with utility infrastructure relate to the ability of the surrounding areas to accommodate the Proposed Action. Electric, gas, wastewater, and drinking water utilities for the proposed project would tie into existing utility lines. Disposal of wastewater generated would be through connections to existing sanitary sewer utilities. The Air Force implemented appropriate coordination and planning procedures to minimize potential conflicts between utility providers. The Proposed Action would not adversely impact existing electric, drinking water, and sanitary sewer or gas service, and is therefore eliminated as a potential issue.

Environmental Justice and Child Safety

The Executive Order (EO) on environmental justice, and an accompanying memorandum, ensure that federal agencies focus attention on the potential for a proposed federal action to cause disproportionately high and adverse health effects on minority populations or low-income populations. Preliminary analysis showed that no environmental justice concern areas, including low-income and/or minority populations, were adjacent to the proposed site for the JRF building addition.

The EO on protection of children from environmental health risks and safety risks mandates that all federal agencies assign a high priority to addressing health and safety risks to children, coordinating research priorities on children's health, and ensuring that their standards take into account special risks to children. The proposed site is located approximately 0.8 miles south of Lewis Middle School. Additionally, the construction site would be fenced, preventing unauthorized access. Therefore, Eglin AFB does not expect any impacts to children. Furthermore, because the proposed activities would take place on Eglin Main Base, Eglin AFB

does not anticipate any potential impacts to the public, including low-income or minority populations or children.

Cultural Resources

Eglin AFB eliminated cultural resources as an issue. Building 614 is not an historic structure, nor is it located within an historic district. Eglin AFB's Cultural Resources Branch (96 CEG/CEVH) has not identified any archaeological sites at either the proposed or the alternative sites, and there is a low probability of encountering resources in these areas. If any advertent discovery of cultural resources during construction occurs, work in the area would cease and the contractor would report the discovery immediately to 96 CEG/CEVH. Because 96 CEG/CEVH has not identified any cultural resources at the proposed site, and since subsequent implementation of the aforementioned requirements would occur, Eglin AFB does not expect any impacts to cultural resources.

Socioeconomic Issues

Socioeconomics addresses the potential for positive and negative impacts to occur in the local economy. The local economy would experience a temporary positive impact during the design and the construction phase of the project because it would provide jobs in that industry. However, this impact would be small and therefore is considered negligible. Eglin AFB does not expect any negative impacts on employment, housing, and base and county services. In accordance with EO 13101, the construction team should use Affirmative Procurement, (buying products containing recycled materials) if economical and practical.

Non-Hazardous Materials/Solid Waste

Construction, demolition, and renovation activities would potentially generate large amounts of solid waste such as construction debris, land-clearing debris, and soil. The 53 EWG/EWX would segregate these waste streams at generation for recycling or disposal at a secure, permitted facility in accordance with Air Armament Center Plan 32-7, Solid Waste Management. As a result, Eglin AFB does not anticipate any adverse environmental impacts and warrants no further analysis.

Land Use

Land use would be compatible with the existing land-use patterns associated with the Eglin Land Use Plan component of the Eglin General Plan (U.S. Air Force, 2001). Additionally, the Proposed Action Site is compatible with the Eglin AFB Future Land Use as verified in the Base General Plan Future Land Use Map (Figure 4-21 in the Plan).

Biological Resources

The proposed site consists of a combination of paved and maintained grassed areas. The 96 Civil Engineer Group, Environmental Management Division, Stewardship Branch, Natural Resources Section (96 CEG/CEVSN) has not identified any sensitive species or habitats at this site. Therefore, Eglin AFB does not expect any adverse impacts to biological resources.

1.5.2 Issues Studied in Detail

Preliminary analysis based on the scope of the Proposed Action and the No Action Alternative identified the following potential environmental issues warranting detailed analysis.

Hazardous Materials/Wastes

This Environmental Assessment (EA) identifies Environmental Restoration Program (ERP) sites in close proximity to the proposed area of construction. Exact site selection and design for the JRF building addition would consider ERP sites and avoid disturbing the ground within the sites. Analysis focuses on identifying potential impacts to ERP sites and requirements associated with construction activities near these sites.

Building 614 may contain hazardous materials in the forms of asbestos containing material (ACM) and lead-based paint (LBP). This EA identifies the potential of these hazardous materials to be present in the building and identifies appropriate handling and management and disposal procedures. The Proposed Action may also utilize hazardous materials during construction and renovation activities (such as paints, solvents, and adhesives). This EA identifies the appropriate handling of these materials.

Soils/Erosion

Eglin AFB identifies areas that construction would likely impact soils through erosion based on parameters such as soil type and extent and proximity of vegetative cover to the affected area. Analysis identifies erosion-prone soils at the proposed work site and determines the likelihood of soil loss. Eglin AFB would incorporate a Stormwater, Erosion and Sedimentation Control Plan, a Stormwater Pollution Prevention Plan (SWPPP), and construction Best Management Practices (BMPs) into the construction process as Florida Department of Environmental Protection (FDEP) implemented regulations require.

Water Resources

This EA addresses the potential for impacts to water resources. Analysis focuses on surface water, wetlands, and floodplains. This section addresses the potential impacts to these water resources. The increase in impervious surfaces under the Proposed Action creates the potential for an increase in the rate and volume of stormwater runoff. This EA also addresses management requirements, including permitting and stormwater control methods, as well as BMPs.

Air Quality

Eglin AFB conducted a preliminary analysis of project-generated air emissions and determined that the pollutant emissions associated with the Proposed Action would not exceed the 10 percent significant impacts criteria established for the Proposed Action. The JRF would utilize one back-up generator. As a result, a revision to Eglin AFB's Title V air operations permit would be required and coordination with the 96th Civil Engineer Group, Environmental Management Division, Environmental Compliance Branch, Environmental Engineering Section (96 CEG/CEVCE) air quality program manager prior to generator installation to maintain

compliance with all applicable federal laws and state permitting requirements. Since the estimated total emissions for construction activities associated with the Proposed Action would be less than the 10 percent criteria established, Eglin AFB does not anticipate any significant impacts to air quality.

1.6 APPLICABLE REGULATORY REQUIREMENTS AND COORDINATION

Reviews of pertinent documents, site visits, and communication with Eglin personnel found no identified threatened and endangered species or cultural resources within the proposed project area. As a result, no consultations with regulatory agencies for cultural resources or threatened or endangered species would be required for construction of the addition to the JRF. If the 53 EWG/EWX or its contractors discover any cultural artifacts during construction activities, coordination with 96 CEG/CEVH is required. Chapter 5 discusses additional management actions required to reduce any potential impacts to resource areas. Additionally, the 53 EWG/EWX would be responsible for obtaining the following permits.

Eglin AFB is currently operating under a Title V air operation permit. This permit regulates all stationary air emission sources on the Eglin Military Complex. Eglin AFB must revise their Title V permit to include all boilers and emergency generators installed at the JRF.

The Proposed Action would require the 53 EWG/EWX to obtain a design and construction permit in accordance with Chapter 62-25 Florida Administrative Code (FAC) (Rule 62-25) because the Proposed Action would increase the impervious surface area. According to Rule 62-25, the 53 EWG/EWX must ensure that a Notice of Intent (NOI) to Use the General Permit for New Stormwater Discharge Facility Construction be submitted prior to project initiation.

The construction area is larger than one acre; therefore, the Proposed Action would require coverage under the Generic Permit for Stormwater Discharge from Construction Activities that Disturb One or More Acres of Land (Rule 62-621, FAC). Coordination with 96 CEG/CEVCE is required to obtain stormwater permits and any necessary utility extension permits. The 53 EWG/EWX must coordinate with 96 CEG/CEVCE to obtain all necessary permits. In accordance with FDEP regulations, the Proposed Action would involve the construction of a stormwater discharge feature to provide on-site treatment of stormwater. Design of the project would consider the area landscape and physical features to determine whether the site would include a retention pond or series of swales to contain runoff. A Florida registered Professional Engineer would design the proposed retention feature to meet FDEP regulations.

This construction project requires consistency with Florida's Coastal Zone Management Act (CZMA). The FDEP has reviewed and approved a U.S. Air Force submitted negative determination (Appendix B).

1.7 DOCUMENT ORGANIZATION

This EA follows the organization established by CEQ regulations (40 CFR, Parts 1500-1508). This document consists of the following chapters.

1. Purpose and Need for Action.
2. Description of Proposed Action and Alternatives.
3. Affected Environment.
4. Environmental Consequences.
5. Plans, Permits, and Management Actions.
6. List of Preparers.
7. References.

Appendix A Air Quality Appendix.

Appendix B Federal Agency Coastal Zone Management Act Consistency Determination.

Appendix C Native Landscaping Guidance.

Appendix D Memorandum: Beddown of Joint Strike Fighter (JSF) Reprogramming Facility at Eglin AFB.

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2. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

As federal regulations require, this EA addresses the possible environmental impacts of the Proposed Action and the No Action Alternative. Section 2.3 summarizes the issues and potential impacts associated with the Proposed Action and the No Action Alternative.

2.1 PROPOSED ACTION (PREFERRED ALTERNATIVE)

The Proposed Action is to construct a 6,700 square-foot building addition, parking lot, and associated infrastructure at Building 614, located off Seventh Street (Figure 2-1). The Proposed Action would also include interior renovations, existing pavement demolition, new chillers, a transformer, and a back-up generator.

The new addition would support a classified conference room with a new entry lobby/security vestibule. Eglin AFB would construct the addition with a reinforced concrete foundation, steel member walls, roof, and masonry exterior. Construction would also include a new parking lot, utilities, site improvements, landscaping, communication support, force protection standoff measures, and other supporting features as necessary. Additionally, demolition of some existing pavement would occur at the proposed site for the new addition. The renovations to Building 614 would accommodate the housing of the HITL laboratories. These renovations would include demolition of interior walls, construction of shielded interior walls, and the installation of environmental controls, communications support, raised flooring, and utilities. The JRF would process and store classified information; therefore, renovation and construction activities would meet SAPF criteria, as well as provide RF shielding for operational purposes. Table 2-1 summarizes the amount of construction, demolition, renovation, and new impervious surfaces associated with the Proposed Action.

The proposed site for the new addition consists of partially existing impervious surfaces and the proposed site for the new parking lot is a grassed area. The site would also feature a stormwater discharge system (retention pond or a series of swales) to temporarily store stormwater runoff (on-site). The 53 EWG/EWX has not determined the size, type, and location of the stormwater discharge system. Therefore, the location of the system is not included in the Proposed Action footprint shown in Figure 2-1. However, it is likely that the stormwater discharge system would be located adjacent to the Proposed Action site.

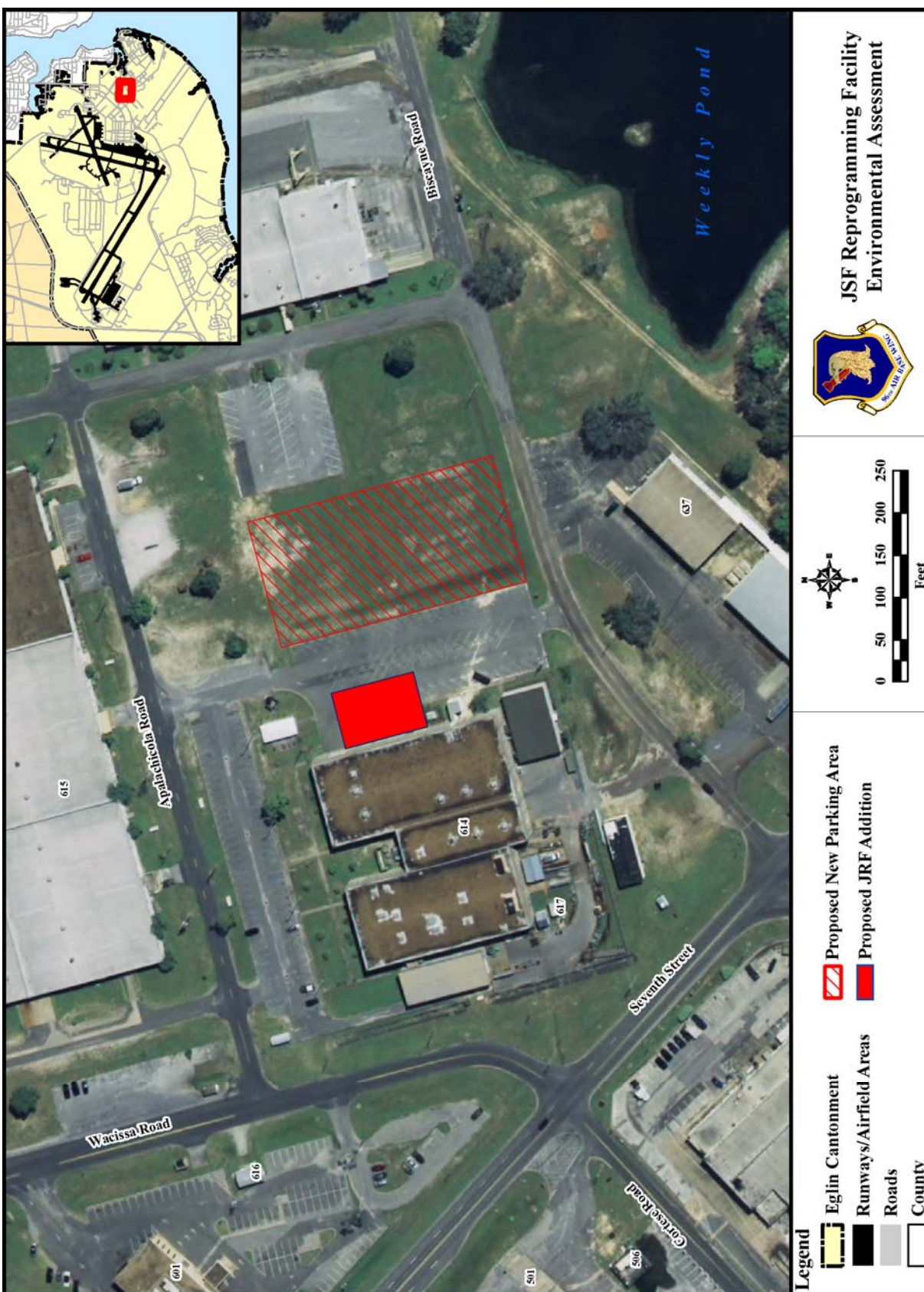


Table 2-1. Amount of Construction, Demolition, Renovation, and Increase in Impervious Surfaces Created Under the Proposed Action

Activity	Square Feet	Impervious Surface Created	
		Square Feet	Acres
New Construction			
Building Addition	6,700	3,500*	0.08
New Parking Area	45,750	45,750	1.05
TOTAL	52,450	49,250	1.13
Demolition			
TOTAL	3,500	N/A	N/A
Renovation			
TOTAL	19,400	N/A	N/A

*Note: This number represents the estimated increase in impervious surfaces based on existing conditions at the proposed site for the building addition. Since the location of the proposed addition already contains some impervious surfaces, there would only be a partial increase based on the size of the building addition.

2.2 ALTERNATIVES

2.2.1 No Action Alternative

Under the No Action Alternative, Eglin AFB would not construct the building addition or renovate Building 614 in support of the JRF. As a result, the 53 WG/53 EWG would be unable to verify that F-35 mission data meets functionality requirements with the F-35 system hardware, software, and firmware. Additionally, the 53 WG/53 EWG would be unable to provide mission data for F-35 operational testing. This would negatively impact F-35 operational testing and, as a result, jeopardize the aircrafts initial capability date.

2.3 COMPARISON OF ALTERNATIVES

Table 2-2 summarizes the issues and potential impacts associated with the Proposed Action and No Action Alternative.

Table 2-2. Summary of Issues, Proposed Action and Alternative, and Potential Impacts

Issue	Proposed Action	No Action
Hazardous Materials/ Waste	The Proposed Action would not result in any significant impacts. All hazardous materials and wastes would be handled and disposed of in accordance with Eglin AFB, state, and federal policies and regulations.	No demolition, renovation, or construction activities would occur under the No Action Alternative in support of the JRF. As a result, there would be no impacts from hazardous materials/wastes.
	Although several ERP sites are located adjacent to the Proposed Action site, the nearest is over 130 feet (ft.) away. Exact site selection and design for the addition to the JRF would take into consideration ERP sites and would avoid disturbing the ground within these sites. Therefore, Eglin AFB does not anticipate any impacts to ERP sites	However, under the No Action Alternative the 53 WG/53 EWG would be unable to verify that F-35 mission data meets functionality requirements with the F-35 system, negatively impacting F-35 operational testing and jeopardizing the aircrafts initial capability date.

Table 2-2. Summary of Issues, Proposed Action and Alternative, and Potential Impacts Cont'd

Issue	Proposed Action	No Action
Soils/Erosion	The Proposed Action would not result in any significant impacts as long as management measures identified in this EA are adhered to. Soils would be disturbed at the proposed site due to demolition and construction activities. Since the soil type located at the proposed site is less of an erodible type than others, Eglin does not anticipate permanent impacts to soils.	<p>No demolition, renovation, or construction activities would occur under the No Action Alternative in support of the JRF. As a result, there would be no impacts to water resources beyond the scope of normal conditions and influences at these locations.</p> <p>However, under the No Action Alternative the 53 WG/53 EWG would be unable to verify that F-35 mission data meets functionality requirements with the F-35 system, negatively impacting F-35 operational testing and jeopardizing the aircrafts initial capability date.</p>
Water Resources	The Proposed Action would not adversely impact water resources. Eglin AFB does not expect any impacts to the water supply, floodplains or wetlands. The construction of an on-site stormwater treatment system would help avoid or reduce any potential impacts to water resources.	<p>No demolition, renovation, or construction activities would occur under the No Action Alternative in support of the JRF. As a result, there would be no impacts to water resources beyond the scope of normal conditions and influences at these locations.</p> <p>However, under the No Action Alternative the 53 WG/53 EWG would be unable to verify that F-35 mission data meets functionality requirements with the F-35 system, negatively impacting F-35 operational testing and jeopardizing the aircrafts initial capability date.</p>
Air Quality	The Proposed Action would not adversely affect the regional air quality. Eglin AFB does not expect any impacts to the air quality region. Coordination with the 96 CEG/CEVCE air quality program manager prior to generator installation is required to maintain compliance with all applicable federal laws and state permitting requirements.	<p>No demolition, renovation, or construction activities would occur under the No Action Alternative in support of the JRF. As a result, there would be no impacts to air quality beyond the scope of normal conditions.</p> <p>However, under the No Action Alternative the 53 WG/53 EWG would be unable to verify that F-35 mission data meets functionality requirements with the F-35 system, negatively impacting F-35 operational testing and jeopardizing the aircrafts initial capability date.</p>

2.4 ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD

The JSF Reprogramming Advisory Group (JRAG) conducted technical surveys at current Navy and Air Force reprogramming centers located at Naval Base Ventura County, Point Mugu, CA, Eglin AFB, FL, and the Joint Reserve Base and Lockheed Martin Aeronautics Facility, both located at Fort Worth, Texas. Validated criteria used to evaluate these locations addressed communications, test and evaluation, intelligence, facilities, warfighter support, and personnel attributes at each of the locations. Based on the survey results, JRAG recommended Eglin AFB as a beddown location for the JRF, recognizing the value in collocating facilities with the JSF Integrated Training Center beddown, also at Eglin AFB, and utilizing the multi-Service data distribution system available at the 53 WG. The JRAG's recommendation was approved (Appendix D).

Eglin AFB considered other alternatives to the Proposed Action. The Guided Weapons Evaluation Facility (GWEF) at Eglin AFB, Building 374, was also considered as a potential location for the JRF. However, due to the limited amount of space available, and taking into consideration the anticipated growth of the JRF beyond 2011, the GWEF was eliminated from further analysis. Eglin AFB also eliminated the use of another existing facility from further analysis because no other available facilities have enough space available to house the JRF, and upgrades to bring other facilities into Air Force certification standards would not be cost effective.

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3. AFFECTED ENVIRONMENT

This chapter describes the natural and anthropogenic environment of Eglin AFB and its adjacent communities that the 53 EWG/EWX has the potential to impact by the construction, demolition, and renovation activities associated with the JRF addition as detailed in Chapter 2. Resource areas addressed are hazardous materials/wastes, soils, water resources, and air quality.

3.1 HAZARDOUS MATERIALS/WASTE

According to the Resource Conservation and Recovery Act (RCRA), Section 6903(5), hazardous materials and waste are defined as substances that, because of “quantity, concentration, or physical, chemical, or infectious characteristics may cause or significantly contribute to increases in mortality or serious illnesses, or pose a substantial threat to human health or the environment.” Hazardous materials, as referenced here, pertain to project-related hazardous chemicals or substances meeting the requirements found in 40 CFR 261.21.24, are regulated under RCRA, and are guided by AFI 32-7042. The hazardous materials to be transported, stored, and used on site for the Proposed Action consist of paints, solvents, adhesives, lubricants, and fuels for renovation and construction activities.

Under federal law, the transportation of hazardous materials is regulated in accordance with the Hazardous Materials Transportation Act, 49 United States Code (U.S.C.) 1801 et seq. For the transportation of hazardous materials, Florida has adopted federal regulations that implement the Hazardous Materials Transportation Act, found at 49 CFR 178.

Hazardous materials are subject to and managed according to both federal and Florida state regulations. Federal laws regarding management of hazardous materials include the Emergency Planning and Community Right-To-Know Act (EPCRA) (42 U.S.C. 1001 et seq.) as part of the Superfund Amendments and Reauthorization Act (SARA) Title III (10 U.S.C. Sections 2701 et seq.). Management of hazardous materials in the workplace is regulated under Occupational Safety and Health Administration (OSHA) regulations at Title 29 CFR 1910.1200.

State laws pertaining to hazardous materials management include the Florida Right-to-Know Act, Florida Statutes Title 17, Chapter 252, the Hazardous Waste section of the FDEP and the Florida Department of Transportation (FDOT) Motor Carrier Compliance Department that implements 49 CFR 178 under Florida statute annotated Title 29 Section 403.721.

The Air Armament Center (AAC) Plan 32-9, Hazardous Materials Management, describes how Eglin complies with federal, state, Air Force, and DoD laws and instructions. All Eglin AFB organizations, tenants, and users are required to follow this plan.

Within the context of the federal, state, Air Force, and DoD regulations, this section addresses the following items that are relevant to this assessment.

- *Asbestos* – Renovation or demolition of buildings with ACM has a potential for releasing asbestos fibers into the air. Asbestos fibers could be released due to disturbance or

damage from various building materials such as pipe and boiler insulation, acoustical ceilings, sprayed-on fireproofing, and other material used for soundproofing or insulation.

- *Lead-Based Paint* – LBP is defined as paint on surfaces that contains lead in excess of 1.0 milligram per square centimeter as measured by an X-ray fluorescence spectrum analyzer, or 0.5 percent lead by weight. Waste containing levels of lead exceeding a maximum concentration of 5.0 milligrams per liter, as determined using the U.S. Environmental Protection Agency (USEPA) Toxic Characteristic Leaching Procedure, is defined as RCRA-regulated hazardous waste under 40 CFR 261, as adopted by FDEP, FAC 62-730.030, and requires specific handling, storage, and disposal requirements.
- *Environmental Restoration Program Sites* – The Air Force uses the ERP to identify, characterize, and remediate past environmental contamination on Air Force installations.
- *Hazardous Materials and Hazardous Wastes Management* – Hazardous materials, listed under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and EPCRA are defined as any substance that may present substantial danger to public health, welfare, or the environment because of quantity, concentration, or physical, chemical, or infectious characteristics. Examples of hazardous materials include petroleum products/fuels, natural gas, synthetic gas, and toxic chemicals. Hazardous wastes, listed under RCRA, are defined as any solid, liquid, or contained gaseous or semisolid waste, or any combination of wastes that pose a substantive present or potential hazard to human health or the environment. In addition, hazardous wastes must meet either a hazardous characteristic of ignitability, corrosivity, toxicity, or reactivity under 40 CFR 261, or be listed as a waste under 40 CFR 263.

