

CITY OF FREEPORT, FLORIDA
STATE ROAD 20 WATER MAIN
INSTALLATION

FINAL
ENVIRONMENTAL ASSESSMENT

July 2010

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**FINAL FINDING OF NO SIGNIFICANT IMPACT AND FINDING OF NO
PRACTICABLE ALTERNATIVE
FROM
THE STATE ROAD 20 WATER MAIN INSTALLATION
CITY OF FREEPORT, FLORIDA**

RCS 07-522

Pursuant to the Council on Environmental Quality (CEQ) regulations for implementing procedural provisions of the National Environmental Policy Act (NEPA) (40 Code of Federal Regulations [CFR] 1500-1508) and United States (U.S.) Air Force regulations implementing NEPA procedures (32 CFR 989), the Air Force has conducted an Environmental Assessment (EA) of probable environmental consequences for the construction of a 7.5-mile water main pipeline along the north right-of-way of Florida State Road (SR) 20 from Portland, Florida to Choctaw Beach, Florida.

Description of Proposed Action and Alternatives

Proposed Action (Preferred Alternative): The city of Freeport proposes to install a transmission water main, referred to hereafter as the water main, connecting the city of Freeport, Florida and Portland, Florida that would cross through Eglin Air Force Base (AFB). The approximately 7.5-mile line segment would run along the northern side of SR 20 within the confines of the Florida Department of Transportation right-of-way from Eastern Street in Choctaw Beach to Alaqua Drive in Portland. This segment would bisect the boundaries of Eglin AFB in three separate locations amounting to a total of approximately 6 miles on base. The Proposed Action, which is also the Preferred Alternative, is to lay the pipe along the north side of SR 20. The water main would measure 12 inches in diameter and would be an extension to an existing 12-inch diameter main located at Eastern Street in Choctaw Beach, and eventually join to an existing 10-inch diameter main located at Alaqua Drive. Installing the water main within the existing SR 20 right-of-way intentionally minimizes the potential environmental impacts as the right-of-way constitutes a previously disturbed area. Impacts to wetlands along the right-of-way would be prevented by directionally boring underneath them.

The No Action Alternative: Under the No Action Alternative, the city of Freeport would not install a water line connecting the cities of Freeport and Portland, Florida. Residents would continue to obtain potable water from their wells. Saltwater infiltration into coastal water supplies would continue to degrade water quality and potability in the area. Under this alternative, the city of Freeport and other smaller coastal communities would not comply with goals for interconnectivity identified by the Northwest Florida Water Management District (NFWFMD) in their 2001 Regional Water Supply Plan.

Alternatives Considered But Not Carried Forward

Drilling a Public Supply Well

An alternative to the Proposed Action was to install within the study area a public water supply well with a hydropneumatic tank. A hydropneumatic tank is a tank containing compressed air and water, which helps to maintain a constant water pressure and does not require continuous pump operation to deliver water. The city of Freeport proposed to the NFWFMD the construction of a public well system that could later be converted to serve as a backup well to the study area. The NFWFMD dismissed the well suggestion since the selected location of the well would result in violation of several Sections of the Florida Administrative Code. In addition, the public supply well would not provide a permanent solution for the need to interconnect all existing coastal potable water systems. For these reasons, the installation of a public water supply well was not carried forward for further analysis.

Alternate Routes

Install the Waterline in a Utility Easement North of SR 20. A power line easement lies approximately 40 feet north of the easternmost end of the proposed pipeline route, which is further into the Eglin Reservation from SR 20. The power line easement begins to align more closely with the roadway easement and proposed pipeline route as one moves west. The power line easement is heavily vegetated and would require more time and effort to clear and prep for digging and laying the water main. Further, the power line easement is closer to potential flatwood salamander ponds and contains more wetland areas, which would require more directional boring to avoid impacts to these resources. Because the ground under the power line easement is undisturbed compared to the roadway easement, which was bulldozed and reshaped during the initial road construction, the potential for undisturbed cultural resource finds is greater as one moves further north of the SR 20 roadway easement. Given the potentially substantial damage to wetlands, habitat, and potential cultural resources, this alternative was considered unreasonable and eliminated from further detailed analysis.