3.1.1 Environmental Restoration Program Sites

Eglin AFB uses the ERP to identify, characterize, and remediate past environmental contamination on Air Force installations. Although widely accepted at one time, the procedures followed for managing and disposing of wastes resulted in contamination of the environment. The ERP has established a process to evaluate past disposal sites, control the migration of contaminants, identify potential hazards to human health and the environment, and remediate the sites. Regulations affecting ERP management at Eglin integrate investigative and remedial protocols of the processes under the CERCLA and RCRA, as well as state environmental compliance programs, primarily those found in FAC 62-770, Petroleum Contamination Site Cleanup Criteria. Digging activities are coordinated with the Environmental Restoration Branch, 96 CEG/CEVR. The Eglin AFB Environmental Restoration Program Management Action Plan (CH2M Hill, 2003) addresses the plans to manage ERP sites on the base.

Table 3-1 summarizes ERP sites adjacent to the Proposed Action site and Figure 3-1 shows these ERP locations.

Table 3-1. Environmental Restoration Program Sites Located Near the Proposed Action Site

Site Designation (Site Name)	General Location	Site Description	Site Status
OT-35 (Seventh Street BX Station)	Approximately 150 yards southeast of the intersection of Seventh Street and Eglin Parkway	Approximately 3600 gallons of petroleum leaked from USTs. A UST containing waste oil was discovered, and the surrounding soil and groundwater exhibited petroleum contamination.	O&M
SD-34 (Motor Pool)	Approximately 700 feet southwest of the intersection of Eglin Boulevard and Seventh Street	Eglin AFB discovered excessively contaminated soil in the area of the OWS and waste product UST.	NFA
SS-107 (Eglin Pipeline Spill Site, Pit 4)	Southeast of the intersection of Transportation Road and Seventh Street	Eglin AFB discovered petroleum contaminants in soils surrounding part of an abandoned jet fuel pipeline.	NFA
ST-49 (Building 562)	Southeastern corner of the intersection of Transportation Road and Seventh Street	Eglin AFB discovered petroleum contaminants in soils surrounding an OWS and waste product UST.	NFA
SS-106 (Eglin Pipeline Spill Site, Pit 3)	Approximately 50 feet west of Weekly Pond	Eglin AFB discovered petroleum contaminants in soils surrounding part of an abandoned jet fuel pipeline.	NFA

Source: CH2M Hill, 2003

OWS = oil/water separator; UST = underground storage tank; NFA = no further action; OT = other; SD = site disposal; ST = storage tank; SS = spill site; O&M = Operations and maintenance

3.1.2 Asbestos Containing Material (ACM)

Eglin manages ACM by implementing the 2004 Asbestos Program Management Contingency Plan (96 CEG Plan 32-3) in conjunction with federal and state laws. The Plan provides policies and procedures used in controlling the ACM created health hazards and for the abatement of ACM under controlled conditions. The Plan also addresses potential health hazards to building occupants and maintenance personnel. Incorporated in the plan are the responsibilities of all individuals and organizations that support ACM abatement activities. Eglin's Environmental Compliance Branch (96 CEG/CEVC) is responsible for implementing, updating and coordinating the plan. 96 CEG/CEVC receives ACM identification and sampling support from the Bioenvironmental Engineer and abatement support from the Civil Engineering (CE) In-House Abatement Team. Additionally, an on-call qualified contractor is retained for abatement that is beyond the capabilities of the in-house asbestos abatement team.

Asbestos is a naturally occurring mineral whose crystals form long thin fibers. Asbestos was widely used in manufacturing in the late 1800s because of its insulating properties, its ability to withstand heat and chemical corrosion, and its soft, pliant nature. Building materials and processes that incorporated asbestos included sprayed-on fireproofing, acoustical plaster, pipe, boiler and mechanical equipment insulation, drywall joint compound, asbestos cement siding, roofing shingles and tars, floor tiles and mastic, and electrical wire insulation. In 1989, the USEPA prohibited the use of most commercially available asbestos-containing materials used in the United States. Since that time, knowledge of the adverse health effects associated with exposure to airborne asbestos has increased.

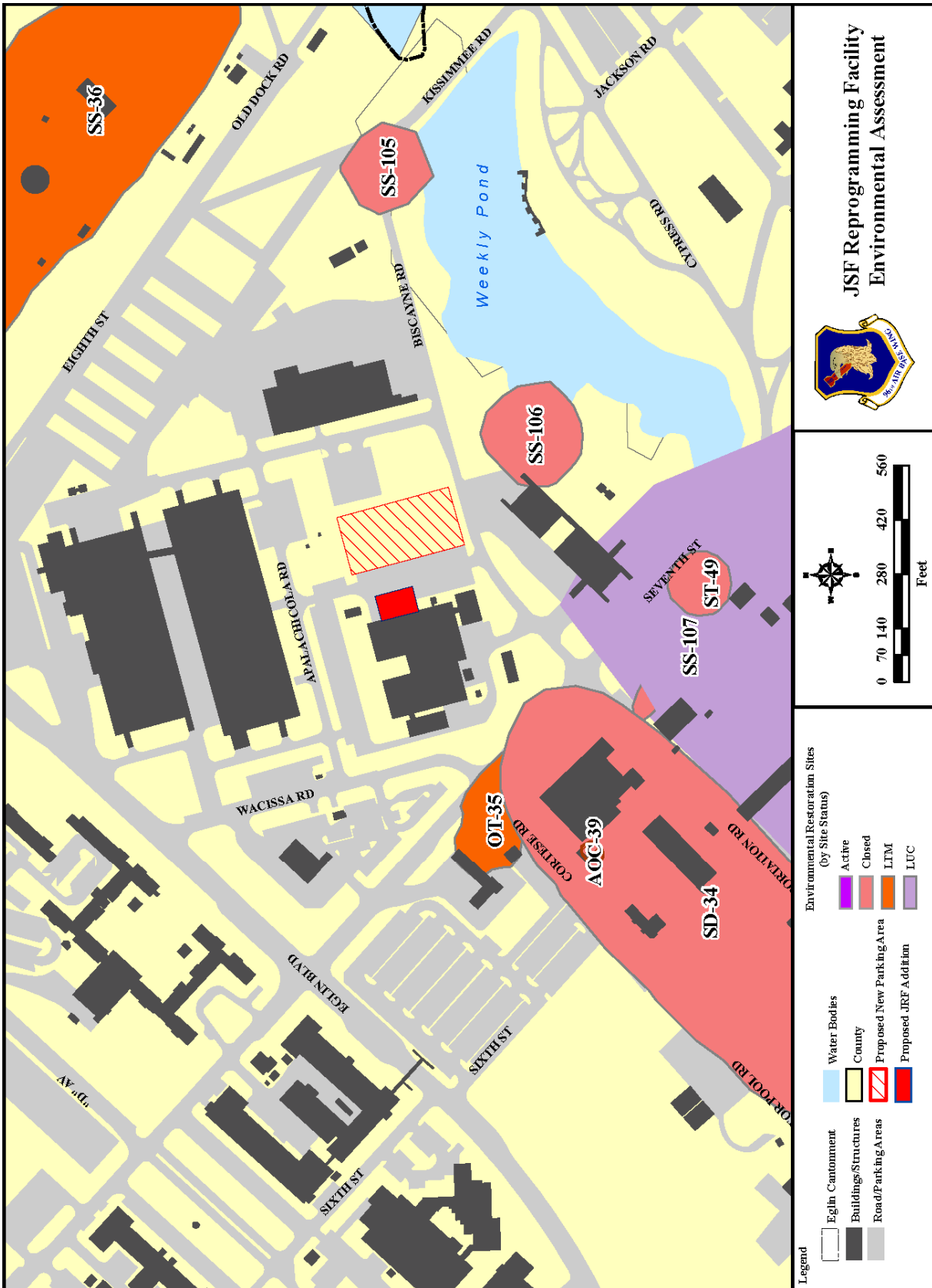


Figure 3-1. ERP Sites Located Near the Proposed Action Site

Forty-five (45) percent of the buildings on Eglin are known to contain friable ACM and 86 percent are known to contain non-friable ACM (U.S. Air Force, 2003). Prior to any construction or renovation work on buildings, the Bioenvironmental Engineer surveys the facility for ACM. If ACM is found in the construction zone, a work order for abatement is submitted. Eglin disposed of 280 cubic yards (yd³) of ACM in 2000 and 70 yd³ of ACM in 2001, not including ACM removed by the base on-call qualified contractor or ACM removed during facility demolition (U.S. Air Force, 2003).

The CE In-House Asbestos Abatement Team maintains the ACM survey databases. The Bioenvironmental Engineering Flight maintains a database containing asbestos sampling results. These systems contain information on the type, amount, location, and conditions of ACM recently and previously surveyed at Eglin. CE continuously updates these systems to ensure that current ACM information is available when needed.

The Air Force has identified that Building 614 contains ACM. Contamination identified in Building 614 included vinyl composition tile, flooring mastic, ceiling tiles, hard plasters, random fissure/pinhole repairs, and mud oven lining (Chopra-Lee, 1998).

3.1.3 Lead-Based Paint

LBP was commonly used in and on buildings and other structures until 1978. When in good condition, LBP does not pose a health hazard. However, when it is in a deteriorated (cracking, peeling, chipping) condition, or damaged by renovation or maintenance activities, it can release lead-containing particles that pose a threat of lead contamination to the environment and a health hazard to workers and building occupants who may inhale or ingest the particles.

Hazards of lead exposure include severe damage to the nervous system, brain, and kidneys in adults and children. In pregnant women, high levels of exposure to lead may cause a miscarriage. Children are more sensitive to the effects of lead than adults are and may develop blood anemia, kidney damage, colic, muscle weakness, and brain damage, which can potentially cause death following ingestion of lead particles (Agency for Toxic Substances and Disease Registry [ATSDR], 2005).

In 1993, OSHA, under 29 CFR 1926, extended the permissible exposure limit for general industrial workers to 50 micrograms per cubic centimeter of air, to include workers in the construction field.

To ensure that any threat to human health and the environment from LBP has been identified, Air Force policy requires that a LBP survey of high-priority facilities be conducted. The *Lead-Based Paint Management Plan* (96 CEG Plan 32-4), completed in October 2000, addresses all federal, state, and Air Force guidance, assigns roles and responsibilities, and describes compliance methods. The Plan is executed by the 96th Civil Engineering Squadron (96 CES) with analysis and database management currently being performed by 96 CEG/CEVC. A survey conducted at Eglin AFB, Building 614, during 1995 identified materials containing LBP. Materials identified as containing LBP included exterior wood doors, including casings and jambs; stairwell posts and rails; and piping (Chopra-Lee, 1995).

3.1.4 Hazardous Materials/Waste Management

Unless otherwise exempted by CERCLA regulations, the USEPA administers RCRA Subtitle C (40 CFR 260–270) regulations, which are applicable to the management of hazardous wastes. Hazardous waste must be handled, stored, transported, disposed of, or recycled in accordance with these regulations. Eglin AFB would consider impacts to hazardous materials and waste management significant if the federal action resulted in noncompliance with applicable federal and FDEP regulations, or caused waste generation that current Eglin AFB waste management capacities could not accommodate.

The hazardous materials commonly used at Eglin consist of petroleum products, including fuels, motor oils, and lubricants; hydraulic fluids and industrial solvents; propellants; paints and thinners; compressed gases; and pesticides. The greatest volume of hazardous materials used at Eglin includes jet fuels, diesel fuel, and unleaded gasoline, followed by solvents, compressed gases, other petroleum products, paints and thinners, and many others. Hazardous materials are primarily obtained through the pharmacy system and utilized by the Air Force, as well as tenants such as the Army, Navy, Space Command, and base contractors. 96 CEG/CEVC currently coordinates an aggressive Oil and Hazardous Substance Pollution Contingency Plan, AAC Plan 32-6, to ensure that the wide variety of hazardous materials used to support the ongoing mission at Eglin are safely managed. The plan provides users with specific procedures to follow in the event of a hazardous substance release, including notification of proper authorities, spill response team responsibilities, and containment and cleanup procedures. AAC Plan 32-6 also provides an inventory of hazardous waste storage locations and an inventory of storage tanks.

AAC Plan 32-9, Hazardous Materials Management, describes how Eglin complies with federal, state, Air Force and DoD laws and instructions. All Eglin AFB organizations and tenants are required to follow this plan. Currently there are no permanent hazardous materials storage areas located on the proposed sites.

The hazardous materials associated with the Proposed Action would be mostly paints, solvents, adhesives, lubricants, and fuels used in the renovation of Building 614 and in the construction of the new addition to that building. All hazardous materials to be used must be approved, documented, and tracked in the Installation Hazardous Materials Management Program.

3.2 SOILS/EROSION

Depending on their properties and the topography in which they occur, soils have varying degrees of susceptibility to erosion. Erosion can result from wind, water runoff, rain and a lack of vegetation. These can and do occur under normal circumstances without direct disturbance to soils. Soil disturbance associated with construction and demolition can potentially result in erosion and the transport of eroded soils into nearby drainages. Portions of the affected environment that have been built up, such as areas of existing housing, are characterized by impervious surfaces (i.e., areas that water cannot seep into, such as roads, driveways, and structures). During rainfall events, water moves across impervious surfaces into storm water drains and holding ponds, and is ultimately transported into local water bodies. The Clean Water

Act prohibits the deposition of sediments into surface waters. Sediments affect water clarity, decrease oxygen levels in water, and transport pollutants.

The Proposed Action sites for this EA are suggested construction and demolition to Building 614 and a new parking area. Building 614 is located on a previously developed area of Eglin AFB Main Base, where the predominant underlying soil type is classified as Foxworth Soil but is covered by existing facilities. However, the new parking area lies directly on Foxworth Soil; thus, an increase of 45,750 feet in impervious surfaces would be added. Figure 3-2 shows the soil type located within the project area.

Foxworth Series Soil

The Foxworth series consists of very deep soils that formed in sandy marine or from eolian sediments. These soils are on broad, nearly level, and gently sloping uplands and steep side slopes that can lead to drainage tributaries. Slopes range from 0 to 8 percent but most commonly are 0 to 5 percent. Runoff is very slow and permeability is rapid or very rapid. The water table fluctuates between depths of 48 to 72 inches below the soil surface for 1 to 3 months during most of the year and 30 to 48 inches for less than 30 cumulative days in some years. Thickness of sand exceeds 80 inches. Reaction ranges from very strongly acid to slightly acid throughout. Texture is sand or fine sand and silt, plus clay (U.S. Department of Agriculture [USDA], 1995).

Foxworth Sands are moderately well drained soils that are dark gray. These soils, however, are not well suited to crop cultivation because of the fact that they tend towards dryness. These are, however, conducive to upland growth such as longleaf pine and turkey oak (USDA, 1995). Table 3-2 lists the erosion characteristics of Foxworth Sands.

Table 3-2. Soil Types and Erodibility at the Proposed Action Site

Soil Type	Slopes	Approximate % Coverage	Erodibility	
			From Water	From Wind
Foxworth	0-5%	100%	Low to moderate	Low to moderate

Source: Overing and Watts, 1989; Overing et al., 1980

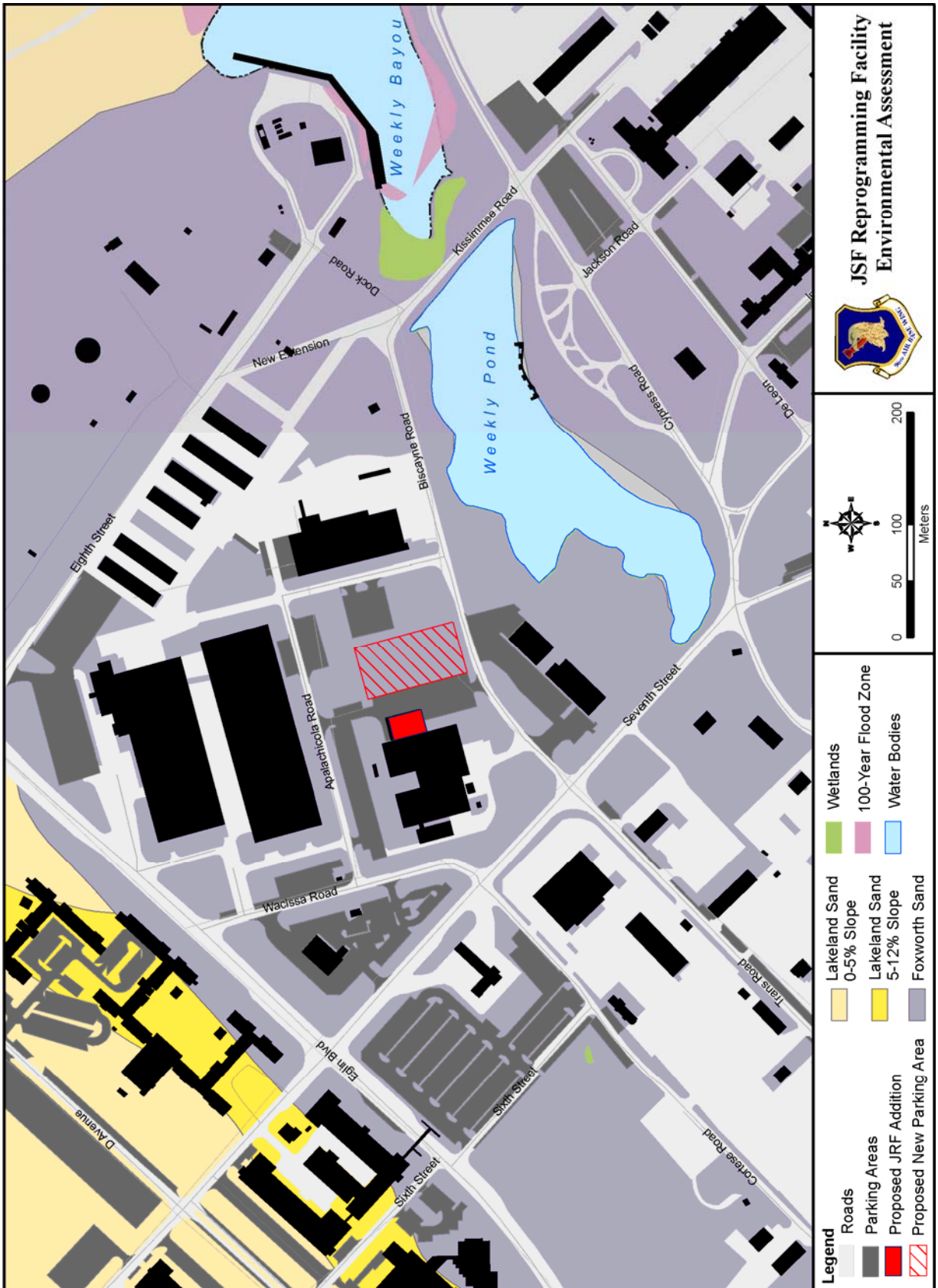


Figure 3-2. Soil Types and Water Resources Located Near the Proposed Action Site

3.3 WATER RESOURCES

This section describes the qualitative and quantitative characteristics of water resources in or adjacent to the Proposed Action site at Eglin AFB. These resources include surface waters, wetlands, and floodplains.

3.3.1 Surface Water

Surface water is any water that lies above groundwater, such as ponds and streams. Ponds and wetlands occur where local shallow clay and silt layers restrict the downward movement of water to the regional water table (U.S. Air Force, 1995). Two sources of surface water are located near the proposed site. Weekly Bayou is located approximately 1,000 feet to the east of the Proposed Action site and Weekly Pond is located approximately 500 feet southeast of the site (Figure 3-2). Based on topography, stormwater runoff drains into Weekly Bayou and Weekly Pond (FDEP, 2005).

Surface Water Quality

Section 303 of the Clean Water Act (CWA) requires states to establish water quality standards for waterways, identify those that fail to meet the standards, and take action to clean up these waterways. Florida recently adopted the Impaired Waters Rule (IWR) (Chapter 62-303, FAC), with amendments, as the new methodology for assessing the state's waters for 303(d) listing. The FDEP submits waters that are determined to be impaired using the methodology in the IWR and adopted by secretarial order to the USEPA for approval as Florida's 303(d) list. FDEP submits updates to Florida's 303(d) List of Impaired Surface Waters to USEPA every two years. The 2006 Integrated Water Quality Assessment for Florida, 2006 305(b) Report and 303(d) List Update (FDEP, 2006), satisfies the listing and reporting requirements of Sections 303(d) and 305(b) of the CWA. The FDEP divides river basins across Florida into groups, which they address according to an established rotation schedule. The eastern portion of Eglin AFB drains to the Choctawhatchee-St. Andrews Bay Basin (Group 3) (FDEP, 2006a) via Boggy Bayou. Weekly Bayou is a smaller surface water that drains into Boggy Bayou. Weekly Bayou is not on Florida's 303(d) List of Impaired Surface Waters but Boggy Bayou is because dissolved oxygen levels were a Parameter of Concern on the 1998 303(d) List (FDEP, 2006b). However, this bayou has been proposed for delisting (FDEP, 2006c). Boggy Bayou has been identified as Potentially Impaired for the Biology Listed Parameter and as Verified Impaired for the Bacteria Listed Parameter (FDEP, 2006a).

Stormwater

Any addition of impermeable surfaces (i.e., concrete, asphalt) would result in an increase in stormwater runoff. The effects vary based on the amount of new impervious surface area, topography, rainfall, soil characteristics, and other site conditions. The rate and volume of stormwater runoff has the potential to impact the quality and utility of water resources (FDEP, 2002). Regulations under Rule 62-25 of the FAC and the National Pollutant Discharge Elimination System (NPDES) require permitting for new stormwater discharges. Rule 62-621 of the FAC requires coverage under the generic permit for stormwater discharge from construction activities that disturb one or more acres of land. Section 403.0885 Florida Statutes (FS) requires a NOI to use the generic permit for stormwater discharge under the NPDES program.

A comprehensive stormwater, erosion, and sedimentation control plan and a SWPPP are also required.

3.3.2 Wetlands

Wetlands are areas of transition between terrestrial and aquatic systems where the water table is usually at or near the surface or where shallow water covers the land (U.S. Fish and Wildlife Service [USFWS], 1979). Abiotic and biotic environmental factors such as morphology, hydrology, water chemistry, soil characteristics, and vegetation contribute to the diversity of wetland community types. The term *wetlands* describe marshes, swamps, bogs, and similar areas. Local hydrology and soil saturation largely affects soil formation and development as well as the plant and animal communities found in wetland areas (USEPA, 1995). One of the most important factors in establishing and maintaining wetland processes is wetland hydrology (Mitsch, 2000).

Wetlands are defined in the U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (USACE, 1987). The majority of jurisdictional wetlands in the United States are described using the three wetland delineation criteria: hydrophytic (aquatic) vegetation (hydrophytes), wetland (hydric) soils, and hydrology (USACE, 1987). The nearest wetland areas to the Proposed Action site is located approximately 1,200 feet away and is about 0.79 acre in size (Figure 3-2). This wetland area is associated with Weekly Bayou and classified as estuarine.

Wetland Regulations

USACE is the lead agency in protecting wetland resources. This agency maintains jurisdiction over federal wetlands (33 CFR 328.3) under Section 404 of the CWA (30 CFR 330) and Section 10 of the Rivers and Harbors Act (30 CFR 329). USEPA assists USACE (in an administrative capacity) in the protection of wetlands (40 CFR 225.1 to 233.71). The state of Florida regulates wetlands under the Wetlands/Environmental Resource Permit program under Part IV, Florida Statutes Section 373. Furthermore, EO 11990, Protection of Wetlands, offers additional protection to these resources. In addition, the USFWS and the National Marine Fisheries Service have important advisory roles. The FDEP’s Chapter 62-312, Dredge and Fill Program, affords regulatory protection to wetland resources at the state level. This agency issues a Section 401 certification under the authority of the CWA (40 CFR 230.10[b]).

3.3.3 Floodplains

Floodplains are lowland areas adjacent to surface water bodies (i.e., lakes, wetlands, and rivers), which flooding events periodically cover with water. Floodplains are biologically unique and highly diverse ecosystems providing a rich diversity of aquatic and terrestrial species, acting as a functional part of natural systems (Mitsch, 2000). Vegetation and soils act as water filters, intercepting surface water runoff before it reaches lakes, streams, or rivers, and stores floodwaters during flood events. This filtration process aids in the removal of excess nutrients, pollutants, and sediments from the water and helps reduce the need for costly cleanups and sediment removal. The Proposed Action site is located approximately 1,250 feet from the 100

year floodplain (Figure 3-2). This site also is located within the Category 4 and 5 hurricane SLOSH (Sea, Lake, and Overland Surges from Hurricanes) surge zones. SLOSH is a computerized model developed by the Federal Emergency Management Agency (FEMA), USACE, and the National Weather Service (NWS) to estimate the threat of storm surge from hurricanes of various strengths (FEMA, 2006).

Floodplains Regulations

Federal agencies must evaluate any actions considered to determine whether they would occur within a floodplain. Agencies must consider those areas with a one percent chance of floodwater inundation in a given year (also known as a 100-year floodplain). EO 11988 Floodplain Management requires federal agencies to avoid adverse impacts associated with the occupancy and modification of floodplains and to avoid floodplain development whenever possible. Parts of the floodplain that are also wetlands receive further protection under USACE's Section 404 Permit Program.

3.3.4 Coastal Zone Management Act

The State defines the landward boundaries of the State of Florida, in accordance with Section 306(d)(2)(A) of the CZMA, as the entire state of Florida. Federal agency activities potentially impacting the coastal zone are required to be consistent, to the maximum extent practicable, with approved state Coastal Zone Management Programs. Federal agencies make determinations as to whether their actions are consistent with approved state plans. Eglin AFB submits consistency determinations to the state for review and concurrence. All relevant state agencies must review the Proposed Action and issue a consistency determination. The Florida Coastal Management Program is composed of 23 Florida statutes, which 11 state agencies and 4 of the 5 water management districts administer.

Any components of the Proposed Action that take place within the jurisdictional concerns of the State would require a consistency determination with respect to Florida's Coastal Management Plan (Appendix B).

3.4 AIR QUALITY

Identifying the affected area for an air quality assessment requires knowledge of sources of air emissions, pollutant types, emission rates and release parameters, proximity to other emissions sources and local conditions. Refer to Appendix A, Air Quality, for review of air quality and associated methodologies used for emissions calculations.

3.4.1 Definition of the Resource

Air quality is determined by the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin and the prevailing meteorological conditions. The levels of pollutants are generally expressed on a concentration basis in units of part per million (ppm) or micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). For this air quality analysis, the Region of Influence (ROI) centers on Okaloosa County for both the Proposed Action and Alternative sites.

The baseline standards for pollutant concentrations are the National Ambient Air Quality Standards (NAAQS) and state air quality standards. These standards represent the maximum allowable atmospheric concentration that may occur and still protect public health and welfare. Further discussion of the NAAQS and state air quality standards are included in Appendix A.

The emissions sources analyzed for the Proposed Action includes heavy construction machinery, semi-tractor trailer rigs, dust (particulate matter) from demolition activities, and emissions vehicle exhaust from contracted employees personal vehicles.

3.4.2 Existing Conditions

For analysis purposes the emissions from the Proposed Action will be compared to the Okaloosa County emissions obtained from the USEPA's 2002 National Emissions Inventory (NEI), which Table 3-3 presents. The county data includes emissions data from point sources, area sources, and mobile sources. *Point sources* are stationary sources that can be identified by name and location. *Area sources* are point sources whose emissions are too small to track individually, such as a home or small office building or a diffuse stationary source, such as wildfires or agricultural tilling. *Mobile sources* are any kind of vehicle or equipment with gasoline or diesel engine, an airplane, or a ship. Two types of mobile sources are considered, on-road and non-road. On-road consists of vehicles such as cars, light trucks, heavy trucks, buses, engines, and motorcycles. Non-road sources are aircraft, locomotives, diesel and gasoline boats and ships, personal watercraft, lawn and garden equipment, agricultural and construction equipment, and recreational vehicles (USEPA, 2005).

Table 3-3. Baseline Emissions Inventory for Okaloosa County

Okaloosa County Emissions (Tons/Year)					
Source Type	CO	NO _x	PM ₁₀	SO ₂	VOC
Area	1,867	281	8,392	462	4,527
Non-Road Mobile	16,150	1,099	162	109	1,897
On-Road Mobile	45,228	5,703	153	256	3,829
Point Source	28	49	15	12	79
Grand Total	63,274	7,132	8,723	839	10,333

Source: USEPA, 2002

NO_x = Nitrogen Oxides; CO = Carbon Monoxide; PM₁₀ = Particulate Matter with a Diameter Less Than or Equal to 10 Microns; VOC = Volatile Organic Compounds; SO₂ = Sulfur Dioxide

Eglin AFB is located in counties that meet federal and state attainment standards for criteria pollutants: carbon monoxide (CO), nitrogen oxides (NO_x), particulate matter with a diameter less than or equal to 10 microns (PM₁₀), sulfur dioxide (SO₂), and volatile organic compounds (VOC). Detailed discussion of attainment areas is located in Appendix A. Construction and demolition emissions from the proposed JRF are the focus in Chapter 4. For the analysis of the Proposed Action, a threshold on an individual pollutant-by-pollutant basis has been established. The individual pollutant emissions from the project would not exceed 10 percent of the total Okaloosa County emissions for each corresponding pollutant as represented in the USEPA 2002 NEI (U.S. Air Force, No Date).

4. ENVIRONMENTAL CONSEQUENCES

This chapter details the potential impacts of the Proposed Action and the No Action Alternative in relation to the issues and resources identified in previous chapters of this document.

Issues include:

- Hazardous Materials/Waste.
- Soils/Erosion.
- Water Quality.
- Air Quality.

4.1 HAZARDOUS MATERIALS/WASTE

4.1.1 Proposed Action

Environmental Restoration Program Sites

The Proposed Action would not significantly impact ERP sites. Potential impacts to ERP sites are associated with ground-disturbing activities that could affect the integrity of an ERP site (e.g., disturbing the soils). To avoid potential impacts from ERP sites (Figure 3-1), the 53 EWG/EWX must coordinate with 96 CEG/CEVR concerning any digging during construction activities. Exact site selection and design plans for the proposed building addition and new parking area for the JRF would ensure that ground-disturbing activities do not disturb adjacent ERP sites. The 53 EWG/EWX must coordinate with 96 CEG/CEVR to conduct appropriate surveys of the proposed site prior to any construction activities. The 53 EWG/EWX must contact 96 CEG/CEVR if personnel detect unusual soil coloration and/or odors during construction activities. Since the 53 EWG would avoid any ERP sites near the proposed site, Eglin AFB does not anticipate any adverse impacts from the adjacent location of ERP sites.

Asbestos Containing Material (ACM)

The Air Force has identified that Building 614 contains ACM. Contamination identified in Building 614 included vinyl composition tile, flooring mastic, ceiling tiles, hard plasters, random fissure/pinhole repairs, and mud oven lining (Chopra-Lee, 1998).

AFI 32-1052 requires that when safety and budgetary considerations permit, complete removal of ACM should be included in military construction program facility projects. Rule FAC 62-257 and 40 CFR 61-145 state that when a building is to be demolished or a renovation of a load-supporting structural member is to be performed, notification to FDEP must be made 10 days prior to the action and a copy of this notice must be sent to the 96th Civil Engineer Group, Pollution Prevention Section (96 CEG/CEVCP). A licensed contractor must be used when removing asbestos-containing building materials and personnel should adhere to established

procedures set forth for the safe handling and transport of these materials as outlined in Chapter 5; Plans, Permits, and Management Actions.

Asbestos must be removed prior to demolition of buildings. New facilities constructed would not contain asbestos, even though asbestos is still used in manufacturing and could be installed in new facilities. The Eglin AFB Environmental Management Division must review all construction project programming documents, designs and contracts to ensure that requirements associated with asbestos are met. Abatement is only required when removing LBP prior to demolition, and disposal. With management requirements met, there are no anticipated adverse impacts resulting from asbestos contamination under the Proposed Action.

The newly constructed addition would not have ACM. As a result, there would be beneficial impacts to JRF personnel upon the removal of potential exposure to ACM.

Lead-Based Paint

The Air Force has found materials containing LBP in Building 614. Materials identified as containing lead content in paint included exterior wood doors, walls, railings, trims, piping, and a stairwell. Only the exterior orange railing was found to exceed the 0.5 percent by weight criteria for qualification as LBP (Chopra-Lee, 1995).

LBP-containing materials do not have to be treated as hazardous waste as long as these materials are not removed from a structure prior to demolition and the LBP-containing materials are recycled. If LBP materials are removed to a landfill, the Toxicity Characteristic Leaching Procedure must not exceed 5.0 milligrams per liter (Kauffman, 2004).

The newly constructed addition would not contain LBP, resulting in beneficial impacts to JRF personnel as the potential for exposure to LBP would be lowered.

The Eglin AFB Environmental Management Division must review all construction project programming documents, designs, and contracts to ensure that requirements associated with LBP are met. With management requirements met, no anticipated long-term or significant impacts associated with LBP would occur under the Proposed Action.

Hazardous Materials/Waste Management

Potential impacts related to storage and uses of hazardous materials are associated with the potential for petroleum, oil, and lubricant (POL) spills to occur and contaminate soils and surface/groundwater. All handling of fuels would be in accordance with applicable federal, state, and Air Force regulations, which include AFI 23-201, Fuels Management. In the event that a POL spill occurs during construction or operations of the facilities, the presence of spill response equipment would ensure quick response by on-base personnel. Management requirements stated in 96 CEG Plan 32-6 would be followed as well as applicable federal and state management requirements. With these management requirements in place, the Air Force does not anticipate potential impacts related to vehicle use, maintenance, and POL spills associated with the Proposed Action.

State of Florida and Air Force regulations would be implemented to ensure that all hazardous waste is properly handled to reduce the potential risks to the population. Any hazardous wastes or by-products created from daily operations of the facilities would be properly identified, separated, labeled, stored, and discarded in accordance with applicable federal, state, and Air Force regulations. Therefore, the Air Force does not anticipate significant impacts from hazardous waste associated with the Proposed Action.

4.1.2 No Action Alternative

No impacts to hazardous materials/waste would occur under the No Action Alternative. Under the No Action Alternative, Eglin AFB would not construct the building addition or renovate Building 614 in support of the JRF. However, under the No Action Alternative the 53 WG/53 EWG would be unable to verify that F-35 mission data meets functionality requirements with the F-35 system hardware, software, and firmware. Additionally, the 53 WG/53 EWG would be unable to provide mission data for F-35 operational testing. This would negatively impact F-35 operational testing and, as a result, jeopardize the aircraft's initial capability date.

4.2 SOILS/EROSION

This section discusses potential soil erosion that could arise from the proposed demolition and construction activities of the JRF building, parking lot, and associated infrastructure at Building 614. The issue of concern associated with demolition and construction projects are: 1) the potential for the transport of soils caused by stormwater runoff from increased impervious surface areas (i.e., roads, buildings, and compacted soil), and 2) soil erosion.

Soils within the affected environment are somewhat sandy but have almost no slope that would be conducive for a high amount of erosion. The potential for surface runoff to impact water bodies is discussed in subsequent sections since no vegetative cover exists.

4.2.1 Proposed Action

Road and infrastructure construction at the Proposed Action area has little potential to affect soils and create conditions that could result in serious erosion. The Proposed Action would consist of the demolition and reconstruction of Building 614 with an addition to the building of 3,500 square feet, and associated parking lot consisting of 45,750 square feet and associated infrastructure. The surrounding areas consist of an urban landscape with already existing impervious surfaces.

Foxworth soils, within the Proposed Action area, are naturally low-risk erosion. Since the Proposed Action area already contains structures, is relatively flat, and does not require the removal of vegetation areas, rainfall events would have little effect in transporting soils into local water bodies. However, the proposed addition to Building 614, as well as the proposed parking lot, could cause erosion since the action would directly affect the soil, itself. The demolition portion of the project could exacerbate soil erosion if erosion minimization measures (BMPs) are not in place. BMPs would decrease sediment transportation. Eglin would implement erosion

control measures so that a minimum of erosion would occur. These include (but are not limited to) silt screens, hay bales and grass seeding in appropriate situations so that surface runoff does not contaminate local water bodies.

Management Actions

Inspection and maintenance of BMPs are required under the stormwater construction general permit. If activities are to impact water runoff areas and creeks, instill the use of hay bales and silt fences to halt soil slump into waterways. The soils within the Proposed Action area have relatively limited erodibility, and the natural terrain is generally flat in most places. However, when vegetation is cleared, rainfall events can cause water to move across non-vegetated surfaces and transport soils into local water bodies. Prevention through minimizing ground disturbance during construction and vegetation clearance and providing erosion minimization measures, such as BMPs, can prevent the transport of sediments. Required permits, such as the NPDES, consider the effects that ground discharge has on maintaining clean water. Utilization of these BMPs is one of the primary methods of preventing discharge of sediments into water sources. Construction sites normally incorporate silt fences and hay bales to slow soil creep into local waterways, creeks, and ponds. Vegetation can help slow eolian (wind-blown) erosion. Primary BMPs are as follows:

- Where applicable, rough grade slopes or use terrace slopes to reduce erosion.
- If activities are to occur on sloped areas, add vegetative zones to minimize soil creep.
- Employ the use of hay bales and silt fences.

FDEP would also require the construction of a stormwater discharge feature to provide on-site treatment of stormwater. This would consist of either a retention pond or a series of swales to contain any runoff. This stormwater discharge system would most likely be located adjacent to the Proposed Action location. Eglin AFB would incorporate a Stormwater, Erosion and Sedimentation Control Plan, a SWPPP, and construction BMPs into the construction process as FDEP implemented regulations require.

4.2.2 No Action Alternative

No additional impacts to soils or erosion would occur under the No Action Alternative. Under the No Action Alternative Eglin AFB would not construct the building addition or new parking area at Building 614 in support of the JRF. However, under the No Action Alternative the 53 WG/53 EWG would be unable to verify that F-35 mission data meets functionality requirements with the F-35 system hardware, software, and firmware. Additionally, the 53 WG/53 EWG would be unable to provide mission data for F-35 operational testing. This would negatively impact F-35 operational testing and, as a result, jeopardize the aircraft's initial capability date.

4.3 WATER RESOURCES

This section discusses the potential direct, indirect (secondary), and cumulative impacts to water resources in or adjacent to the Proposed Action site described in Section 3.3, Water Resources. These resources include surface waters, wetlands, and floodplains.

For any landscaping, a State of Florida Permit Application to Construct, Repair, or Abandon a Well would be required. The 53 EWG/EWX would submit an application to 96 CEG/CEVCE, Teresa Jordan, 882-7655 for review, approval, and execution. The 53 EWG/EWX would submit a copy of the report to the same office once the well is completed. The irrigation system would operate in an efficient and non-wasteful manner. 53 EWG/EWX would adjust sprinkler pressure and direction to prevent runoff from the irrigation system. 53 EWG/EWX would enhance irrigation efficiency by irrigating during the night or early morning or evening hours, limiting irrigation to the lower evapotranspiration periods of 4:00 P.M. to 10:00 A.M. two days per week. 53 EWG/EWX would consider and implement xeriscape techniques whenever possible when modifying irrigated landscape. 53 EWG/EWX would maintain the rain-sensing override on any automatic irrigation system. Additionally, 53EWG/EWX would landscape utilizing native plant species and in accordance with EO 13148, (Appendix C).

4.3.1 Surface Waters

Potential impacts associated with water quality relate to the potential for increased rate and volume of stormwater runoff; therefore increasing amounts of sediment and pollutant runoff during and after rain events. The construction of the JRF building addition and new parking area may also present the potential for increased sedimentation. The addition of new impervious surfaces may also increase the pollutants carried off-site by stormwater runoff (sheet flow) from everyday operations.

Proposed Action

The Proposed Action would not significantly affect surface waters. The nearest surface waters to the Proposed Action site are Weekly Bayou and Weekly Pond. Weekly Bayou is located approximately 1,000 feet east of the Proposed Action area and Weekly Pond is about 500 feet to the southeast, allowing sufficient distance for interception and treatment of runoff. Potential impacts associated with water resources relate to the potential for an increase in the rate and the volume of stormwater runoff, for an increase in amounts of sediment and pollutant runoff during the proposed facility construction, and for increased polluted stormwater runoff from everyday operations of the JRF.

To comply with state mandates the Proposed Action would involve the construction of a stormwater management system (i.e., pond, swale) to provide on-site treatment of stormwater. On-site storage of stormwater would prevent direct discharge of stormwater runoff to any surface waters, thereby reducing potentially adverse impacts to water quality (FDEP, 2002). The addition of any new stormwater infrastructure shall not adversely impact the seasonal-high water table.

In accordance with the Florida Water Conservation Act (Florida Statutes 553.14), the proposed construction of the JRF would incorporate water conservation measures to the greatest extent possible. Landscaping would consist of native, drought-tolerant vegetation to reduce water use. Any plans involving irrigation would be coordinated through 96 CEG/CEVCE prior to implementation. Finally, the use of drought-resistant landscaping is encouraged. These efforts would protect the Eglin water supply by reducing consumptive uses of water withdrawn from the Sand and Gravel Aquifer (U.S. Air Force, 2001).

Applicable permitting requirements would be satisfied in accordance with Rule 62-25 of the FAC and NPDES. The 53 EWG/EWX and its contractor would adhere to all applicable regulatory requirements, which would serve to either offset or minimize any potential impacts from construction operations. The 53 EWG/EWX would coordinate with 96 CEG/CEVCE to submit a NOI to use the generic permit for stormwater discharge under the NPDES program prior to project initiation according to Section 403.0885, FS. The Proposed Action would also require coverage under the generic permit for stormwater discharge from construction activities that disturb one or more acres of land (Rule 62-621, FAC). The 53 EWG/EWX would incorporate a comprehensive stormwater, erosion, and sedimentation control plan and a SWPPP into the final design plan. Stormwater permits and any necessary utility extension permits would require coordination between the 53 EWG/EWX and 96 CEG/CEVCE. The 53 EWG/EWX would obtain all appropriate permits prior to the commencement of any ground-disturbing activities. Eglin AFB does not expect any adverse impacts to water quality from the Proposed Action, given the attainment of aforementioned permits and the implementation of site specific management actions (detailed in Chapter 5).

No Action Alternative

No impacts to surface waters or surface water quality would occur under the No Action Alternative. Under the No Action Alternative Eglin AFB would not construct the building addition or new parking area at Building 614 in support of the JRF. However, under the No Action Alternative the 53 WG/53 EWG would be unable to verify that F-35 mission data meets functionality requirements with the F-35 system hardware, software, and firmware. Additionally, the 53 WG/53 EWG would be unable to provide mission data for F-35 operational testing. This would negatively impact F-35 operational testing and, as a result, jeopardize the aircrafts initial capability date.

4.3.2 Wetlands

The analysis includes combined floodplain data from Eglin and National Wetlands Inventory sources regarding wetlands near the Proposed Action site.

Proposed Action

The Proposed Action would not significantly impact wetlands. The Proposed Action site is located about 1,200 feet from wetlands associated with Weekly Bayou (Figure 3-2). Urban/developed land and grass areas surround the site south of Apalachicola Road. The site supports Foxworth soils series, which consists of very deep, moderately well to somewhat excessively drained, rapid to very rapid permeable soils on broad uplands and side slopes (NRCS, 2005). These soil characteristics allow for rapid infiltration (absorption into the soil) of

stormwater and reduce the potential for secondary impacts to nearby wetlands. No dredge and fill activities would take place under this alternative. Strict adherence and implementation of site-specific management actions would help eliminate or reduce any secondary impacts to the resources. Chapter 5 provides a comprehensive list of the BMPs necessary to reduce secondary impacts. Through the use of such BMPs, Eglin AFB does not expect any adverse impacts to wetlands under the Proposed Action.

No Action Alternative

No impacts to wetlands would occur under the No Action Alternative. Under the No Action Alternative Eglin AFB would not construct the building addition or new parking area at Building 614 in support of the JRF. However, under the No Action Alternative the 53 WG/53 EWG would be unable to verify that F-35 mission data meets functionality requirements with the F-35 system hardware, software, and firmware. Additionally, the 53 WG/53 EWG would be unable to provide mission data for F-35 operational testing. This would negatively impact F-35 operational testing and, as a result, jeopardize the aircraft's initial capability date.

4.3.3 Floodplains

The analysis of consequences to floodplains in the area includes combined floodplain data from Eglin and FEMA sources.

Proposed Action

The Proposed Action would not significantly impact floodplains. The proposed construction site is located 1,250 feet from the nearest floodplains as depicted in Figure 3-2. Under this alternative no modifications or alterations to floodplain areas would take place. Strict adherence and implementation of site-specific management actions (Chapter 5) would help eliminate or reduce any secondary impacts to the resources. Using such BMPs, Eglin AFB does not expect any significant impacts to any floodplain areas under the Proposed Action.

No Action Alternative

No impacts to floodplains would occur under the No Action Alternative. Under the No Action Alternative Eglin AFB would not construct the building addition or new parking area at Building 614 in support of the JRF. However, under the No Action Alternative the 53 WG/53 EWG would be unable to verify that F-35 mission data meets functionality requirements with the F-35 system hardware, software, and firmware. Additionally, the 53 WG/53 EWG would be unable to provide mission data for F-35 operational testing. This would negatively impact F-35 operational testing and, as a result, jeopardize the aircraft's initial capability date.

4.4 AIR QUALITY

This section discusses the potential impacts to air quality because of the Proposed Action and No Action Alternative. For the analysis of the Proposed Action, a threshold on an individual

pollutant-by-pollutant basis was established. The Proposed Action would occur at Eglin AFB, FL located in Okaloosa County, which will be considered the ROI.

In order to evaluate the air emissions and their impact to the overall ROI, the emissions associated with the project activities were compared to the total emissions on a pollutant-by-pollutant basis for the ROI's 2002 NEI data. Potential impacts to air quality are identified as the total emissions of any pollutant that equals 10 percent or more of the ROI's emissions for that specific pollutant. The 10 percent criteria approach is used in the General Conformity Rule as an indicator for impact analysis for non-attainment and maintenance areas and, although Okaloosa County is attainment, the General Conformity Rule's impact analysis was utilized to provide a consistent approach to evaluating the impact of emissions. To provide a more conservative evaluation, the impacts screening in this analysis used a more restrictive criteria than required in the General Conformity Rule. Rather than comparing emissions from construction activities to regional inventories (as required in the General Conformity Rule), emissions were compared to the individual county (Okaloosa) of potential impact, which is a smaller area.