Install the Waterline South of SR 20. The south side of SR 20 was considered as an alternative route but dismissed. The existing water main connections are both on the north side of SR 20, and use of the south side as the primary route would mean boring under the highway without an obvious reason to do so. Further, the south side is more heavily vegetated and is narrower than the north side. The majority of the proposed route is at least 20-feet wide, grassed, and free of thick vegetation. Communications and cable utilities, some belonging to the Air Force, are buried along the south side of SR 20 for much of the project length. Thus, logistical impracticality, increased cost, and risk of damage to Eglin AFB fiber optic cables precluded further consideration of this alternative.

Summary of Anticipated Impacts

Chapter 4 of the EA identifies anticipated environmental effects of the Proposed Action, and No Action Alternative (Chapter 4, pages 4-1 to 4-7). The Proposed Action would not significantly affect any of the resource areas identified in Chapter 3 of the EA. The following paragraphs summarize the potential effects of the Proposed Action.

Water Resources (EA Section 4.1, page 4-1). There would be no significant impact to water resources including: groundwater; surface water; wetlands; floodplains; coastal zone; and storm water. Surface waters and wetlands do exist within the study area; however, the city of Freeport will completely avoid impacts to these resources by directional boring underneath the earth's surface. In addition, the use of silt fences around operation areas will keep sediment from indirectly affecting surface waters and wetlands. Because water will be piped in from the city of Freeport, wells within the study area will be beneficially impacted through reduced water draw. The floodplain, which is based on storm surge, cannot be avoided due to its size. However impacts to the floodplain would not be significant as there would be no change to the floodplain in terms of elevation, just operations within it.

Air Quality (EA Section 4.2, pages 4-2 to 4-3). There would be no significant impact to air quality from the operation of construction machinery. Emissions from these actions would not exceed 10 percent of total county emissions.

Biological Resources, (EA Section 4.3, pages 4-3 to 4-4). There would be no significant impacts on biological resources or threatened and endangered species. Impacts to protected biological resources were addressed through informal consultation between Eglin Natural Resources and the U.S. Fish and Wildlife Service, who concurred with the Eglin Natural Resources No Effect Determination. Eglin AFB Natural Resources Section will be contacted immediately if any protected species are encountered during construction activities.

Cultural Resources (EA Section 4.4, pages 4-4 to 4-5). There would be no adverse effects to cultural resources. No historic structures, historic districts, traditional cultural properties, or cemeteries are present within the area of potential effect. Eight archaeological sites (8WL41, 8WL68, 8WL1752, 8WL1932, 8WL2444, 8WL2445, 8WL2447, and 8WL2448) have been identified within the APE. These sites are currently considered eligible for listing on the National Register of Historic Places.

No significant portions of Sites 8WL68, 8WL1752, 8WL1932, 8WL2444, 8WL2445, 8WL2447, or 8WL2448 were found within the area of potential effect. Intact portions of 8WL41 are present within the project area. The pipeline will be installed via directional boring so that site 8WL41 will not be adversely affected. The pipeline will be placed between the north edge of the road and the south edge of the drainage ditch in the vicinity of 8WL2445 so that significant portions of the site will be avoided. Additionally, professional archaeologists will monitor ground disturbance in this area to prevent unidentified intact deposits from being disturbed.

In accordance with Section 106 of the National Historic Preservation Act, Eglin AFB has consulted with the State Historic Preservation Officer, the proponent, and other interested parties regarding avoidance of these cultural resources through the methods described above. Eglin AFB's Cultural Resources program regularly consults with five federally recognized tribes regarding compliance with federal laws and regulations. Tribes were not consulted during this project's planning because no adverse effects to historic properties from the proposed action are anticipated. Inadvertent discoveries of archaeological material during the course of construction or demolition will be immediately reported to the tribes and the actions in the immediate vicinity ceased. Efforts will be taken to protect the find from any further impact.

Utilities (EA Section 4.5, pages 4-5 to 4-6). There would be no significant impacts to utility resources. In an effort to minimize potential conflicts between utility providers, coordination with all utility providers would be required prior to any ground-disturbing activities. Alignment and boring activities would be conducted in such a way as to identify and avoid potential disruptions in other utility services. In addition, utilities in the vicinity of the project would be sited and would be clearly marked during construction activities in order to avoid impacts to existing utilities.

Transportation (EA Section 4.6, page 4-6). There would be no significant impact to transportation. The water main would be installed under paved roads through directional boring. Unpaved roads and driveways would be temporarily affected for durations of less than one hour.