A DoD developed model, the Air Conformity Applicability Model (ACAM), used by the U.S. Air Force for conformity evaluations, was utilized to provide a level of consistency with respect to emissions factors and calculations. Air emissions estimated using ACAM was compared to the established 10 percent criterion for Okaloosa County as represented in the USEPA 2002 NEI (USEPA, 2002). Emissions associated with increased personnel to Eglin AFB are the main issues generated by the Proposed Action and were the focus of the air analysis. Air quality issues associated with operational activities at Eglin AFB are not included in this analysis.

4.4.1 Proposed Action

The proposed action calls for the construction of a building addition, parking lot, and associated infrastructure at Building 614. Included in the Proposed Action are the demolition of existing pavement, renovation of the interior building and the addition of new chillers, a transformer, and a back-up generator. This analysis focuses on the construction and demolition aspects of the Proposed Action. Renovation activities will be completed inside the structure and potential emissions generated will not be released to the ambient air, thus not affecting regional air quality.

Eglin AFB is a major source of hazardous air pollutants (HAPs) and is subject to National Emissions Standards of Hazardous Air Pollutants (NESHAP). The installation of a new emergency generator falls under the Reciprocating Internal Combustion Engines NESHAP (40 CFR 63 subpart ZZZZ). Subpart ZZZZ requires initial notification for new emergency back-up generators and exempts these generators from the remaining regulations. The Title V permit would require revision. 53 EWG/EWX will coordinate with the 96 CEG/CEVCE air quality program manager prior to generator installation to maintain compliance with all applicable federal laws and state permitting requirements.

Construction, demolition, grading and paving activities generate emissions from construction equipment and fugitive dust, or particulate matter. Table 4-1 summarizes the estimated construction emissions expected for the project.

Table 4-1. Proposed Action Estimated Construction Emissions by Activity

Source Category	Emissions (Tons/Year)				
	CO	NO _x	PM ₁₀	SO ₂	VOC
Acres Paved	0.000	0.000	0.000	0.000	0.001
Demolition	0.000	0.000	0.000	0.000	0.000
Grading Equipment	0.000	0.000	0.001	0.000	0.000
Grading Operations	0.000	0.000	0.219	0.000	0.000
Mobile Equipment	0.389	0.928	0.016	0.115	0.085
Non-Residential Architectural Coatings	0.000	0.000	0.000	0.000	0.055
Residential Architectural Coatings	0.000	0.000	0.000	0.000	0.000
Stationary Equipment	2.641	0.068	0.000	0.003	0.099
Workers Trips	0.055	0.003	0.000	0.000	0.003
Totals (rounded)	3.085	1.000	0.235	0.118	0.243

As Table 4-2 indicates, the individual pollutant emissions from the project would not exceed 10 percent of the total Okaloosa County emissions for each corresponding pollutant. The highest pollutant percentage is for NO_x and SO₂, which is approximately 0.014 percent of Okaloosa County total emissions based on the USEPA 2002 NEI. This slight increase in local air quality would be temporary. In calculating emissions, certain assumptions were made regarding various variables associated with construction and demolition activities. Specific details regarding the assumptions and calculations associated with the emissions estimates are located in Appendix A, Air Quality. Eglin AFB does not anticipate any air quality issues with the Proposed Action.

Table 4-2. Proposed Action Estimated Construction Emissions Compared to Okaloosa County

	Annual Project Emissions (Tons/Year)				
	CO	NO _x	PM ₁₀	SO ₂	VOC
Estimated Project Emissions	3.11	1.03	0.24	0.12	0.24
Okaloosa County	63,273.74	7,132.43	8,735.85	838.65	10,332.94
Percentage of County Emissions	0.005%	0.014%	0.003%	0.014%	0.002%

4.4.2 No Action Alternative

No impacts or changes to regional air quality would occur under the No Action Alternative. Under the No Action Alternative, construction and demolition activities would not occur and an additional back-up emergency generator would not be installed at Building 614 in support of the JRF. However, under the No Action Alternative the 53 WG/53 EWG would be unable to verify that F-35 mission data meets functionality requirements with the F-35 system hardware, software, and firmware. Additionally, the 53 WG/53 EWG would be unable to provide mission data for F-35 operational testing. This would negatively impact F-35 operational testing and, as a result, jeopardize the aircrafts initial capability date.

4.5 CUMULATIVE IMPACTS AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

4.5.1 Cumulative Impacts

According to CEQ regulations, cumulative impact analysis in an environmental assessment that should consider the potential environmental impacts resulting from “the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions” (40 CFR 1508.7) (CFR, 1978).

Definition of Cumulative Effects

Cumulative effects may occur when there is a relationship between a Proposed Action and other actions expected to occur in a similar location or during a similar time period. This relationship may or may not be obvious. More potential exists for cumulative effects to occur on “shared resources” than on geographically separate resources for activities that overlap with or that are in close proximity to the Proposed Action. Similarly, actions that coincide would tend to offer a higher potential for cumulative effects.

Past and Present Actions Relevant to the Proposed Action

Past Actions

Building 614 was built in 1979 and is approximately 65,806 square feet.

Present Actions

Precision Measurement Equipment Laboratory (PMEL)

Eglin AFB plans to construct a new PMEL facility. The project would include the construction of a 28,330-square-foot facility, a parking lot, and associated infrastructure to the east of Building 613, located off Eighth Street. Eglin AFB has concluded an EA for this proposed project.

Reasonably Foreseeable Future Actions

Base Realignment and Closure (BRAC)

The DoD is now required by law to implement the 2005 Defense BRAC Commission's recommendations for reshaping the DoD's infrastructure and force structure. By statute, the DoD has until 15 September 2007 to begin closing and realigning the installations as called for in the BRAC report, with completion required by 15 September 2011. At Eglin AFB, the BRAC process and related actions would involve the following:

1. **JSF Integrated Training Center (ITC):** Consolidate all JSF initial joint training sites at Eglin AFB at an integrated training center—relocate from Luke AFB, Arizona; Marine

Corps Air Station Miramar, California; Naval Air Station Oceana, Virginia; Sheppard AFB, Texas; and Naval Air Station Pensacola, Florida.

2. **Fort Bragg, North Carolina:** Relocate Army 7th Special Forces Group Airborne to Eglin AFB from Fort Bragg, North Carolina.
3. **Create an Air Integrated Weapons and Armaments Research, Development and Acquisition, Test and Evaluation Center:**
 - a. Relocate Weapons and Armaments In-Service Engineering Research, Development and Acquisition, and Test and Evaluation from Hill AFB, Utah to Eglin AFB, Florida.
 - b. Relocate Defense Threat Reduction Agency (DTRA) National Command Region Conventional Armament Research from Fort Belvoir, Virginia to Eglin AFB, Florida.

The above actions will be addressed in an Environmental Impact Statement that is scheduled to be completed in September 2007.

The BRAC decision to establish the JSF ITC at Eglin AFB would establish an initial joint training site for joint Air Force, Navy, and Marine Corps JSF training organizations to teach aviators and maintenance technicians how to properly operate and maintain this new weapon system. It would relocate 200 instructors to Eglin AFB. Potential impacts from this program due to changing mission and additional personnel may include; noise, air quality, munitions storage concerns, transportation, and utilities concerns, among others. A full analysis of these activities has not taken place so only a generalized analysis of cumulative impacts can occur.

Analysis of Cumulative Impacts

Hazardous Materials/Wastes

Eglin AFB has not identified any adverse impacts associated with ERP sites with respect to the implementation of the Proposed Action. Environmental analyses of future projects would address any potential issues involving ERP sites. Therefore, Eglin AFB does not expect any adverse cumulative impacts.

Soils/Erosion

Increases in impervious surfaces from the Proposed Action would promote soil erosion, which has the potential to impact ground stability and nearby water resources. However, as long as mitigative measures are utilized, Eglin AFB does not anticipate adverse cumulative impacts associated with construction and demolition, with respect to the implementation of the Proposed Action. Eglin AFB does not expect that the nature of this project would place additional, cumulative demands on soils or soil erosion.

Water Resources

Increases in impervious surface from the Proposed Action would promote stormwater runoff, which has the potential to decrease water quality. Site design plans, safety plans, and permits for new developments would address potential issues involving water quality degradation and help to protect water resources on Eglin AFB.

Eglin AFB does not expect that the nature of this project would place additional, cumulative demands on water quality or quantity. Coordination between project planners and 96 CEG/CEVCE would help protect Eglin's vast water resources. It is recommended that project planners refer to the Integrated Natural Resources Management Plan and other studies conducted at Eglin when proposing future plans and proposals. Eglin AFB has not identified, in available analyses of the foreseeable future actions, any adverse impacts on water quality. The identified PMEL complex does not represent a change in amount of personnel or mission, however, the beddown of the JSF would bring additional personnel to Eglin. Because of this beddown there may be additional demands on existing water supplies. Resulting from these planned actions; Eglin AFB does not expect any cumulative impacts associated with water quality to occur.

Air Quality

The implementation of the Proposed Action, in conjunction with the Eglin BRAC action, would increase the regional air quality cumulatively. Emissions generated from the BRAC action would be the primary contributor to air emissions (Table 4-3). Emissions from the new PMEL facility are expected to be minimal and temporary (insignificant compared to BRAC emissions); emission calculations for this project are not included in Table 4-3 below. Air emissions stay within the specified criteria. It should be noted that emissions generated from both the BRAC action and the Proposed Action involve construction activities, which increase the air quality temporarily and for a short period. Eglin AFB does not expect any cumulative impacts to regional air quality.

Table 4-3. Cumulative Air Emissions from Eglin BRAC and the JRF Proposed Action

Emission Activities	Emissions (tons/year)				
	CO	NO _x	PM ₁₀	SO ₂	VOC
JRF Proposed Action Total	3.11	1.03	0.24	0.12	0.24
Eglin BRAC Total	1,298.26	2,140.87	789.87	82.77	359.49
Cumulative Emissions	1,301.37	2,141.90	790.11	82.89	359.73
ROI Emissions ¹	150,219	22,909	30,829	4,097	23,742
Percentage of ROI Emissions	0.86%	9.35%	2.56%	2.02%	1.51%

¹ ROI – Okaloosa, Santa Rosa, and Walton Counties

4.5.2 Irreversible and Irretrievable Commitment of Resources

The NEPA requires that environmental analysis include identification of any irreversible and irretrievable commitments of resources that would be involved in the implementation of the Proposed Action.

Natural Resources

Irreversible and irretrievable resource commitments relates to the use of nonrenewable resources and the effects that the uses of these resources have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable period. Irretrievable resource commitments involve the

loss in value of an affected resource that cannot be restored as a result of the action (e.g., extinction of a threatened or endangered species or the disturbance of a cultural site).

Development of the proposed site is not likely to result in an irreversible and/or irretrievable commitment of natural resources as this area is already partially developed. Additionally, although difficult, this area could be returned to its existing state if the proposed building addition and new parking area were removed and the area was allowed to revert to its present state. The 96 CEG/CEVSN has not identified any sensitive species or cultural resources at this site; therefore, no irreversible and/or irretrievable commitment of these resources is associated with the implementation of the Proposed Action.

Most environmental consequences are short-term and temporary (e.g., air emissions from construction) or longer lasting but negligible (e.g., air emissions from commuting activities, utility increases). Construction activities would require consumption of limited amounts of materials typically associated with construction (e.g., concrete). Eglin AFB does not expect that the amount of these materials used would significantly decrease the availability of the resources. The 53 EWG/EWX would use small amounts of nonrenewable resources; however, Eglin AFB does not consider these amounts significant and, therefore, do not expect any affects to the availability of these resources.

Commitments to the Project

The analysis of the irreversible and irretrievable commitment of resources has also been interpreted to mean that NEPA planning be conducted in such a manner as that the proponent (in this case the 53 EWG/EWX) does not commit resources towards a project prior to completion of the required environmental process. From this perspective, Eglin AFB has not made such a commitment.

No irretrievable or irreversible commitment of resources would occur under the Proposed Action or the No Action Alternative.

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5. PLANS, PERMITS, AND MANAGEMENT ACTIONS

The following is a list of plans, permits, and management actions associated with the proposed project. The need for these requirements was identified by the environmental impact analysis process for this EA and was developed through cooperation between the 53 EWG/EWX and interested parties involved in the proposed project. Therefore, Eglin AFB considers these requirements as part of the Proposed Action and would implement them through initiation of the proposed project. The 53 EWG/EWX is responsible for adherence to and coordination with the listed entities to complete the plans, permits, and management actions.

PLANS

- Site Design Plan (96 CEG/CEVCE).
- Stormwater Pollution Prevention Plan (96 CEG/CEVCP).

PERMITS

- Stormwater facility design and construction permit (96 CEG/CEVCE).
- Generic permit for stormwater discharge from construction activities that disturb one or more acres of land (NPDES permit) (96 CEG/CEVCE).
- Base civil engineering work clearance request, AF Form 103, 19940801 (*EF-V3*) (96 CEG/CEVCE).
- Coastal zone consistency determination in accordance with Florida's CZMA (Appendix B).
- Revision to Title V Operation Permit Number 0910031-009-AV (96 CEG/CEVCE).

MANAGEMENT ACTIONS

Environmental Restoration Program Sites

- Coordinate with 96 CEG/CEVR prior to digging and other construction activities to avoid impacts from ERP sites.
- Conduct appropriate surveys of the construction site prior to any construction activities to avoid impacts from ERP sites.
- Contact 96 CEG/CEVR if unusual soil coloration and/or odors are detected and if small arms debris are found in construction location.

Asbestos

- A licensed contractor must be used to remove asbestos-containing building materials.
- New facilities would not contain asbestos.

Lead-Based Paint

- New facilities would not contain LBP.

Soil/Erosion

The 53 EWG/EWX and its contractor shall coordinate with 96 CEG/CEVCE on the following:

- Install and maintain entrenched silt fencing and hay bales along the perimeter of the construction site prior to any ground-disturbing activities.
- Inspect silt fencing on a weekly basis and after rain events and replace the fencing as needed.
- Construction activities would be sequenced to limit the soil exposure for long periods of time.
- Cleared areas would be vegetated or mulched when the final grade is established.
- Where applicable, reduce erosion using rough grade slopes or terrace slopes.
- Identify areas of existing vegetation that the 53 EWG/EWX would not disturb by construction activities.

Water Resources

The implementation of the following management actions can effectively eliminate or reduce secondary impacts to water resources. The 53 EWG/EWX would ensure that all BMPs are inspected and maintained to ensure effectiveness. The 53 EWG/EWX and its contractor shall coordinate with 96 CEG/CEVCE for the following:

- Final stormwater design and permitting.
- Any potential discharges into Weekly Bayou or Weekly Pond from construction activities.
- Final backflow preventer design, if applicable.

In addition:

- Install and maintain entrenched silt fencing and hay bales along the perimeter of the construction site prior to any ground-disturbing activities. Inspect silt fencing on a weekly basis and after rain events and replace as needed.
- Permits and site plan designs would include site-specific management requirements for erosion and sediment control.
- Chemicals, cements, solvents, paints, or other potential water pollutants would be stored in locations where they cannot cause runoff pollution.
- Designate “staging areas” for use of construction equipment (i.e., cement mixers) designed to contain any chemicals, solvents, or toxins from entering surface waters.
- Construction site entrance would be stabilized using FDOT approved stone and geotextile (filter fabric).

Air Quality

- Comply with Eglin Title V permit and all applicable requirements (96 CEG/CEVCE).
- During ground-disturbing and construction activities, the 53 EWG/EWX must take reasonable precautions to control dust emissions and unconfined particulate matter in accordance with Chapter 62-296 FAC (Rule 62-296). Reasonable precautions include but are not limited to:
 - Application of water or chemicals to control emissions from grading, construction and land clearing.
 - Removal of particulate matter from roads and other paved areas within work areas to prevent particulates from becoming airborne.
 - Landscaping or planting of vegetation.
- The Air Quality Program Manager from 96 CEG/CEVCE must be notified about any new air emissions sources associated with the proposed facility such as, but not limited to, boilers (size, fuel type, etc.) and generators (horsepower, fuel type, etc.).

Cultural Resources

- Although there are no known eligible resources within the proposed project footprint, immediately report inadvertent discovery of cultural resources to 96 CEG/CEVH.

Safety

- Federal requirements that govern construction activities include, but are not limited to:
 - U.S. Department of Labor OSHA regulations including, but not limited to, 29 CFR 1910, *Occupational Safety and Health Standards* and 29 CFR 1926, *Safety and Health Regulations for Construction*.

Socioeconomics

- In accordance with EO 13101, use Affirmative Procurement (buying products containing recycled materials) if economical and practical (96 CEG/CEVCE).

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6. LIST OF PREPARERS

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION (SAIC)

1140 Eglin Parkway
Shalimar, FL 32579

Name/Title	Project Role	Qualifications
Sherri Baker-Littman B.A. Anthropology M.S. Geology & Geophysics	Author	17 years archaeological science, 8 years environmental science
Alysia Baumann NEPA Specialist/Planner B.S. Chemical Engineering	Author	3 years environmental science
Brad Boykin Junior NEPA Specialist B.S. Biomedical Science MBT Biotechnology	Author	2 years experience in biotechnology and chemistry fields
Catherine Brandenburg Document Production	Document Production	5 years document management
Becky Garrison Technical Editor	Editor	25 years editing and document production
Jason Koralewski NEPA Specialist B.A., Anthropology M.L.S., Archaeology M.A., Anthropology	Author	11 years environmental science
Henry McLaurine B.S. Environmental Science M.S. Biology	Technical Review	12 years of environmental experience
Bob Penrose Environmental Scientist B.S. Biology	Author, Coastal Zone Consistency Determination	1 year environmental science
Amy Sands Environmental Scientist B.S. Environmental Studies	Project Manager, GIS	3.5 years environmental science and GIS

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References

7. REFERENCES

Agency for Toxic Substances and Disease Registry (ATSDR), 2005. Toxic FAQs for Lead. <http://www.atsdr.cdc.gov/tfacts13.html>.

CH2M Hill, 2003. Environmental Restoration Program Management Action Plan, Eglin Air Force Base. July.

Chopra-Lee, 1995. Lead Based Paint Sampling Results, Building 614. September.

———, 1998. Asbestos Sampling Results, Building 614. January.

Code of Federal Regulations (CFR), 1978. 40 CFR Part 1508, Section 7, Cumulative Impacts. Title 40 – Protection of Environment, Chapter V – Council on Environmental Quality, Part 1508 – Terminology and Index; as published 43 FR 56003. Website: http://www.access.gpo.gov/nara/cfr/waisidx_04/40cfr1508_04.html.

Florida Department of Environmental Protection (FDEP), 2002. Technical Report. Florida Stormwater, Erosion, and Sedimentation Control Inspector's Manual.

———, 2005. Florida's NPDES Stormwater Program. Website accessed June, 5 2005. <http://www.dep.state.fl.us/water/stormwater/npdes>.

———, 2006. The 2006 Integrated Water Quality Assessment for Florida: 2006 305(b) Report and 303(d) List Update. Web based document accessed July 11, 2006. http://www.dep.state.fl.us/water/tmdl/docs/2006_Integrated_Report.pdf.

———, 2006a. 2006 Water Quality Assessment Report: Choctawhatchee-St. Andrew, Division of Water Resource Management. Web based document accessed July 11, 2006. <ftp://ftp.dep.state.fl.us/pub/water/basin411/csa/assessment/G3AS-Chocta-LR-Merge.pdf>.

———, 2006b. 1998 Environmental Protection Agency, Florida 1998 303(d) List. Web based document accessed July 11, 2006. [http://www.dep.state.fl.us/water/tmdl/docs/303\(d\)-2.pdf](http://www.dep.state.fl.us/water/tmdl/docs/303(d)-2.pdf).

———, 2006c. Adopted list of waters to be proposed for delisting from the 1998 303(d) List. Web based document accessed July 11, 2006. http://www.dep.state.fl.us/water/tmdl/docs/303d_lists/group3/adopted/Choctaw_DelistFinal.pdf.

Federal Emergency Management Agency, 2006. SLOSH. Website accessed 12 July 2006. http://www.fema.gov/plan/prevent/nhp/slosh_link.shtm.

Kauffman, S., 2004. Personal communication with Stephen Kauffman and SAIC (Kathryn Tucker) regarding lead-based paint and asbestos disposal, 24 February 2004.

Mitsch, 2000. Wetlands 2nd Edition. Van Nostrand Reinhold Co., New York.

National Resource Conservation Service (NRCS), 2005. Soil Conservation Service, National Cooperative Soil Survey. Website accessed July 20, 2005. <http://ortho.ftw.nrcs.usda.gov/osd/dat.html>.

Overing, John D., H. Harrel Weeks, Joseph P. Wilson, Jr., Julius Sullivan, and Richard D. Ford, 1980. Soil Survey of Okaloosa County, Florida. United States Department of Agriculture, Soil Conservation Service.

Overing, J. D., and F. C. Watts, 1989. Soil Survey of Walton County, Florida. United States Department of Agriculture, Soil Conservation Service.

References

- U.S. Air Force, No Date. Clean Air Act Compliance Guidance. Air Force Center for Environmental Excellence. <http://www.afcee.brooks.af.mil/eq/air/caatoolbox/html/federal/compdet/genconform.html>. Accessed on 18 March 2005.
- , 1995. Environmental Baseline Study Resource Appendices. Prepared by Earthtech for the Air Force Development Test Center (AFDTC), 46th Test Wing, Range Environmental Planning Office (46TW/XPE), Eglin Air Force Base, Florida.
- , 2001. Eglin AFB General Plan – Eglin Main and Duke Field. 796 Civil Engineering Squadron (796 CES/CEORT), Eglin Air Force Base, Florida. November.
- , 2003. Eglin Military Complex Environmental Baseline Study Resource Appendices, Volume I – Eglin Land Test and Training Range. December 2003.
- U. S. Army Corps of Engineers (USACE), 1987. Wetlands Delineation Manual. Wetlands Research Program Technical Report Y-87-1. Waterways Experiment Station.
- U.S. Department of Agriculture (USDA), 1995. Soil Survey of Okaloosa County, Florida, Natural Resources Conservation Service.
- U. S. Environmental Protection Agency (USEPA), 1995. America's Wetlands: Our Vital Link Between Land and Water.
- , 2002. U.S. Environmental Protection Agency 2002 National Emissions Inventory Microsoft Access Database. Accessed May 2006.
- , 2005., Transportation and Air Quality., <http://www.epa.gov/otaq/>. 10 February 2005, Accessed 18 March 2005.
- U.S. Fish and Wildlife Service, 1979. National Wetlands Inventory Classification for Wetlands and Deepwater Habitats of the United States. Cowardin, L.M.

APPENDIX A

AIR QUALITY

AIR QUALITY

This appendix presents an overview of the Clean Air Act (CAA) and the state of Florida air quality program. The appendix also discusses emission factor development and calculations including assumptions employed in the air quality analyses.

Air Quality Program Overview

National Ambient Air Quality Standards:

In order to protect public health and welfare, the U.S. Environmental Protection Agency (USEPA) has developed numerical concentration-based standards or National Ambient Air Quality Standards (NAAQS) for six “criteria” pollutants (based on health-related criteria) under the provisions of the CAA Amendments of 1970. There are two kinds of NAAQS: primary and secondary standards. Primary standards prescribe the maximum permissible concentration in the ambient air to protect public health including the health of “sensitive” populations such as asthmatics, children, and the elderly. Secondary standards prescribe the maximum concentration or level of air quality required to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings (40 CFR Part 51).

The CAA gives states the authority to establish air quality rules and regulations. These rules and regulations must be equivalent to, or more stringent than, the federal program. The Division of Air Resource Management within the Florida Department of Environmental Protection (FDEP) administers the state’s air pollution control program under authority of the Florida Air and Water Pollution Control Act and the USEPA

Florida has adopted the NAAQS except for sulfur dioxide (SO₂). USEPA has set the annual and 24-hour standards for SO₂ at 0.03 parts per million (ppm) (80 micrograms per cubic meter [$\mu\text{g}/\text{m}^3$]) and 0.14 ppm (365 $\mu\text{g}/\text{m}^3$), respectively. Florida has adopted the more stringent annual and 24-hour standards of 0.02 ppm (60 $\mu\text{g}/\text{m}^3$) and 0.1 ppm (260 $\mu\text{g}/\text{m}^3$), respectively. In addition, Florida has adopted the national secondary standard of 0.50 ppm (1,300 $\mu\text{g}/\text{m}^3$). Table A-1 presents federal and state of Florida ambient air quality standards (FAC, 1996).

Based on measured ambient air pollutant concentrations, the USEPA designates areas of the United States as having air quality better than (attainment) or worse than (nonattainment) the NAAQS and unclassifiable. Those that cannot be classified, based on available information, as meeting or not meeting the NAAQS for a particular pollutant are “unclassifiable” and are treated as attainment until proven otherwise. Some attainment areas can be further classified as “maintenance” areas. Maintenance areas are those areas previously classified as nonattainment and have successfully reduced air pollutant concentrations below the standard. Maintenance areas are under special maintenance plans and must operate under some of the nonattainment area plans to ensure compliance with the NAAQS. All areas of Florida are in compliance with the NAAQS.

Table A-1. National and State Ambient Air Quality Standards

Criteria Pollutant	Averaging Time	Federal Primary NAAQS ⁽⁸⁾	Federal Secondary NAAQS ⁽⁸⁾	Florida Standards
Carbon Monoxide (CO)	8-hour ⁽¹⁾	9 ppm (10 mg/m ³)	No standard	9 ppm (10 µg/m ³)
	1-hour ⁽¹⁾	35 ppm (40 mg/m ³)	No standard	35 ppm (40 µg/m ³)
Lead (Pb)	Quarterly	1.5 µg/m ³	1.5 µg/m ³	1.5 µg/m ³
Nitrogen Dioxide (NO ₂)	Annual	0.053 ppm (100 µg/m ³)	0.053 ppm (100 µg/m ³)	0.053 ppm (100 µg/m ³)
Particulate Matter ≤10 Micrometers (PM ₁₀)	Annual ⁽²⁾	Revoked	Revoked	50 µg/m ³
	24-hour ⁽³⁾	150 µg/m ³	150 µg/m ³	150 µg/m ³
Particulate Matter <2.5 Micrometers (PM _{2.5})	Annual ⁽⁴⁾	15 µg/m ³	15 µg/m ³	15 µg/m ³
	24-hour ⁽⁵⁾	35 µg/m ³	35 µg/m ³	65 µg/m ³
Ozone (O ₃)	1-hour ⁽⁷⁾	0.12 ppm (235 µg/m ³)	0.12 ppm (235 µg/m ³)	0.12 ppm (235 µg/m ³)
	8-hour ⁽⁶⁾	0.08 ppm (157 µg/m ³)	0.08 ppm (157 µg/m ³)	0.08 ppm (157 µg/m ³)
Sulfur Dioxide (SO ₂)	Annual	0.03 ppm (80 µg/m ³)	No standard	0.02 ppm (60 µg/m ³)
	24-hour ⁽¹⁾	0.14 ppm (365 µg/m ³)	No standard	0.10 ppm (260 µg/m ³)
	3-hour ⁽¹⁾	No standard	0.50 ppm (1300 µg/m ³)	0.50 ppm (1300 µg/m ³)

Source: USEPA, 2006 (Federal Standards)

FAC 62-204.240, 2006 (Florida Standards)

ppm = parts per million

mg/m³ = milligrams per cubic meter

µg/m³ = micrograms per cubic meter

(1) Not to be exceeded more than once per year.

(2) Due to lack of evidence linking health problems to long-term exposure to coarse particle pollution, the agency revoked the annual PM₁₀ standard in 2006 (effective 17 December 2006).

(3) Not to be exceeded more than once per year on average over 3 years.

(4) To attain this standard, the 3-year average of the weighted annual mean PM_{2.5} concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m³

(5) To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 mg/m³ (effective 17 December 2006)

(6) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.

(7) (a) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is ≤ 1.

(b) As of 15 June 2005 USEPA revoked the 1-hour ozone standard in all areas except the fourteen 8-hour ozone nonattainment Early Action Compact Areas.

(8) Concentration expressed first in the units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25 degrees Celsius (°C) and a reference pressure of 760 millimeters of mercury; ppm refers to parts per million by volume.

Each state is required to develop a state implementation plan (SIP) that sets forth how CAA provisions would be imposed within the state. The SIP is the primary means for the implementation, maintenance, and enforcement of the measures needed to attain and maintain the NAAQS within each state and includes control measures, emissions limitations, and other provisions required to attain and maintain the ambient air quality standards. The purpose of the SIP is twofold. First, it must provide a control strategy that would result in the attainment and maintenance of the NAAQS. Second, it must demonstrate that progress is being made in attaining the standards in each nonattainment area.

In attainment areas, major new or modified stationary sources of air emissions on and in the area are subject to Prevention of Significant Deterioration (PSD) review to ensure that these sources are constructed without causing significant adverse deterioration of the clean air in the area. A major new source is defined as one that has the potential to emit any pollutant regulated under the CAA in amounts equal to or exceeding specific major source thresholds: 100 or 250 tons/year based on the source's industrial category. A major modification is a physical change or change in the method of operation at an existing major source that causes a significant "net emissions increase" at that source of any regulated pollutant. Table A-2 provides a tabular listing of the PSD significant emissions rate (SER) thresholds for selected criteria pollutants (USEPA, 1990). (PSD SER and increment thresholds have been established for PM₁₀, but not for PM_{2.5}). It should be noted that mobile source emissions as well as those associated with construction activities are excluded from the PSD applicability process.

The goal of the PSD program is to: 1) ensure economic growth while preserving existing air quality, 2) protect public health and welfare from adverse effects that might occur even at pollutant levels better than the NAAQS, and 3) preserve, protect, and enhance the air quality in areas of special natural recreational, scenic, or historic value, such as national parks and wilderness areas. Sources subject to PSD review are required by the CAA to obtain a permit before commencing construction. The permit process requires an extensive review of all other major sources within a 50-mile radius and all Class I areas within a 62-mile radius of the facility. Emissions from any new or modified source must be controlled using best available control technology. The air quality, in combination with other PSD sources in the area, must not exceed the maximum allowable incremental increase identified in Table A-3. National parks and wilderness areas are designated as Class I areas, where any appreciable deterioration in air quality is considered significant. Class II areas are those where moderate, well-controlled industrial growth could be permitted. Class III areas allow for greater industrial development.

Table A-2. Criteria Pollutant Significant Emissions Rate Increases Under PSD Regulations

Pollutant	Significant Emissions Rate (tons/year)
PM ₁₀	15
Total Suspended Particulate (TSP)	25
SO ₂	40
NO _x	40
Ozone (Volatile Organic Compounds (VOC))	40
CO	100

Source: Title 40 CFR Part 51.

Table A-3. Federal Allowable Pollutant Concentration Increases Under PSD Regulations

Pollutant	Averaging Time	Maximum Allowable Concentration ($\mu\text{g}/\text{m}^3$)		
		Class I	Class II	Class III
PM ₁₀	Annual	4	17	34
	24-hour	8	30	60
SO ₂	Annual	2	20	40
	24-hour	5	91	182
	3-hour	25	512	700
NO ₂	Annual	2.5	25	50

Source: Title 40 CFR Part 51.

Florida has a statewide air quality-monitoring network that is operated by both state and local environmental programs (FDEP, 2004). The air quality is monitored for carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide. The monitors tend to be concentrated in areas with the largest population densities and not all pollutants are monitored in those areas. The air quality monitoring network is used to identify areas where the ambient air quality standards are being violated and plans are needed to reduce pollutant concentration levels to be in attainment with the standards; also included are areas where the ambient standards are being met but plans are necessary to ensure maintenance of acceptable levels of air quality in the face of anticipated population or industrial growth.

The end-result of this attainment/maintenance analysis is the development of local and statewide strategies for controlling emissions of criteria air pollutants from stationary and mobile sources. The first step in this process is the annual compilation of the ambient air monitoring results, and the second step is the analysis of the monitoring data for general air quality exceedances of the NAAQS as well as pollutant trends.

The FDEP Northwest District operates monitors in several northwest counties, including Bay, Escambia, Holmes, Leon, Santa Rosa, and Wakulla counties. Over the years of record there have been exceedances (pollutant concentration greater than the numerical standard) of an NAAQS. However, there has not been a violation (occurrence of more exceedances of the standard than is allowed within a specified period) of an ambient standard (FDEP, 2004). Currently, the state of Florida is attainment for all criteria pollutants.

Regulatory Comparisons

In order to evaluate the air emissions and their impact to the overall region of influence (ROI). The emissions associated with the construction activities were compared to the total emissions on a pollutant-by-pollutant basis for the ROI's 2002 National Emissions Inventory (NEI) data (USEPA, 2002). Potential impacts to air quality are then identified as the total emissions of any pollutant that equals 10 percent or more of the ROI's emissions for that specific pollutant. The 10 percent criteria approach is used in the General Conformity Rule as an indicator for impact analysis for nonattainment and maintenance areas and, although the entire state of Florida is attainment, the General Conformity Rule's impact analysis was utilized to provide a consistent approach to evaluating the impact of construction emissions.

To provide a conservative evaluation, the impacts screening in this analysis used a more restrictive criteria than required in the General Conformity Rule. Rather than comparing emissions from construction activities to regional inventories (as required in the General Conformity Rule), emissions were compared to the individual counties potentially impacted, which are a smaller area.

Project Calculations

Construction Emissions

Construction emissions calculations were completed using the calculation methodologies described in the U.S. Air Force Air Conformity Applicability Model (ACAM). As previously indicated, a conformity determination is not required since Okaloosa County is designated “attainment,” the ACAM was used to provide a level of consistency with respect to emissions factors and calculations.

The ACAM evaluates the individual emissions from different sources associated with the construction phases. These sources include grading activities, asphalt paving, construction worker trips, stationary equipment (e.g. saws and generators), and mobile equipment emissions (U.S. Air Force, 2003). Phase I construction incorporates those activities associated with grading activities, while Phase II construction includes the actual construction activities.

Certain assumptions were made to develop the air quality analysis. It was assumed that an area of approximately 0.12 acre would be graded, which was necessary for the overall construction footprint. This would ensure that a conservative approach was used to calculate emissions. Based on these assumptions, the construction emissions were calculated using the methodology expressed below.

Grading Activities

Grading activities are divided into grading equipment emissions and grading operation emissions. Grading equipment calculations are combusive emissions from equipment engines and are ascertained in the following manner:

$$\text{VOC} = .22 \text{ (lbs/acre/day)} * \text{Acres} * \text{DPY}_1 / 2000 \text{ lbs/ton}$$

$$\text{NO}_x = 2.07 \text{ (lbs/acre/day)} * \text{Acres} * \text{DPY}_1 / 2000 \text{ lbs/ton}$$

$$\text{PM}_{10} = .17 \text{ (lbs/acre/day)} * \text{Acres} * \text{DPY}_1 / 2000 \text{ lbs/ton}$$

$$\text{CO} = .55 \text{ (lbs/acre/day)} * \text{Acres} * \text{DPY}_1 / 2000 \text{ lbs/ton}$$

$$\text{SO}_2 = .21 \text{ (lbs/acre/day)} * \text{Acres} * \text{DPY}_1 / 2000 \text{ lbs/ton}$$

Where:

Acres = number of gross acres to be graded during Phase I construction.

DPY₁ = number of days per year during Phase I construction, which are used for grading.

All emissions are represented as tons per year.

Grading operations are calculated using a similar equation from the Sacramento Air Quality Management District and the South Coast Air Quality Management Districts (U.S. Air Force, 2003). These calculations include grading and truck hauling emissions.

$$PM_{10} \text{ (tons/yr)} = 60.7 \text{ (lbs/acre/day)} * \text{Acres} * DPY_1 / 2000 \text{ lbs/ton}$$

Where:

Acres = number of gross acres to be graded during Phase I construction.

DPY₁ = number of days per year during Phase I construction, which are used for grading.

Calculations used in the environmental assessment assumed that there were no controls used to reduce fugitive emissions. In addition, it was assumed that construction activities would occur within 365 days and grading activities would represent 25 percent of that total. Therefore, 90 days was the duration established for grading operations. Emissions factors were derived from the Sacramento Air Quality Management District and the South Coast Air Quality Management District (U.S. Air Force, 2003).

Asphalt Paving

VOC emissions are released during asphalt paving and are calculated using the following methodology:

$$VOC_{PT} \text{ (tons/yr)} = (2.62 \text{ lbs/acre}) * \text{Acres Paved} / 2000 \text{ lbs/ton}.$$

Acres Paved = total number of acres to be paved at the site during the year.

It was assumed that 1.13 acres would be paved with asphalt. The specific emissions factors used in the calculations were available through Sacramento Air Quality Management and the South Coast Air Quality Management Districts (U.S. Air Force, 2003).

Construction Worker Trips

Construction worker trips during the construction phases of the project are calculated and represent a function of the square feet of construction.

$$\text{Trips (trips/day)} = .42 \text{ (trip/1000 ft}^2\text{/day)} * \text{Area of construction}.$$

Total daily trips are then applied to the following factors depending on the corresponding years.

Year 2005 through 2009:

$$\text{VOC}_E = .016 * \text{Trips}$$

$$\text{NOx}_E = .015 * \text{Trips}$$

$$\text{PM}_{10}_E = .0022 * \text{Trips}$$

$$\text{CO}_E = .262 * \text{Trips}$$

Year 2010 and beyond:

$$\text{VOC}_E = .012 * \text{Trips}$$

$$\text{NOx}_E = .013 * \text{Trips}$$

$$\text{PM}_{10}_E = .0022 * \text{Trips}$$

$$\text{CO}_E = .262 * \text{Trips}$$

E = emissions

To convert from pounds per day to tons per year:

$$\text{VOC (tons/yr)} = \text{VOC}_E * \text{DPY}_{\text{II}} / 2000 \text{ lbs/ton}$$

$$\text{NO}_x \text{ (tons/yr)} = \text{NOx}_E * \text{DPY}_{\text{II}} / 2000 \text{ lbs/ton}$$

$$\text{PM}_{10} \text{ (tons/yr)} = \text{PM}_{10}_E * \text{DPY}_{\text{II}} / 2000 \text{ lbs/ton}$$

$$\text{CO (tons/yr)} = \text{CO}_E * \text{DPY}_{\text{II}} / 2000 \text{ lbs/ton}$$

Where:

Area of Construction = total square footage to be constructed in the given year of construction.

DPY_{II} = number of days per year during Phase II construction activities.

Stationary Equipment

Emissions from stationary equipment occur when gasoline powered equipment (e.g. saws, generators, etc.) are used at the construction site.

$$\text{VOC} = .198 * (\text{GRSQFT}) * \text{DPY}_{\text{II}} / 2000 \text{ lbs/ton}$$

$$\text{NO}_x = .137 * (\text{GRSQFT}) * \text{DPY}_{\text{II}} / 2000 \text{ lbs/ton}$$

$$\text{PM}_{10} = .004 * (\text{GRSQFT}) * \text{DPY}_{\text{II}} / 2000 \text{ lbs/ton}$$

$$\text{CO} = 5.29 * (\text{GRSQFT}) * \text{DPY}_{\text{II}} / 2000 \text{ lbs/ton}$$

$$\text{SO}_2 = .007 * (\text{GRSQFT}) * \text{DPY}_{\text{II}} / 2000 \text{ lbs/ton}$$

Where:

GRSQF = Gross square feet of the construction area impacted during phase II.

DPY_{II} = number of days per year during Phase II construction.

Emissions factors were derived from the Sacramento Air Quality Management District and the South Coast Air Quality Management District (U.S. Air Force, 2003).

Mobile Equipment

Mobile equipment emissions include pollutant releases associated with forklifts, dump trucks, etc. used during Phase II construction.

$$\text{VOC} = .17 * (\text{GRSQFT}) * \text{DPY}_{\text{II}} / 2000 \text{ lbs/ton}$$

$$\text{NO}_x = 1.86 * (\text{GRSQFT}) * \text{DPY}_{\text{II}} / 2000 \text{ lbs/ton}$$

$$\text{PM}_{10} = .15 * (\text{GRSQFT}) * \text{DPY}_{\text{II}} / 2000 \text{ lbs/ton}$$

$$\text{CO} = .78 * (\text{GRSQFT}) * \text{DPY}_{\text{II}} / 2000 \text{ lbs/ton}$$

$$\text{SO}_2 = .23 * (\text{GRSQFT}) * \text{DPY}_{\text{II}} / 2000 \text{ lbs/ton}$$

Where:

GRSQF = Gross square feet of the area to be constructed during Phase II.

DPY_{II} = number of days per year during Phase II construction.

Emissions factors were derived from the Sacramento Air Quality Management District and the South Coast Air Quality Management District (U.S. Air Force, 2003).

Demolition Emissions

Demolition calculations for this EA were completed using guidance from GAP Filling PM₁₀ Emission Factors for Selected Open Dust Sources (USEPA Gap Filling PM₁₀ Emission Factors for Selected Open Area Dust Sources). Demolition of structures involves two primary sources of emissions: destruction of the building and site removal of debris. Emissions calculations from

mechanical dismemberment, debris loading, and on-site truck traffic to remove debris have been individually developed.

Dismemberment of a structure can be estimated using the AP-42 equation for batch drop operations:

$$E_D = k (.0032) * ((U/5)^{1.3} / (M/2)^{1.4}) \text{ lb/ton}$$

Where:

$k = .35$ for PM_{10} .

U = mean wind speed (default = 5 mph).

M = material moisture content (Default = 2%).

and $E_D = .0011 \text{ lbs/ton}$ (with default parameters)

This factor can be modified for waste tonnage related to structural floor space. The following relationships were determined from a 1976 analysis by Murphy and Chatterjee (1976) of the demolition of 12 commercial brick, concrete and steel buildings:

Where:

$1 \text{ ft}^2 \text{ floor space} = 10 \text{ ft}^3 \text{ original building volume.}$

$1 \text{ ft}^3 \text{ building volume} = .25 \text{ ft}^3 \text{ waste volume.}$

$1 \text{ yd}^3 \text{ building waste} = .5 \text{ ton weight.}$

Mean truck capacity = $30 \text{ yd}^3 \text{ haulage volume.}$

From these data, 1 ft^2 of floor space represents .046 tons of waste material, and a revised emission factor related to structural floor space can be obtained:

$$E_D = .0011 \text{ lbs/ton} * .046 \text{ ton/ft}^2 = .000051 \text{ lbs/ft}^2.$$

The proposed emission factor for debris loading is based on two tests of the filling of trucks with crushed limestone using a front end loader, part of the test basis for the batch drop equation in AP-42, 11.2.3. Crushed limestone was considered closest in composition to the broken brick and plaster found in demolished commercial buildings. The measured emission factors for crushed limestone were .053 and .063 lbs/TSP. To convert the average TSP factor, .058 lbs/ton, to a PM_{10} factor with source extent of structural floor space, the previously determined estimate of

.046 ton/ ft² and particle size multiplier must be used. The result is the emission factor for debris loading:

$$E_L = k(.058) \text{ lb/ton} * .046 \text{ ton/ ft}^2 \\ = .00093 \text{ lbs/ ft}^2$$

Where:

k is .35 is derived from the recommended particle size multipliers developed by Muleski (1987).

The emissions factor used for on-site truck traffic is based on the unpaved road equation:

$$E = k (5.9) * (s/12)(S/30)(W/30)^{.7} * (w/4)^{.5} * (365-P/365) \text{ lb/VMT}$$

Where:

k= .36 for PM₁₀.

s = silt content (default = 12%).

S = truck speed (default = 10 mph).

W = truck weight (default = 22 tons).

w = truck wheels (default = 10 wheels).

p = number of days with precipitation (default = 0 days).

For a demolition site, 10-wheel trucks of mean 22-ton gross weight are estimated to travel a quarter mile on-site for each round trip to remove dry debris. With this information and default values for the unpaved road equation, the emission factor for on-site truck traffic becomes:

$$E_T = (.36) (5.9) * (12/12)(10/30)(22/30)^{.7} * (10/4)^{.5} * (365-0/365) \text{ lb/VMT} = 4.5 \text{ lb/VMT.}$$

To convert this emissions factor from lb/VMT to lb/ ft² of structural floor space, it is necessary to use the previously described relationships obtained from Murphy and Chatterjee (1976).

$$.25 \text{ mi}/30 \text{ yd}^3 \text{ waste} * \text{yd}^3 / 4 \text{ yd}^3 \text{ volume} * 10 \text{ yd}^3 \text{ volume/yd}^2 \text{ floor space} * \text{yd}^2 / 9 \text{ ft}^2 \\ = .0023 \text{ mi/ ft}^2.$$

$$\text{and } E_T = 4.5 \text{ lb/VMT} * .0023 \text{ mi/ft}^2 = .01 \text{ lb/ft}^2.$$

Combining each of the aforementioned factors for building demolition, debris loading, and truck traffic provides a recommend factor of:

$$\begin{aligned} E_{10} &= E_D + E_L + E_T \\ &= .000051 + .00093 + .01 \text{ lb/ft}^2 \\ &= .011 \text{ lb/ft}^2 \end{aligned}$$

This value was then multiplied by the gross square footage to be demolished to ascertain the PM₁₀ emissions for the demolition activities.

National Emissions Inventory

The NEI is operated under USEPA's Emission Factor and Inventory Group, which prepares the national database of air emissions information with input from numerous state and local air agencies, from tribes, as well as from industry. The database contains information on stationary and mobile sources that emit criteria air pollutants and hazardous air pollutants (HAPs). The database includes estimates of annual emissions, by source, of air pollutants in each area of the country, on an annual basis. The NEI includes emission estimates for all 50 states, the District of Columbia, Puerto Rico, and the Virgin Islands. Emission estimates for individual point or major sources (facilities), as well as county level estimates for area, mobile and other sources, are available currently for years 1999 and 2002 for criteria pollutants, and HAPs.

Criteria air pollutants are those for which USEPA has set health-based standards. Four of the six criteria pollutants are included in the NEI database:

Carbon Monoxide (CO)

Nitrogen Oxides (NO_x)

Sulfur Dioxide (SO₂)

Particulate Matter (PM₁₀ and PM_{2.5})

The NEI also includes emissions of VOCs, which are ozone precursors, emitted from motor vehicle fuel distribution and chemical manufacturing, as well as other solvent uses. VOCs react with nitrogen oxides in the atmosphere to form ozone. The NEI database defines three classes of criteria air pollutant sources:

- Point sources - stationary sources of emissions, such as an electric power plant, that can be identified by name and location. A “major” source emits a threshold amount (or more) of at least one criteria pollutant, and must be inventoried and reported. Many states also inventory and report stationary sources that emit amounts below the thresholds for each pollutant.
- Area sources - small point sources such as a home or office building, or a diffuse stationary source, such as wildfires or agricultural tilling. These sources do not individually produce sufficient emissions to qualify as point sources. Dry cleaners are one example, i.e., a single dry cleaner within an inventory area typically would not qualify as a point source, but collectively the emissions from all of the dry cleaning facilities in the inventory area may be significant and therefore must be included in the inventory.

- Mobile sources - any kind of vehicle or equipment with a gasoline or diesel engine; airplane; or ship.

The main sources of criteria pollutant emissions data for the NEI are:

- For electric generating units – USEPA’s Emission Tracking System / Continuous Emissions Monitoring Data and Department of Energy fuel use data.
- For other large stationary sources - state data and older inventories where state data was not submitted.
- For on-road mobile sources - the Federal Highway Administration's estimate of vehicle miles traveled and emission factors from USEPA’s MOBILE Model.
- For non-road mobile sources – USEPA’s NONROAD Model.
- For stationary area sources - state data, USEPA-developed estimates for some sources, and older inventories where state or USEPA data was not submitted.
- State and local environmental agencies supply most of the point source data. USEPA’s Clean Air Market program supplies emissions data for electric power plants.

References:

40 CFR 50, Code of Federal Regulations, Title 40, Part 50, www.access.gpo.gov/nara/cfr/cfr-retrieve.html#page1.

40 CFR 51, Code of Federal Regulations, Title 40, Part 51, www.access.gpo.gov/nara/cfr/cfr-retrieve.html#page1

Florida Administrative Code (FAC), 1996. Florida Administrative Code (FAC) 62-204.240 (1)(a-b) Ambient Air Quality Standards; Florida Department of Environmental Protection. March 1996.

——— 62-204.240, 2006. Chapter 62-204 Air Pollution Control - General Provisions. Florida Department of Environmental Protection. Effective September 6, 2006. Retrieved from: <http://www.dep.state.fl.us/Air/rules/fac/62-204.pdf>. Accessed November 2, 2006

Florida Department of Environmental Protection, 2004. Florida's Environmental Protection, State Air Monitoring Reports, <http://www.dep.state.fl.us/Air/flaqs/county/santarosa.htm>; Ad Hoc Air Monitoring Report 2000 – 2004.

Muleski, G., C. Cowherd, Jr., and P. Englehart, 1987. Update of Fugitive Dust Emissions Factors in AP-42 Section 11.2, Final Report prepared by Midwest Research Institute for U.S. Environmental Protection Agency, EPA Contract No. 68-02-3891, Assignment No. 19, July 14, 1987.

Murphy, K. S., and S. Chatterjee, 1976. Development of Predictive Criteria for Demolition and Construction Solid Waste management, Final Report prepared by Battelle Columbus Laboratories for the U.S. Army corps of Engineers, NTIS ADA 033646, October 1976.

U.S. Air Force, 2003, U.S. Air Force Air Conformity Applicability Model Technical Documentation, Air Force Center for Environmental Excellence, May.

U. S. Environmental Protection Agency (USEPA), 1990, Draft New Source Review Workshop Manual: Prevention of Significant Deterioration and Nonattainment Permitting, Office of Air Quality Planning and Standards, October.

_____, 2002, 2002 National Emissions Inventory Database; Office of Air Quality Planning and Standards, Technology Transfer Network, Clearing House for Inventories and Emissions Factors, <http://www.epa.gov/ttn/chief/net/2002inventory.html> February.

_____, 2006. National Ambient Air Quality Standards (NAAQS). Retrieved from <http://www.epa.gov/air/criteria.html>. Last Update October 13, 2006. Accessed November 2, 2006.

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APPENDIX B

COASTAL ZONE MANAGEMENT ACT

**FEDERAL AGENCY COASTAL ZONE MANAGEMENT ACT (CZMA)
NEGATIVE DETERMINATION**

Introduction

This document provides the State of Florida with the U.S. Air Force's Negative Determination under Section 307 of the Coastal Zone Management Act, 16 U.S.C. § 1456, and 15 C.F.R. Part 930.35. The information in this Negative Determination is provided pursuant to 15 C.F.R. Section 930.35.

This negative determination addresses the Proposed Action in the Environmental Assessment for Construction of an Addition to Support the Joint Strike Fighter Reprogramming Facility, Building 614, on Eglin Air Force Base (AFB), Florida.

Proposed Federal agency action:

The Air Force proposes to renovate and build an addition to Building 614 in support of the Joint Strike Fighter (JSF) Reprogramming Facility (JRF) at Eglin AFB, Florida (Figure 1). The Department of Defense (DoD) requires a JRF to support the JSF's F-35 Joint Reprogramming Center mission. This facility would provide validated aircraft mission data for the Combat Air Forces.

The Proposed Action is to construct a 6,700 square-foot building addition, parking lot (45,750 square feet), and associated infrastructure at Building 614, located off Seventh Street on Eglin's main base (Figure 2). The Proposed Action would also include interior renovations, existing pavement demolition, new chillers, a transformer, and a back-up generator.

The new addition would support a classified conference room with a new entry lobby/security vestibule. Eglin AFB would construct the addition with a reinforced concrete foundation, steel member walls, roof, and masonry exterior. Construction would also include a new parking lot, utilities, site improvements, landscaping, communication support, force protection standoff measures, and other supporting features as necessary. Additionally, demolition of some existing pavement would occur at the proposed site for the new addition. These renovations would include demolition of interior walls, construction of shielded interior walls, and the installation of environmental controls, communications support, raised flooring, and utilities.

The proposed site for the new addition consists of partially existing impervious surfaces and the proposed site for the new parking lot is a grassed area. The site would also feature a stormwater discharge system (retention pond or a series of swales) to temporarily store stormwater runoff (on-site). The location of the system is not included in the Proposed Action footprint shown in Figure 2. Eglin would determine the size, type, and location of the stormwater discharge system needed to meet all applicable regulations, and it would likely be located adjacent to the Proposed Action site.

Federal Review

After review of the Florida Coastal Management Program and its enforceable policies, the U.S. Air Force has made a determination that this activity is one that will not have an effect on the state of Florida coastal zone or its resources.



Figure 1: Location of Proposed Action on Eglin AFB

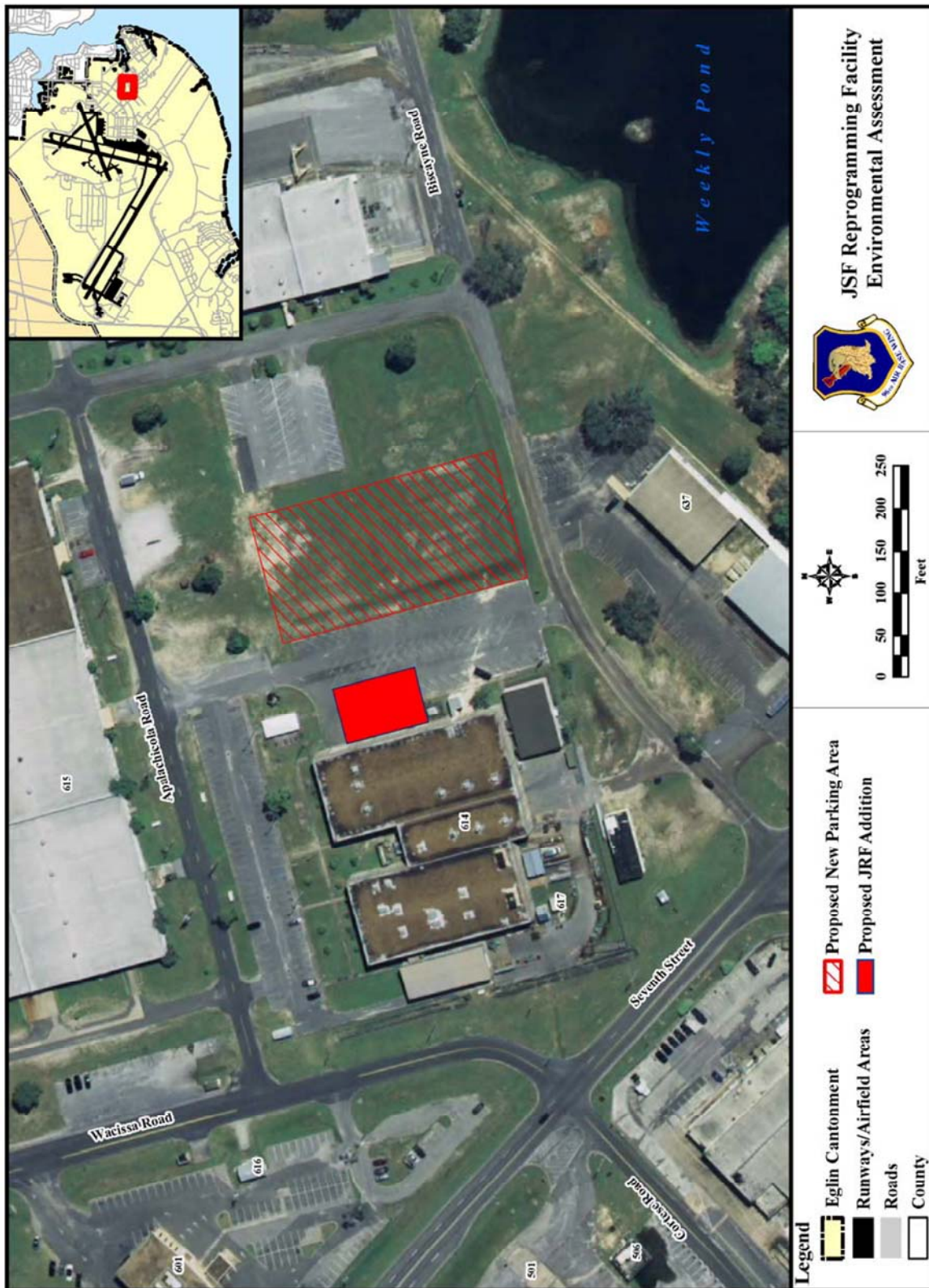


Figure 2: Proposed Location of the facility on Eglin, AFB

Florida Coastal Management Program Consistency Review

Statute	Consistency	Scope
Chapter 161 <i>Beach and Shore Preservation</i>	The proposed project would not adversely affect beach and shore management, specifically as it pertains to: <ul style="list-style-type: none"> • The Coastal Construction Permit Program. • The Coastal Construction Control Line (CCCL) Permit Program. • The Coastal Zone Protection Program. All land activities would occur on federal property.	Authorizes the Bureau of Beaches and Coastal Systems within DEP to regulate construction on or seaward of the states' beaches.
Chapter 163, Part II <i>Growth Policy; County and Municipal Planning; Land Development Regulation</i>	The proposed action would not affect local government comprehensive plans.	Requires local governments to prepare, adopt, and implement comprehensive plans that encourage the most appropriate use of land and natural resources in a manner consistent with the public interest.
Chapter 186 <i>State and Regional Planning</i>	The proposed action would not affect state plans for water use, land development or transportation.	Details state-level planning requirements. Requires the development of special statewide plans governing water use, land development, and transportation.
Chapter 252 <i>Emergency Management</i>	The proposed action would not increase the state's vulnerability to natural disasters. The proposed action would not affect emergency response and evacuation procedures.	Provides for planning and implementation of the state's response to, efforts to recover from, and the mitigation of natural and manmade disasters.
Chapter 253 <i>State Lands</i>	All activities would occur on federal property; therefore the proposed action would not affect state or public lands.	Addresses the state's administration of public lands and property of this state and provides direction regarding the acquisition, disposal, and management of all state lands.
Chapter 258 <i>State Parks and Preserves</i>	State parks, recreational areas and aquatic preserves would not be affected by the proposed action.	Addresses administration and management of state parks and preserves (Chapter 258).
Chapter 259 <i>Land Acquisition for Conservation or Recreation</i>	The proposed action would not affect tourism or outdoor recreation.	Authorizes acquisition of environmentally endangered lands and outdoor recreation lands (Chapter 259).
Chapter 260 <i>Recreational Trails System</i>	The proposed action would not affect opportunities for recreation on state lands.	Authorizes acquisition of land to create a recreational trails system and to facilitate management of the system (Chapter 260).
Chapter 375 <i>Multipurpose Outdoor Recreation; Land Acquisition, Management, and Conservation</i>	The proposed action would not affect opportunities for recreation on state lands.	Develops comprehensive multipurpose outdoor recreation plan to document recreational supply and demand, describe current recreational opportunities, estimate need for additional recreational opportunities, and propose means to meet the identified needs (Chapter 375).

Chapter 267 <i>Historical Resources</i>	The proposed action would not have an impact on historic and/or cultural resources. Should any archaeological sites be inadvertently discovered from ground-disturbing activities, 96th CEG/CEVH, Cultural Resources Branch, would be notified immediately and further ground-disturbing activities would cease in that area.	Addresses management and preservation of the state's archaeological and historical resources.
Chapter 288 <i>Commercial Development and Capital Improvements</i>	The proposed action would occur on federal property. The proposed action would not affect future business opportunities on state lands, or the promotion of tourism in the region.	Provides the framework for promoting and developing the general business, trade, and tourism components of the state economy.
Chapter 334 <i>Transportation Administration</i>	The proposed action would not affect transportation.	Addresses the state's policy concerning transportation administration (Chapter 334).
Chapter 339 <i>Transportation Finance and Planning</i>	The proposed action would not affect finance and planning needs of the state's transportation system.	Addresses the finance and planning needs of the state's transportation system (Chapter 339).
Chapter 370 <i>Saltwater Fisheries</i>	The proposed action would not affect saltwater fisheries.	Addresses management and protection of the state's saltwater fisheries.
Chapter 372 <i>Wildlife</i>	The proposed site consists of a combination of paved and maintained grassed areas. Eglin Natural Resources Section has not identified any sensitive species or habitats at this site. Therefore, Eglin AFB does not expect any adverse impacts to biological resources.	Addresses the management of the wildlife resources of the state.
Chapter 373 <i>Water Resources</i>	<p>The proposed action will likely increase the potential for impact from the increased rate and volume of stormwater runoff, due to an increase in impervious surface area. In order to limit the effects the proposed action would have on water resources, best management practices (BMPs) will be used to control erosion and stormwater runoff.</p> <p>The proposed action would include construction of a stormwater retention pond or other stormwater discharge system in accordance with FAC 62-25.</p> <p>Applicable permitting requirements will be satisfied in accordance with 62-25 Florida Administrative Code (FAC) and National Pollutant Discharge Elimination System (NPDES). Eglin AFB would submit a notice of intent to use the generic permit for stormwater discharge under the NPDES program prior to project initiation according to Section 403.0885, Florida Statutes (FS).</p> <p>The Proposed Action would also require coverage under the generic permit for</p>	Addresses the state's policy concerning water resources.

	stormwater discharge from construction activities that disturb one or more acres of land (FAC 62-621).	
Chapter 376 <i>Pollutant Discharge Prevention and Removal</i>	<p>The proposed action would not result in any significant impacts. All hazardous materials and wastes would be handled and disposed of in accordance with Eglin AFB, state, and federal policies and regulations.</p> <p>Although several ERP sites are located adjacent to the proposed action site, the nearest is over 130 feet away. Exact site selection and design for the addition to the JRF would take into consideration ERP sites and would avoid disturbing the ground within these sites. Therefore, Eglin AFB does not anticipate any impacts to ERP sites.</p>	Regulates transfer, storage, and transportation of pollutants, and cleanup of pollutant discharges.
Chapter 377 <i>Energy Resources</i>	The proposed action would not affect energy resource production, including oil and gas, or the transportation of oil and gas.	Addresses regulation, planning, and development of oil and gas resources of the state.
Chapter 380 <i>Land and Water Management</i>	The proposed action would occur on federally owned lands. Under the proposed action, development of state lands with regional (i.e. more than one county) impacts would not occur. No changes to coastal infrastructure such as capacity increases of existing coastal infrastructure, or use of state funds for infrastructure planning, designing or construction would occur.	Establishes land and water management policies to guide and coordinate local decisions relating to growth and development.
Chapter 381 <i>Public Health, General Provisions</i>	The proposed action does not involve the construction of an on-site sewage or treatment system. The proposed action would not impact public health provisions.	Establishes public policy concerning the state's public health system.
Chapter 388 <i>Mosquito Control</i>	The proposed action would not affect mosquito control efforts.	Addresses mosquito control effort in the state.
Chapter 403 <i>Environmental Control</i>	<p>The proposed action would not adversely affect the regional air quality. Eglin AFB does not expect any impacts to the air quality region. The installation of a generator and other equipment would be in accordance with all applicable federal laws and state permitting requirements.</p> <p>Soils would be disturbed at the proposed site due to demolition and construction activities. Proper BMPs would be used to reduce the effects of erosion. Therefore, Eglin does not anticipate permanent impacts to soils.</p>	Establishes public policy concerning environmental control in the state.

From: Milligan, Lauren [Lauren.Milligan@dep.state.fl.us]
Sent: Tuesday, December 05, 2006 4:00 PM
To: Knight Kelly E CTR USAF 96 CEG/CEVSNW
Cc: Miller Bob CIV USAF 96 CEG/CEVSNW; Penrose Robert M CTR USAF 96 CEG/CEVSN
Subject: RE: Department of the Air Force - Negative Determination - Addition to JSF Facility, Eglin AFB
Ms. Kelly E. Knight
Eglin AFB - 96 CEG/CEVSNW
107 Highway 85 North
Niceville, FL 32578

RE: Department of the Air Force - Negative Determination - Addition to Joint Strike Fighter (JSF) Facility on Eglin Air Force Base - Okaloosa County, Florida.
SAI # FL200612052942

Dear Kelly:

The Florida State Clearinghouse is in receipt of your notice regarding the U.S. Air Force's proposal to renovate, construct a building addition, and construct a parking lot for Building 614 in support of the JSF Reprogramming Facility on Eglin Air Force Base. Department staff does not object to the Air Force's negative determination and agrees that the proposed action meets the requirements of 15 CFR 930.35.

Staff notes the Air Force's intention to comply with the state's stormwater management requirements in Rules 62-25 and 62-621, Florida Administrative Code.

Thank you for the opportunity to review this proposal. If you have any questions or need further assistance, please contact me at (850) 245-2170.

Sincerely,

Lauren P. Milligan, Environmental Manager
Florida State Clearinghouse
Florida Department of Environmental Protection
3900 Commonwealth Blvd, M.S. 47
Tallahassee, FL 32399-3000
ph. (850) 245-2170
fax (850) 245-2190

From: Knight Kelly E CTR USAF 96 CEG/CEVSNW [mailto:kelly.knight.ctr@eglin.af.mil]
Sent: Thursday, November 30, 2006 3:54 PM
To: Milligan, Lauren
Cc: Miller Bob CIV USAF 96 CEG/CEVSNW; Penrose Robert M CTR USAF 96 CEG/CEVSN
Subject: Department of the Air Force - Negative Determination - Addition to JSF Facility, Eglin AFB

Ms. Lauren P. Milligan, Environmental Consultant
Florida State Clearinghouse
Florida Department of Environmental Protection
3900 Commonwealth Boulevard, Mail Station 47

Tallahassee, FL 32399-4700

Re: Department of the Air Force – Negative Determination – Addition to JSF Facility on Eglin Air Force Base, Okaloosa County, Florida

Dear Lauren:

Attached is the US Air Force's proposal to provide FDEP with details to renovate and build an addition to Building 614 in support of the Joint Strike Fighter (JSF) Reprogramming Facility (JRF) at Eglin AFB, Florida. The Department of Defense requires a JRF to support the JSF's F-35 Joint Reprogramming Center mission. This facility would provide validated aircraft mission data for the Combat Air Forces. We are submitting this CZMA Negative Determination under 15 C.F.R. 930.35. Please consider a 10-day review period on this project and a response via e-mail.

If you require additional information or have any questions or concerns, I can be reached at (850) 883-5525.

Thank you,

Kelly Knight

Environmental Scientist, SAIC
Natural Resources Section
Eglin AFB
107 Hwy 85 N
Niceville, FL 32578
Office: 850-883-5525

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APPENDIX C

NATIVE LANDSCAPING GUIDANCE

This appendix provides some general guidance on using native plants in landscaping. Additional information can also be found at the Florida Natural Plant Society website at http://www.fnps.org/pages/plants/plants_by_county.php?county=OKALOOSA&PHPSESSID=4d1371be8d987ba65a3c719ff5708b66 (FNPS, 2006).

Executive Order 13148

Title 3--
The President

Executive Order 13148 of April 21, 2000

Greening the Government Through Leadership in Environmental Management

By the authority vested in me as President by the Constitution and the laws of the United States of America, including the Emergency Planning and Community Right-to-Know Act of 1986 (42 U.S.C. 11001-11050) (EPCRA), the Pollution Prevention Act of 1990 (42 U.S.C. 13101-13109) (PPA), the Clean Air Act (42 U.S.C. 7401-7671q) (CAA), and section 301 of title 3, United States Code, it is hereby ordered as follows:

PART 1--PREAMBLE

Section 101. Federal Environmental Leadership. The head of each Federal agency is responsible for ensuring that all necessary actions are taken to integrate environmental accountability into agency day-to-day decisionmaking and long-term planning processes, across all agency missions, activities, and functions. Consequently, environmental management considerations must be a fundamental and integral component of Federal Government policies, operations, planning, and management. The head of each Federal agency is responsible for meeting the goals and requirements of this order.

PART 2--GOALS

Sec. 201. Environmental Management. Through development and implementation of environmental management systems, each agency shall ensure that strategies are established to support environmental leadership programs, policies, and procedures and that agency senior level managers explicitly and actively endorse these strategies.

Sec. 202. Environmental Compliance. Each agency shall comply with environmental regulations by establishing and implementing environmental compliance audit programs and policies that emphasize pollution prevention as a means to both achieve and maintain environmental compliance.

Sec. 203. Right-to-Know and Pollution Prevention. Through timely planning and reporting under the EPCRA, Federal facilities shall be leaders and responsible members of their communities by informing the public and their workers of possible sources of pollution resulting from facility operations. Each agency shall strive to reduce or eliminate harm to human health and the environment from releases of pollutants to the environment. Each agency shall advance the national policy that, whenever feasible and cost-effective, pollution should be prevented or reduced at the source. Funding for regulatory compliance programs shall emphasize pollution prevention as a means to address environmental compliance.

Sec. 204. Release Reduction: Toxic Chemicals. Through innovative pollution prevention, effective facility management, and sound acquisition and procurement practices, each agency shall reduce its reported Toxic Release Inventory (TRI) releases and off-site transfers of toxic chemicals for treatment and disposal by 10 percent annually, or by 40 percent overall by December 31, 2006.

Sec. 205. Use Reduction: Toxic Chemicals and Hazardous Substances and Other Pollutants. Through identification of proven substitutes and established facility management practices, including pollution prevention, each agency shall reduce its use of selected toxic chemicals, hazardous substances, and pollutants, or its generation of hazardous and radioactive waste types at its facilities by 50 percent by December 31, 2006. If an agency is unable to reduce the use of selected chemicals, that agency will reduce the use of selected hazardous substances or its generation of other pollutants, such as hazardous and radioactive waste types, at its facilities by 50 percent by December 31, 2006.

Sec. 206. Reductions in Ozone-Depleting Substances. Through evaluating present and future uses of ozone-depleting substances and maximizing the purchase and the use of safe, cost effective, and environmentally preferable alternatives, each agency shall develop a plan to phase out the procurement of Class I ozone-depleting substances for all nonexcepted uses by December 31, 2010.

Sec. 207. Environmentally and Economically Beneficial Landscaping. Each agency shall strive to promote the sustainable management of Federal facility lands through the implementation of cost-effective, environmentally sound landscaping practices, and programs to reduce adverse impacts to the natural environment.

PART 3--PLANNING AND ACCOUNTABILITY

Sec. 301. Annual Budget Submission. Federal agencies shall place high priority on obtaining funding and resources needed for implementation of the Greening the Government Executive Orders, including funding to address findings and recommendations from environmental management system audits or facility compliance audits conducted under sections 401 and 402 of this order. Federal agencies shall make such requests as required in Office of Management and Budget (OMB) Circular A-11.

Sec. 302. Application of Life Cycle Assessment Concepts. Each agency with facilities shall establish a pilot program to apply life cycle assessment and environmental cost accounting principles. To the maximum extent feasible and cost-effective, agencies shall apply those principles elsewhere in the agency to meet the goals and requirements of this order. Such analysis shall be considered in the process established in the OMB Capital Programming Guide and OMB Circular A-11. The Environmental Protection Agency (EPA), in coordination with the Workgroup established in section 306 of this order, shall, to the extent feasible, assist agencies in identifying, applying, and developing tools that reflect life cycle assessment and environmental cost accounting principles and provide technical assistance to agencies in developing life cycle assessments and environmental cost accounting assessments under this Part.

Sec. 303. Pollution Prevention to Address Compliance. Each agency shall ensure that its environmental regulatory compliance funding policies promote the use of pollution prevention to achieve and maintain environmental compliance at the agency's facilities. Agencies shall adopt a policy to preferentially use pollution prevention projects and activities to correct and prevent noncompliance with environmental regulatory requirements. Agency funding requests for facility compliance with Federal, State, and local environmental regulatory requirements shall emphasize pollution prevention through source reduction as the means of first choice to ensure compliance, with reuse and recycling alternatives having second priority as a means of compliance.

Sec. 304. Pollution Prevention Return-on-Investment Programs. Each agency shall develop and implement a pollution prevention program at its

facilities that compares the life cycle costs of treatment and/or disposal of waste and pollutant streams to the life cycle costs of alternatives that eliminate or reduce toxic chemicals or pollutants at the source. Each agency shall implement those projects that are life-cycle cost-effective, or otherwise offer substantial environmental or economic benefits.

Sec. 305. Policies, Strategies, and Plans.

- a. Within 12 months of the date of this order, each agency shall ensure that the goals and requirements of this order are incorporated into existing agency environmental directives, policies, and documents affected by the requirements and goals of this order. Where such directives and policies do not already exist, each agency shall, within 12 months of the date of this order, prepare and endorse a written agency environmental management strategy to achieve the requirements and goals of this order. Agency preparation of directives, policies, and documents shall reflect the nature, scale, and environmental impacts of the agency's activities, products, or services. Agencies are encouraged to include elements of relevant agency policies or strategies developed under this part in agency planning documents prepared under the Government Performance and Results Act of 1993, Public Law 103-62.
- b. By March 31, 2002, each agency shall ensure that its facilities develop a written plan that sets forth the facility's contribution to the goals and requirements established in this order. The plan should reflect the size and complexity of the facility. Where pollution prevention plans or other formal environmental planning instruments have been prepared for agency facilities, an agency may elect to update those plans to meet the requirements and goals of this section.
- c. The Federal Acquisition Regulation (FAR) Council shall develop acquisition policies and procedures for contractors to supply agencies with all information necessary for compliance with this order. Once the appropriate FAR clauses have been published, agencies shall use them in all applicable contracts. In addition, to the extent that compliance with this order is made more difficult due to lack of information from existing contractors, or concessioners, each agency shall take practical steps to obtain the information needed to comply with this order from such contractors or concessioners.

Sec. 306. Interagency Environmental Leadership Workgroup. Within 4 months of the date of this order, EPA shall convene and chair an Interagency Environmental Leadership Workgroup (the Workgroup) with senior-level representatives from all executive agencies and other interested independent Government agencies affected by this order. The Workgroup shall develop policies and guidance required by this order and member agencies shall facilitate implementation of the requirements of this order in their respective agencies. Workgroup members shall coordinate with their Agency Environmental Executive (AEE) designated under section 301(d) of Executive Order 13101 and may request the assistance of their AEE in resolving issues that may arise among members in developing policies and guidance related to this order. If the AEEs are unable to resolve the issues, they may request the assistance of the Chair of the Council on Environmental Quality (CEQ).

Sec. 307. Annual Reports. Each agency shall submit an annual progress report to the Administrator on implementation of this order. The reports shall include a description of the progress that the agency has made in complying with all aspects of this order, including, but not limited to, progress in achieving the reduction goals in sections 502, 503, and 505 of this order.

Each agency may prepare and submit the annual report in electronic format. A copy of the report shall be submitted to the Federal Environmental Executive (FEE) by EPA for use in the biennial Greening the Government Report to the President prepared in accordance with Executive Order 13101. Within 9 months of the date of this order, EPA, in coordination with the Workgroup established under section 306 of this order, shall prepare guidance regarding the information and timing for the annual report. The Workgroup shall coordinate with those agencies responsible for Federal agency reporting guidance under the Greening the Government Executive orders to streamline reporting requirements and reduce agency and facility-level reporting burdens. The first annual report shall cover calendar year 2000 activities.

PART 4--PROMOTING ENVIRONMENTAL MANAGEMENT AND LEADERSHIP

Sec. 401. Agency and Facility Environmental Management Systems. To attain the goals of section 201 of this order:

- a. Within 18 months of the date of this order, each agency shall conduct an agency-level environmental management system self assessment based on the Code of Environmental Management Principles for Federal Agencies developed by the EPA (61 Fed. Reg. 54062) and/or another appropriate environmental management system framework. Each assessment shall include a review of agency environmental leadership goals, objectives, and targets. Where appropriate, the assessments may be conducted at the service, bureau, or other comparable level.
- b. Within 24 months of the date of this order, each agency shall implement environmental management systems through pilot projects at selected agency facilities based on the Code of Environmental Management Principles for Federal Agencies and/or another appropriate environmental management system framework. By December 31, 2005, each agency shall implement an environmental management system at all appropriate agency facilities based on facility size, complexity, and the environmental aspects of facility operations. The facility environmental management system shall include measurable environmental goals, objectives, and targets that are reviewed and updated annually. Once established, environmental management system performance measures shall be incorporated in agency facility audit protocols.

Sec. 402. Facility Compliance Audits. To attain the goals of section 202 of this order:

- a. Within 12 months of the date of this order, each agency that does not have an established regulatory environmental compliance audit program shall develop and implement a program to conduct facility environmental compliance audits and begin auditing at its facilities within 6 months of the development of that program.
- b. An agency with an established regulatory environmental compliance audit program may elect to conduct environmental management system audits in lieu of regulatory environmental compliance audits at selected facilities.
- c. Facility environmental audits shall be conducted periodically. Each agency is encouraged to conduct audits not less than every 3 years from the date of the initial or previous audit. The scope and frequency of audits shall be based on facility size, complexity, and the environmental aspects of facility operations. As appropriate, each

agency shall include tenant, contractor, and concessioner activities in facility audits.

- d. Each agency shall conduct internal reviews and audits and shall take such other steps, as may be necessary, to monitor its facilities' compliance with sections 501 and 504 of this order.
- e. Each agency shall consider findings from the assessments or audits conducted under Part 4 in program planning under section 301 of this order and in the preparation and revisions to facility plans prepared under section 305 of this order.
- f. Upon request and to the extent practicable, the EPA shall provide technical assistance in meeting the requirements of Part 4 by conducting environmental management reviews at Federal facilities and developing policies and guidance for conducting environmental compliance audits and implementing environmental management systems at Federal facilities.

Sec. 403. Environmental Leadership and Agency Awards Programs.

- a. Within 12 months of the date of this order, the Administrator shall establish a Federal Government environmental leadership program to promote and recognize outstanding environmental management performance in agencies and facilities.
- b. Each agency shall develop an internal agency- wide awards program to reward and highlight innovative programs and individuals showing outstanding environmental leadership in implementing this order. In addition, based upon criteria developed by the EPA in coordination with the Workgroup established in section 306 of this order, Federal employees who demonstrate outstanding leadership in implementation of this order may be considered for recognition under the White House awards program set forth in section 803 of Executive Order 13101 of September 14, 1998.

Sec. 404. Management Leadership and Performance Evaluations.

- a. To ensure awareness of and support for the environmental requirements of this order, each agency shall include training on the provisions of the Greening the Government Executive orders in standard senior level management training as well as training for program managers, contracting personnel, procurement and acquisition personnel, facility managers, contractors, concessioners, and other personnel as appropriate. In coordination with the Workgroup established under section 306 of this order, the EPA shall prepare guidance on implementation of this section.
- b. To recognize and reinforce the responsibilities of facility and senior headquarters program managers, regional environmental coordinators and officers, their superiors, and, to the extent practicable and appropriate, others vital to the implementation of this order, each agency shall include successful implementation of pollution prevention, community awareness, and environmental management into its position descriptions and performance evaluations for those positions.

Sec. 405. Compliance Assistance.

- a. Upon request and to the extent practicable, the EPA shall provide technical advice and assistance to agencies to foster full compliance

with environmental regulations and all aspects of this order.

- b. Within 12 months of the date of this order, the EPA shall develop a compliance assistance center to provide technical assistance for Federal facility compliance with environmental regulations and all aspects of this order.
- c. To enhance landscaping options and awareness, the United States Department of Agriculture (USDA) shall provide information on the suitability, propagation, and the use of native plants for landscaping to all agencies and the general public by USDA in conjunction with the center under subsection (b) of this section. In implementing Part 6 of this order, agencies are encouraged to develop model demonstration programs in coordination with the USDA.

Sec. 406. Compliance Assurance.

- a. In consultation with other agencies, the EPA may conduct such reviews and inspections as may be necessary to monitor compliance with sections 501 and 504 of this order. Each agency is encouraged to cooperate fully with the efforts of the EPA to ensure compliance with those sections.
- b. Whenever the Administrator notifies an agency that it is not in compliance with section 501 or 504 of this order, the agency shall provide the EPA a detailed plan for achieving compliance as promptly as practicable.
- c. The Administrator shall report annually to the President and the public on agency compliance with the provisions of sections 501 and 504 of this order.

Sec. 407. Improving Environmental Management. To ensure that government-wide goals for pollution prevention are advanced, each agency is encouraged to incorporate its environmental leadership goals into its Strategic and Annual Performance Plans required by the Government Performance and Results Act of 1993, Public Law 103-62, starting with performance plans accompanying the FY 2002 budget.

PART 5--EMERGENCY PLANNING, COMMUNITY RIGHT-TO-KNOW, AND POLLUTION PREVENTION

Sec. 501. Toxics Release Inventory/Pollution Prevention Act Reporting. To attain the goals of section 203 of this order:

- a. Each agency shall comply with the provisions set forth in section 313 of EPCRA, section 6607 of PPA, all implementing regulations, and future amendments to these authorities, in light of applicable EPA guidance.
- b. Each agency shall comply with these provisions without regard to the Standard Industrial Classification (SIC) or North American Industrial Classification System (NAICS) delineations. Except as described in subsection (d) of this section, all other existing statutory or regulatory limitations or exemptions on the application of EPCRA section 313 to specific activities at specific agency facilities apply to the reporting requirements set forth in subsection (a) of this section.
- c. Each agency required to report under subsection (a) of this section shall do so using electronic reporting as provided in EPA's EPCRA section 313 guidance.

- d. Within 12 months of the date of this order, the Administrator shall review the impact on reporting of existing regulatory exemptions on the application of EPCRA section 313 at Federal facilities. Where feasible, this review shall include pilot studies at Federal facilities. If the review indicates that application of existing exemptions to Federal Government reporting under this section precludes public reporting of substantial amounts of toxic chemicals under subsection 501(a), the EPA shall prepare guidance, in coordination with the Workgroup established under section 306 of this order, clarifying application of the exemptions at Federal facilities. In developing the guidance, the EPA should consider similar application of such regulatory limitations and exemptions by the private sector. To the extent feasible, the guidance developed by the EPA shall be consistent with the reasonable application of such regulatory limitations and exemptions in the private sector. The guidance shall ensure reporting consistent with the goal of public access to information under section 313 of EPCRA and section 6607 of PPA. The guidance shall be submitted to the AEEs established under section 301(d) of Executive Order 13101 for review and endorsement. Each agency shall apply any guidance to reporting at its facilities as soon as practicable but no later than for reporting for the next calendar year following release of the guidance.
- e. The EPA shall coordinate with other interested Federal agencies to carry out pilot projects to collect and disseminate information about the release and other waste management of chemicals associated with the environmental response and restoration at their facilities and sites. The pilot projects will focus on releases and other waste management of chemicals associated with environmental response and restoration at facilities and sites where the activities generating wastes do not otherwise meet EPCRA section 313 thresholds for manufacture, process, or other use. Each agency is encouraged to identify applicable facilities and voluntarily report under subsection (a) of this section the releases and other waste management of toxic chemicals managed during environmental response and restoration, regardless of whether the facility otherwise would report under subsection (a). The releases and other waste management of chemicals associated with environmental response and restoration voluntarily reported under this subsection will not be included in the accounting established under sections 503(a) and (c) of this order.

Sec. 502. Release Reduction: Toxic Chemicals. To attain the goals of section 204 of this order:

- a. Beginning with reporting for calendar year 2001 activities, each agency reporting under section 501 of this order shall adopt a goal of reducing, where cost effective, the agency's total releases of toxic chemicals to the environment and off-site transfers of such chemicals for treatment and disposal by at least 10 percent annually, or by 40 percent overall by December 31, 2006. Beginning with activities for calendar year 2001, the baseline for measuring progress in meeting the reduction goal will be the aggregate of all such releases and off-site transfers of such chemicals for treatment and disposal as reported by all of the agency's facilities under section 501 of this order. The list of toxic chemicals applicable to this goal is the EPCRA section 313 list as of December 1, 2000. If an agency achieves the 40 percent reduction goal prior to December 31, 2006, that agency shall establish a new baseline and reduction goal based on agency priorities.
- b. Where an agency is unable to pursue the reduction goal established in subsection (a) for certain chemicals that are mission critical and/or needed to protect human health and the environment or where

agency off-site transfer of toxic chemicals for treatment is directly associated with environmental restoration activities, that agency may request a waiver from the EPA for all or part of the requirement in subsection (a) of this section. As appropriate, waiver requests must provide: (1) an explanation of the mission critical use of the chemical; (2) an explanation of the nature of the need for the chemical to protect human health; (3) a description of efforts to identify a less harmful substitute chemical or alternative processes to reduce the release and transfer of the chemical in question; and (4) a description of the off-site transfers of toxic chemicals for treatment directly associated with environmental restoration activities. The EPA shall respond to the waiver request within 90 days and may grant such a waiver for no longer than 2 years. An agency may resubmit a request for waiver at the end of that period. The waiver under this section shall not alter requirements to report under section 501 of this order.

- c. Where a specific component (e.g., bureau, service, or command) within an agency achieves a 75 percent reduction in its 1999 reporting year publicly reported total releases of toxic chemicals to the environment and off-site transfers of such chemicals for treatment and disposal, based on the 1994 baseline established in Executive Order 12856, that agency may independently elect to establish a reduction goal for that component lower than the 40 percent target established in subsection (a) of this section. The agency shall formally notify the Workgroup established in section 306 of this order of the elected reduction target.

Sec. 503. Use Reduction: Toxic Chemicals, Hazardous Substances, and Other Pollutants. To attain the goals of section 205 of this order:

- a. Within 18 months of the date of this order, each agency with facilities shall develop and support goals to reduce the use at such agencies' facilities of the priority chemicals on the list under subsection (b) of this section for identified applications and purposes, or alternative chemicals and pollutants the agency identifies under subsection (c) of this section, by at least 50 percent by December 31, 2006.
- b. Within 9 months of the date of this order the Administrator, in coordination with the Workgroup established in section 306 of this order, shall develop a list of not less than 15 priority chemicals used by the Federal Government that may result in significant harm to human health or the environment and that have known, readily available, less harmful substitutes for identified applications and purposes. In addition to identifying the applications and purposes to which such reductions apply, the Administrator, in coordination with the Workgroup shall identify a usage threshold below which this section shall not apply. The chemicals will be selected from listed EPCRA section 313 toxic chemicals and, where appropriate, other regulated hazardous substances or pollutants. In developing the list, the Administrator, in coordination with the Workgroup shall consider: (1) environmental factors including toxicity, persistence, and bio-accumulation; (2) availability of known, less environmentally harmful substitute chemicals that can be used in place of the priority chemical for identified applications and purposes; (3) availability of known, less environmentally harmful processes that can be used in place of the priority chemical for identified applications and purposes; (4) relative costs of alternative chemicals or processes; and (5) potential risk and environmental and human exposure based upon applications and uses of the chemicals by Federal agencies and facilities. In identifying alternatives, the Administrator should take into consideration the guidance issued under section 503 of Executive Order 13101.

- c. If an agency, which has facilities required to report under EPCRA, uses at its facilities less than five of the priority chemicals on the list developed in subsection (b) of this section for the identified applications and purposes, the agency shall develop, within 12 months of the date of this order, a list of not less than five chemicals that may include priority chemicals under subsection (b) of this section or other toxic chemicals, hazardous substances, and/or other pollutants the agency uses or generates, the release, transfer or waste management of which may result in significant harm to human health or the environment.
- d. In lieu of requirements under subsection (a) of this section, an agency may, upon concurrence with the Workgroup established under section 306 of this order, develop within 12 months of the date of this order, a list of not less than five priority hazardous or radioactive waste types generated by its facilities. Within 18 months of the date of this order, the agency shall develop and support goals to reduce the agency's generation of these wastes by at least 50 percent by December 31, 2006. To the maximum extent possible, such reductions shall be achieved by implementing source reduction practices.
- e. The baseline for measuring reductions for purposes of achieving the 50 percent reduction goal in subsections (a) and (d) of this section for each agency is the first calendar year following the development of the list of priority chemicals under subsection (b) of this section.
- f. Each agency shall undertake pilot projects at selected facilities to gather and make publicly available materials accounting data related to the toxic chemicals, hazardous substances, and/or other pollutants identified under subsections (b), (c), or (d) of this section.
- g. Within 12 months of the date of this order, the Administrator shall develop guidance on implementing this section in coordination with the Workgroup. The EPA shall develop technical assistance materials to assist agencies in meeting the 50 percent reduction goal of this section.
- h. Where an agency can demonstrate to the Workgroup that it has previously reduced the use of a priority chemical identified in subsection 503(b) by 50 percent, then the agency may elect to waive the 50 percent reduction goal for that chemical.

Sec. 504. Emergency Planning and Reporting Responsibilities. Each agency shall comply with the provisions set forth in sections 301 through 312 of the EPCRA, all implementing regulations, and any future amendments to these authorities, in light of any applicable guidance as provided by the EPA.

Sec. 505. Reductions in Ozone-Depleting Substances. To attain the goals of section 206 of this order:

- a. Each agency shall ensure that its facilities: (1) maximize the use of safe alternatives to ozone-depleting substances, as approved by the EPA's Significant New Alternatives Policy (SNAP) program; (2) consistent with subsection (b) of this section, evaluate the present and future uses of ozone-depleting substances, including making assessments of existing and future needs for such materials, and evaluate use of, and plans for recycling, refrigerants, and halons; and (3) exercise leadership, develop exemplary practices, and disseminate information on successful efforts in phasing out ozone-depleting substances.

- b. Within 12 months of the date of this order, each agency shall develop a plan to phase out the procurement of Class I ozone-depleting substances for all nonexcepted uses by December 31, 2010. Plans should target cost effective reduction of environmental risk by phasing out Class I ozone depleting substance applications as the equipment using those substances reaches its expected service life. Exceptions to this requirement include all exceptions found in current or future applicable law, treaty, regulation, or Executive order.
- c. Each agency shall amend its personal property management policies and procedures to preclude disposal of ozone depleting substances removed or reclaimed from its facilities or equipment, including disposal as part of a contract, trade, or donation, without prior coordination with the Department of Defense (DoD). Where the recovered ozone-depleting substance is a critical requirement for DoD missions, the agency shall transfer the materials to the DoD. The DoD will bear the costs of such transfer.

PART 6--LANDSCAPING MANAGEMENT PRACTICES

Sec. 601. Implementation.

- a. Within 12 months from the date of this order, each agency shall incorporate the Guidance for Presidential Memorandum on Environmentally and Economically Beneficial Landscape Practices on Federal Landscaped Grounds (60 Fed. Reg. 40837) developed by the FEE into landscaping programs, policies, and practices.
- b. Within 12 months of the date of this order, the FEE shall form a workgroup of appropriate Federal agency representatives to review and update the guidance in subsection (a) of this section, as appropriate.
- c. Each agency providing funding for nonfederal projects involving landscaping projects shall furnish funding recipients with information on environmentally and economically beneficial landscaping practices and work with the recipients to support and encourage application of such practices on Federally funded projects.

Sec. 602. Technical Assistance and Outreach. The EPA, the General Services Administration (GSA), and the USDA shall provide technical assistance in accordance with their respective authorities on environmentally and economically beneficial landscaping practices to agencies and their facilities.

PART 7--ACQUISITION AND PROCUREMENT

Sec. 701. Limiting Procurement of Toxic Chemicals, Hazardous Substances, and Other Pollutants.

- a. Within 12 months of the date of this order, each agency shall implement training programs to ensure that agency procurement officials and acquisition program managers are aware of the requirements of this order and its applicability to those individuals.
- b. Within 24 months of the date of this order, each agency shall determine the feasibility of implementing centralized procurement and distribution (e.g., "pharmacy") programs at its facilities for tracking, distribution, and management of toxic or hazardous materials and, where appropriate, implement such programs.

- c. Under established schedules for review of standardized documents, DoD and GSA, and other agencies, as appropriate, shall review their standardized documents and identify opportunities to eliminate or reduce their use of chemicals included on the list of priority chemicals developed by the EPA under subsection 503(b) of this order, and make revisions as appropriate.
- d. Each agency shall follow the policies and procedures for toxic chemical release reporting in accordance with FAR section 23.9 effective as of the date of this order and policies and procedures on Federal compliance with right-to-know laws and pollution prevention requirements in accordance with FAR section 23.10 effective as of the date of this order.

Sec. 702. Environmentally Benign Adhesives. Within 12 months after environmentally benign pressure sensitive adhesives for paper products become commercially available, each agency shall revise its specifications for paper products using adhesives and direct the purchase of paper products using those adhesives, whenever technically practicable and cost effective. Each agency should consider products using the environmentally benign pressure sensitive adhesives approved by the U.S. Postal Service (USPS) and listed on the USPS Qualified Products List for pressure sensitive recyclable adhesives.

Sec. 703. Ozone-Depleting Substances. Each agency shall follow the policies and procedures for the acquisition of items that contain, use, or are manufactured with ozone-depleting substances in accordance with FAR section 23.8 and other applicable FAR provisions.

Sec. 704. Environmentally and Economically Beneficial Landscaping Practices.

- a. Within 18 months of the date of this order, each agency shall have in place acquisition and procurement practices, including provision of landscaping services that conform to the guidance referred to in section 601 of this order, for the use of environmentally and economically beneficial landscaping practices. At a minimum, such practices shall be consistent with the policies in the guidance referred to in section 601 of this order.
- b. In implementing landscaping policies, each agency shall purchase environmentally preferable and recycled content products, including EPA-designated items such as compost and mulch, that contribute to environmentally and economically beneficial practices.

PART 8--EXEMPTIONS

Sec. 801. National Security Exemptions. Subject to subsection 902(c) of this order and except as otherwise required by applicable law, in the interest of national security, the head of any agency may request from the President an exemption from complying with the provisions of any or all provisions of this order for particular agency facilities, provided that the procedures set forth in section 120(j)(1) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. 9620(j)(1)), are followed, with the following exceptions: (a) an exemption issued under this section will be for a specified period of time that may exceed 1 year; (b) notice of any exemption granted under this section for provisions not otherwise required by law is only required to the Director of OMB, the Chair of the CEQ, and the Director of the National Security Council; and (c) an exemption under this section may be issued due to lack of appropriations, provided that the head of the agency requesting the exemption shows that necessary funds were requested by the agency in its

budget submission and agency plan under Executive Order 12088 of October 13, 1978, and were not contained in the President's budget request or the Congress failed to make available the requested appropriation. To the maximum extent practicable, and without compromising national security, each agency shall strive to comply with the purposes, goals, and implementation steps in this order. Nothing in this order affects limitations on the dissemination of classified information pursuant to law, regulation, or Executive order.

Sec. 802. Compliance. After January 1, 2002, OMB, in consultation with the Chair of the Workgroup established by section 306 of this order, may modify the compliance requirements for an agency under this order, if the agency is unable to comply with the requirements of the order. An agency requesting modification must show that it has made substantial good faith efforts to comply with the order. The cost- effectiveness of implementation of the order can be a factor in OMB's decision to modify the requirements for that agency's compliance with the order.

PART 9--GENERAL PROVISIONS

Sec. 901. Revocation. Executive Order 12843 of April 21, 1993, Executive Order 12856 of August 3, 1993, the Executive Memorandum on Environmentally Beneficial Landscaping of April 26, 1994, Executive Order 12969 of August 8, 1995, and section 1-4. "Pollution Control Plan" of Executive Order 12088 of October 13, 1978, are revoked.

Sec. 902. Limitations.

- a. This order is intended only to improve the internal management of the executive branch and is not intended to create any right, benefit, or trust responsibility, substantive or procedural, enforceable at law by a party against the United States, its agencies, its officers, or any other person.
- b. This order applies to Federal facilities in any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Northern Mariana Islands, and any other territory or possession over which the United States has jurisdiction. Each agency with facilities outside of these areas, however, is encouraged to make best efforts to comply with the goals of this order for those facilities.
- c. Nothing in this order alters the obligations under EPCRA, PPA, and CAA independent of this order for Government-owned, contractor-operated facilities and Government corporations owning or operating facilities or subjects such facilities to EPCRA , PPA, or CAA if they are otherwise excluded. However, each agency shall include the releases and other waste management of chemicals for all such facilities to meet the agency's reporting responsibilities under section 501 of this order.
- d. Nothing in this order shall be construed to make the provisions of CAA sections 304 and EPCRA sections 325 and 326 applicable to any agency or facility, except to the extent that an agency or facility would independently be subject to such provisions.

Sec. 903. Community Outreach. Each agency is encouraged to establish a process for local community advice and outreach for its facilities relevant to aspects of this and other related Greening the Government Executive orders. All strategies and plans developed under this order shall be made available to the public upon request.

PART 10--DEFINITIONS

For purposes of this order:

Sec. 1001. General. Terms that are not defined in this part but that are defined in Executive Orders 13101 and 13123 have the meaning given in those Executive orders. For the purposes of Part 5 of this order all definitions in EPCRA and PPA and implementing regulations at 40 CFR Parts 370 and 372 apply.

Sec. 1002. "Administrator" means the Administrator of the EPA.

Sec. 1003. "Environmental cost accounting" means the modification of cost attribution systems and financial analysis practices specifically to directly track environmental costs that are traditionally hidden in overhead accounts to the responsible products, processes, facilities or activities.

Sec. 1004. "Facility" means any building, installation, structure, land, and other property owned or operated by, or constructed or manufactured and leased to, the Federal Government, where the Federal Government is formally accountable for compliance under environmental regulation (e.g., permits, reports/ records and/or planning requirements) with requirements pertaining to discharge, emission, release, spill, or management of any waste, contaminant, hazardous chemical, or pollutant. This term includes a group of facilities at a single location managed as an integrated operation, as well as government owned contractor operated facilities.

Sec. 1005. "Environmentally benign pressure sensitive adhesives" means adhesives for stamps, labels, and other paper products that can be easily treated and removed during the paper recycling process.

Sec. 1006. "Ozone-depleting substance" means any substance designated as a Class I or Class II substance by EPA in 40 CFR Part 82.

Sec. 1007. "Pollution prevention" means "source reduction," as defined in the PPA, and other practices that reduce or eliminate the creation of pollutants through: (a) increased efficiency in the use of raw materials, energy, water, or other resources; or (b) protection of natural resources by conservation.

Sec. 1008. "Greening the Government Executive orders" means this order and the series of orders on greening the government including Executive Order 13101 of September 14, 1998, Executive Order 13123 of June 3, 1999, Executive Order 13134 of August 12, 1999, and other future orders as appropriate.

Sec. 1009. "Environmental aspects" means the elements of an organization's activities, products, or services that can interact with the environment.

(Presidential Sig.)

THE WHITE HOUSE,

April 21, 2000.

ENH25



Native Florida Plants for Home Landscapes ¹

R. J. Black²

Of all the states, Florida has the greatest wealth of native plants for use in the average rural or urban home landscape. Native plants desirable for home use range from the spectacular southern magnolia to the miniature creeping vine of the partridge berry. The state has nearly half of the species of trees available in North America north of Mexico. So many of Florida's native plants are useful that the tables included here list only those with the greatest potential landscape use.

Native plants are equally practical and attractive on rural and urban home grounds. You may already know and appreciate some native plants but be unfamiliar with many others that could be used freely. Native plants are adapted to the climate and soil conditions of a given area and usually have fewer pest problems. Therefore their use in landscaping can decrease maintenance. Some plants have specific growth requirements; others thrive under a variety of climatic and soil conditions. You need to consider the native habitat of a plant and plan its use in a similar environment.

Remember that Florida's native wild plants are protected under the Plant Protection Law.[†] Under this law both preservation and propagation are

encouraged. It is against the law to destroy, injure, harvest, collect, pick or remove any plants covered by the law without prior written permission from the landowner or legal occupant of the land. Another Florida law specifically protects sea oats and sea grapes. It is against the law to dig up or remove these plants whose growth helps prevent beach erosion. Some nurseries stock native plants.

In the tables of native Florida plants included here, plants are first grouped by type such as ground cover or small tree. Within a type they are listed alphabetically by common name.

- **Table 1 .** Ground Covers.
- **Table 2 .** Vines.
- **Table 3 .** Shrubs.
- **Table 4 .** Small Trees.
- **Table 5 .** Large Trees.
- **Table 6 .** Palms.

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2. Robert J. Black, professor emeritus, extension consumer horticulturist, Department of Environmental Horticulture, Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, 32611.

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Endnote

[†] **Note on Plant Protection Law:** Section 581.185 of the Florida Statutes is an act to preserve the state's native trees and plants. Section 370.041 prohibits the removal or digging up of sea oats and sea grapes. Copies of the entire law and the plant list are available on request from the Florida Department of Agriculture, Division of Plant Industry, P. O. Box 1269, Gainesville, Florida 32601.

Native Florida Plants for Home Landscapes 3

Table 1. Native Florida Plants for Home Landscapes: Ground Covers.

Common Name Scientific Name	Section of State to Which Adapted ¹	Height	Foliage ²	Flower Color	Flowering Season	Light Req. ³	Soil Req.	Salt Spray Tol. ⁴
Dichondra, penny grass <i>Dichondra carolinensis</i>	S	2 inches	E	Inconspicuous	--	Sn	Moist	+
Native Habitat: Hammocks over entire state. Landscape Uses: Edging, mass.								
Gopher apple <i>Licania michauxii</i>	NCS	3-12 inches	E	White, pink	Spring, summer	Sn	Dry	+
Native Habitat: Pinelands and sand dunes over entire state. Landscape Uses: Coastal locations.								
Partridge berry <i>Mitchella repens</i>	NC	1-2 inches	E	White	Spring	S	Moist, acid	+
Native Habitat: Moist, acid sites in north central Florida. Landscape Uses: Edging, mass.								
Railroad vine <i>Ipomoea pescaprae</i>	CS	4 inches	E	Pinkish lavender	Summer	Sn	Well drained	+
Native Habitat: Sandy shores. Landscape Uses: Coastal locations.								
Boston fern <i>Nephrolepis exaltata</i>	CS	18-36 inches	E	Inconspicuous	--	Pt Sh to Sh	Moist	-
Native Habitat: Moist hammocks. Landscape Uses: Mass; hanging basket.								
¹ Section of State to Which Adapted: N = north Florida - Pensacola to Jacksonville and south Ocala; C = central Florida - Leesburg south to Punta Gorda and Fort Pierce; S = south Florida - Stuart to Fort Myers and south to Homestead; CS = entire state								
² Foliage: E = evergreen; SEV = semi-evergreen; D = deciduous								
³ Light Requirement: Sn = sun; Sh = shade; Pt Sh = partial shade								
⁴ Salt Spray Tolerance: + = tolerant, exact degree of tolerance unknown for most native plants; - = not tolerant; ? = tolerance unknown								

Table 2. Native Florida Plants for Home Landscapes: Vines.

Common Name Scientific Name	Section of State to Which Adapted ¹	Height	Foliage ²	Flower Color	Flowering Season	Light Req. ³	Soil Req.	Salt Spray Tol. ⁴
Carolina yellow jessamine <i>Gelsemium sempervirens</i>	NC	20 feet	SEV	Yellow	Spring	Sn to Pt Sh	Average	-
Native Habitat: Woodlands south to Osceola county. Landscape Uses: Trellis, fence.								

Native Florida Plants for Home Landscapes

Table 2. Native Florida Plants for Home Landscapes: Vines.

Common Name Scientific Name	Section of State to Which Adapted ¹	Height	Foliage ²	Flower Color	Flowering Season	Light Req. ³	Soil Req.	Salt Spray Tol. ⁴
Southern honeysuckle <i>Lonicera sempervirens</i>	NC	20 feet	D	Red	Summer	Sn to Pt Sh	Any except light sands	-
Native Habitat: Pine flatwoods in northwestern Florida. Landscape Uses: Screen.								
Trumpet creeper <i>Campsis radicans</i>	NC	50 feet	D	Orange	Spring to summer	Sh	Any except alkaline	-
Native Habitat: Throughout north and central Florida, except on alkaline soils. Landscape Uses: Screen.								
Virginia creeper, <i>Parthenocissus quinquefolia</i>	N	30 feet	SEV	Inconspicuous	--	SN	Average	?
Native Habitat: Pine flatwoods over entire state. Landscape Uses: Fences; on trees.								
¹ Section of State to Which Adapted: N = north Florida - Pensacola to Jacksonville and south Ocala; C = central Florida - Leesburg south to Punta Gorda and Fort Pierce; S = south Florida - Stuart to Fort Myers and south to Homestead; CS = entire state								
² Foliage: E = evergreen; SEV = semi-evergreen; D = deciduous								
³ Light Requirement: Sn = sun; Sh = shade; Pt Sh = partial shade								
⁴ Salt Spray Tolerance: + = tolerant, exact degree of tolerance unknown for most native plants; - = not tolerant; ? = tolerance unknown								

Table 3. Native Florida Plants for Home Landscapes: Shrubs.

Common Name Scientific Name	Section of State to Which Adapted ¹	Height	Foliage ²	Flower Color	Flowering Season and Fruit Color	Light Req. ³	Soil	Salt Spray Tol. ⁴
Small shrubs								
Adam's needle, beargrass <i>Yucca smalliana</i>	NCS	4 feet	E	White	Summer	Sh	Any	+
Native Habitat: Flatwoods in northwest Florida. Landscape Uses: Rock gardens; background.								
Coontie <i>Zamia floridana</i>	NCS	3 feet	E	--	Orange seed in winter	Sn to Sh	Any if well drained	+
Native Habitat: Pinelands and flatwoods of northcentral Florida. Landscape Uses: Border.								

Native Florida Plants for Home Landscapes

Table 3. Native Florida Plants for Home Landscapes: Shrubs.


Common Name <i>Scientific Name</i>	Section of State to Which Adapted ¹	Height	Foliage ²	Flower Color	Flowering Season and Fruit Color	Light Req. ³	Soil	Salt Spray Tol. ⁴
Eastern coralbean <i>Erythrina herbacea</i>	NCS	4 feet	D	Red	Spring; red seeds in fall	Pt Sh	Average	-
Medium shrubs								
Native Habitat: Hammocks over the entire state. Landscape Uses: In front of large shrubs.								
American beautybush <i>Callicarpa americana</i>	NC	8 feet	D	Purple	Spring; purple fruit in fall	Pt Sh	Well drained	-
Native Habitat: Hammocks and rich woodlands in northcentral Florida. Landscape Uses: Mass.								
Fetterbush <i>Lyonia lucida</i>	NC	6 feet	E	White	Spring	Pt Sh	Average	?
Native Habitat: Entire state. Landscape Uses: Screen.								
Firebush <i>Hamelia patens</i>	CS	10 feet	E	Red	Year round; black fruit year round	Sn to Pt Sh	Average	+
Native Habitat: Throughout central and south Florida. Landscape Uses: Foundation, base screen.								
Gallberry <i>Ilex glabra</i>	NCS	10 feet	E	--	Black fruit in winter	Sn to Pt Sh	Acid, wet	+
Native Habitat: Flatwoods over entire state. Landscape Uses: Trimmed hedges, foundation.								
Inkberry <i>Scaevola plumieri</i>	S	6 feet	E	White	Spring and summer	Sn	Dry	+
Native Habitat: Coasts of southern Florida. Landscape Uses: Coastal locations.								
Oakleaf hydrangea <i>Hydrangea quercifolia</i>	N	6 feet	D	White	Summer	Pt Sh	Acid, well drained	-
Native Habitat: Flatwoods and swamps of northwestern Florida. Landscape Uses: Mass.								
Sea lavender <i>Tournefortia gnaphalodes</i>	S	6 feet	E	White	Year round; black fruit year round	Sn	Sand	+
Native Habitat: Beaches and sand dunes. Landscape Uses: Coastal conditions.								
Strawberry bush <i>Euonymus americana</i>	N	8 feet	D	Pink	Summer	Sn to Pt Sh	Average	?
Native Habitat: Rich woodlands in northern Florida. Landscape Uses: Foundation.								


**Help save our beautiful
and environmentally valuable
native cypress.**


**Spread the word
and spread the right kinds
of mulch!**



Notes:

 National Audubon Society's Corkscrew Swamp Sanctuary in central Florida contains the world's largest remaining old-growth Bald Cypress forest. In north Florida you can see some very large old cypress trees in Florida's first state forest, Pine Log State Forest.

 Several counties in Florida restrict cypress mulch use. This is done by ordinances, land development codes or regulations. Dade County's code for new developments #1897-15(G)(3) even says, "cypress mulch shall not be used because its harvest degrades cypress wetlands." And Florida Department of Transportation Standard Specifications for Road and Bridge Construction #580-8 says, "no cypress mulch is allowed."

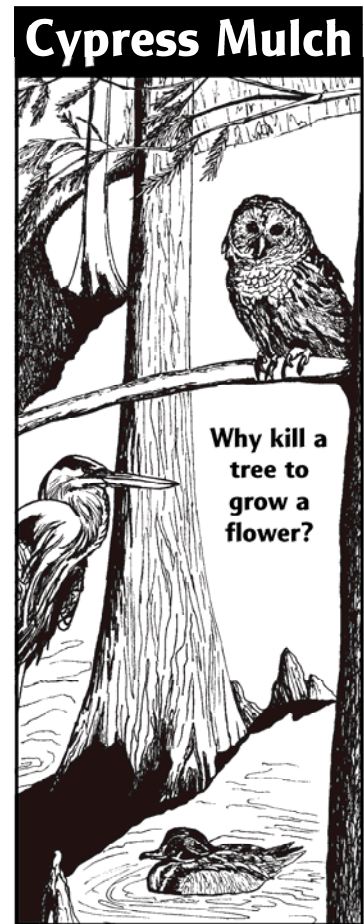
 There is more evidence that cypress does not make the best mulch. According to the Florida Cooperative Extension Service's March 1994 Fact Sheet ENH 103, "When dry, cypress mulch repels water, making it difficult to wet, particularly if it is on a mound or slope." Moreover, once it is wet "cypress mulch appears to have a high water-holding capacity that may reduce the amount of water reaching the plant root zone."

This brochure was written by Barbara Waddell and the Pepper Patrol of Ruskin, Florida. Illustrations by Susan Johnston (www.artworkbysusan.com).

Graphic Design by Mariella Johns Smith (<http://home.earthlink.net/~insightwebsite>).
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Suncoast Native Plant Society, Inc.
P.O. Box 82893
Tampa, FL 33682-2893

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In any garden supply or nursery store you're likely to see bags and bags of cypress mulch for sale. Did you ever stop to think about the resulting fate of our magnificent Florida cypress tree?

The unique cypress forest is a beautiful Florida treasure with an important ecological role. It naturally filters pollutants and serves as a reservoir for flood-water, and so it is essential for protecting ground water—quality and quantity. It is a prime habitat for woodpeckers, wood storks, limpkins, several types of owls, opossums, bobcats, and wood ducks. Cypress forests protect our wildlife and our wetlands.

Almost all of Florida's old-growth cypress forests are gone now. They were clear-cut for lumber decades ago. Most of the cypress stands we see today are relatively young trees. You may be fortunate to still see examples of huge old-growth cypress in a very few nature preserves. They can live up to 1500 years and grow up to 150 feet tall and 25 feet in girth.¹

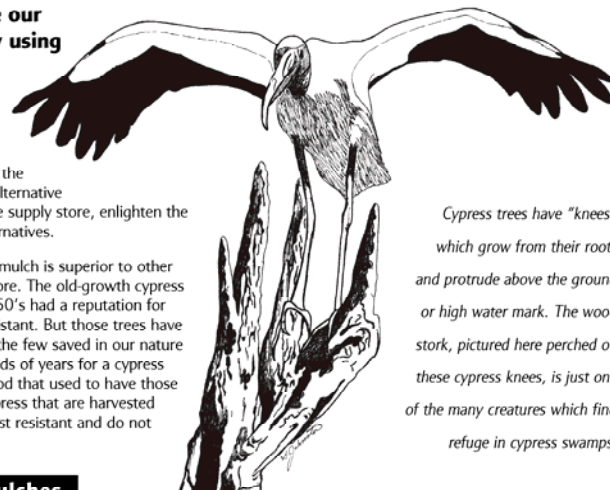
Thousands of acres of cypress are logged every year simply to produce mulch. Most of Florida's cypress sawmills are mulch mills, grinding the entire tree in large chippers, producing nothing but mulch. Cypress mulch used to be produced mainly as a by-product of lumber operations, but the increasing demand for mulch has led to the use of whole trees—whole forests—for nothing but mulch.

Cypress mulch is being clear-cut from our native wetlands and the destroyed cypress trees are not being replanted. (Establishing the proper hydrology for cypress seed germination is difficult and rarely accomplished by anyone but Mother Nature.) When a cypress area is clear-cut and bare, that land is easily taken over by invasive pest plants such as Brazilian pepper. Sometimes the land is planted in pine for future logging, or drained for development. Either way, the cypress forest and its wetland and wildlife are lost forever.

You can help save our cypress forests by using environmentally friendly mulch

for your home and business landscaping, and by asking your friends and county government to do the same.² If you don't find alternative mulches at your landscape supply store, enlighten the manager and request alternatives.

The old idea that cypress mulch is superior to other mulches is not true anymore. The old-growth cypress harvested prior to the 1950's had a reputation for being rot- and termite-resistant. But those trees have all been taken except for the few saved in our nature preserves. It takes hundreds of years for a cypress tree to grow the heartwood that used to have those properties. The young cypress that are harvested today are not decay or pest resistant and do not make a superior mulch.³



Cypress trees have "knees" which grow from their roots and protrude above the ground or high water mark. The wood stork, pictured here perched on these cypress knees, is just one of the many creatures which find refuge in cypress swamps.

Alternative Mulches

Recycled Yard Waste

Mulch made by your county or city from recycled urban plant debris is very inexpensive (or even free in some areas). To locate your closest source, contact your Solid Waste Department or county Extension Service.

Eucalyptus Mulch

Produced from plantation-grown trees, this mulch is naturally insect-repellent, with a rich, long-lasting color.

Pine Bark

An excellent mulch with long-lasting color, it is often cheaper than purchased pine straw.

Pine Straw

Available commercially by the bale, or free if you rake it yourself. (Fallen leaves, especially oak leaves, make great mulch too.)

Melaleuca Mulch


Melaleuca, or punk tree, is an invasive non-native tree that has taken over 500,000 acres of the Florida Everglades. Turning this tree into mulch helps rid the state of this terrible pest plant. Hopefully this mulch will be sold more widely as people learn to request it from their stores. Sometimes called "Enviro-mulch," one brand is "Florimulch." It is extremely long-lasting and termite-resistant.

Promulch

Made from recycled rubber tires, this is used in some playgrounds. It stays in place even in areas that flood occasionally, comes in different colors, and does not emit toxin. It is somewhat expensive.



This Web site may be accessed at: http://www.fnps.org/pages/plants/landscape_plants.php.



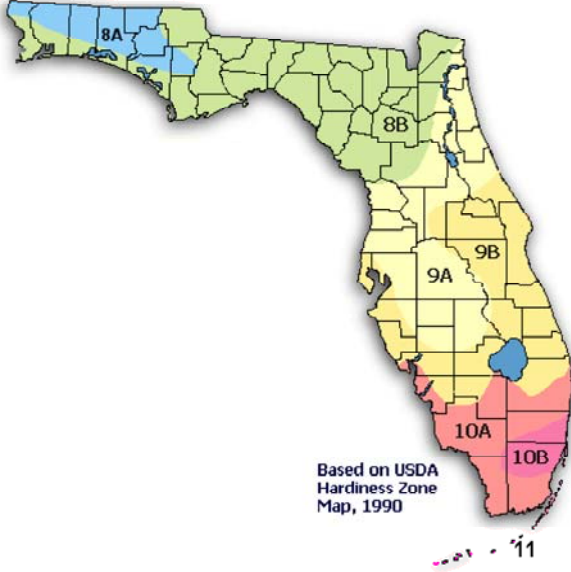
Natives to Plant!!

Click on Your County to See Native Species to Grow in Your Area

- Home
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- Conference
- Programs
- Chapters
- Membership
- Publications
- Florida Native Plants
- Landscaping
- Member Services
- Discussion Forums
- Links
- Log In (Site Updates)

The list of species that you will get has been compiled based on a database of species occurrence by county originally developed by Dr. Richard Wunderlin and tailored for this specific use by Dr. Shirley Denton. The plants listed were derived from a combination of sources: the AFNN directory of species available at Florida Native Nurseries, plant lists developed by FNPS chapters, and species listed in books by Rufino Osorio and Robert Haehle and Joan Brookwell.


You can help refine this database. If you see an error in this database, find that a good native landscape plant has been omitted from a county where it is native, or disagree strongly with a listing, please contact us by clicking on the link for the webmaster at the bottom of the page.



Based on USDA Hardiness Zone Map, 1990

Please Send Web site comments/corrections to [WebTeam](#).

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APPENDIX D

MEMORANDUM: BEDDOWN OF JOINT STRIKE FIGHTER (JSF) REPROGRAMMING FACILITY AT EGLIN AFB



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON DC

MAY 22 2006

MEMORANDUM FOR 53 EWG/CC

FROM: AF/A7C
1260 Air Force Pentagon
Washington, DC 20330-1260

SUBJECT: Beddown of Joint Strike Fighter (JSF) Reprogramming Facility at Eglin AFB FL

Your request to beddown the JSF Reprogramming Facility at Eglin AFB is approved contingent upon JSF Program Office providing required MILCON funding. Our point of contact for this issue is Mr. John Hannon, AF/A7CPB, at DSN 664-5272 or john.hannon@pentagon.af.mil.

A handwritten signature in black ink, appearing to read "L. Dean Fox", is positioned above the typed name.

L. DEAN FOX/Maj Gen, USAF
The Civil Engineer
DCS/Logistics, Installations & Mission Support

cc:
ACC/A5BB
96 ABW/CC
AFMC/A5X

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