Socioeconomic Resources (EA Section 4.7, page 4-7). There would be no significant impact to socioeconomic resources. There would be a direct positive, minor, and temporary impact on the local economy during construction activities from the use of local labor and supplies. There would also be continuous and long-term benefits to the city of Freeport and to the adjacent communities from the additional revenue gained from the sale of potable water.

Agency Review and Public Comment

Agency Review

The EA was provided to the State Clearinghouse for review and Coastal Zone Management Act (CZMA) concurrence.

Public Comment

A public notice was published in the *Northwest Florida Daily News* on July 18, 2009, inviting the public to review and comment upon the EA. Copies of the EA were made available to the public at the Freeport and DeFuniak Springs public libraries from 17 July to 17 August 2009. Public comments are addressed in the EA as Appendix F.

Permits and Regulatory Coordination

Storm Water: An Environmental Restoration Program (Chapter 62-346, Florida Administrative Code [FAC]) may be required. In addition, an Erosion, Sedimentation, and Pollution Control Plan would require best management practices (BMPs), including the use of silt screens and certified weed-free hay bales, will be initiated during construction to minimize potential erosion impacts near wetlands and surface waters.

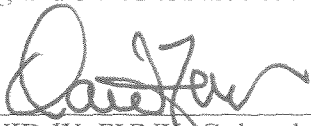
Coastal Zone Management Act: The construction project required consistency with Florida's CZMA. The State Clearinghouse has reviewed and concurred with the Air Force negative determination for this project. The Eglin AFB CZMA Consistency Determination is provided in Appendix A.

FINDING OF NO PRACTICABLE ALTERNATIVE

Taking the above information into consideration, pursuant to Executive Order 11988, *Floodplain Management*, and the authority delegated by Secretary of the Air Force Order 791.1, I find there is no practicable alternative to conducting the Proposed Action within the floodplain and that the Proposed Action includes all practicable measures to minimize harm to the environment. This finding fulfills both the requirements of the referenced Executive Order and 32 CFR Part 989.14 requirements for a Finding of No Practicable Alternative.

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 U.S. Air Force to allow the city of Freeport to install a water main along the SR 20 easement through Eglin AFB would 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.



DAVID W. FUNK, Colonel, USAF
Command Civil Engineer
Installations and Mission Support
(HQ AFMC/A7P)



DATE

CITY OF FREEPORT, FLORIDA

STATE ROAD 20 WATER MAIN

INSTALLATION

FINAL

ENVIRONMENTAL ASSESSMENT

Submitted to:

City of Freeport
112 Highway 20 West
Freeport, Florida 32542

Contract SAI-04-09

Submitted by:



Science Applications International Corporation
1140 Eglin Parkway, Shalimar, Florida 32579

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July 2010



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LIST OF ACRONYMS, ABBREVIATIONS, AND SYMBOLS

$\mu\text{g}/\text{m}^3$	Micrograms per Cubic Meter
96 CEG/CEAR	96 th Civil Engineer Group/Real Property Branch
96 CEG/CEVCE	96 th Civil Engineer Group/Environmental Engineering Section
96 CEG/CEVSP	96 th Civil Engineer Group/Environmental Analysis Section
AF Form	Air Force Form
AFB	Air Force Base
AFI	Air Force Instruction
APE	Area of Potential Effects
ARPA	Archeological Resources Protection Act
BMP	Best Management Practice
BOMARC	Boeing/Michigan Aeronautical Research Center
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CHELCO	Choctawhatchee Electric Cooperative
CO	Carbon Monoxide
CUP	Consumptive Use Permit
CZMA	Coastal Zone Management Act
DoD	Department of Defense
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EO	Executive Order
ERP	Environmental Restoration Program
ESA	Endangered Species Act
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
ICRMP	Integrated Cultural Resources Management Plan
Mgal/d	Million Gallons per Day
MOA	Memorandum of Agreement
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
NRHP	National Register of Historic Places
NWFWMD	Northwest Florida Water Management District
O ₃	Ozone
OSHA	Occupational Safety and Health Administration
Pb	Lead
PM ₁₀	Particulate Matter with a Diameter of Less Than or Equal to 10 Microns
PM _{2.5}	Particulate Matter with a Diameter of Less Than or Equal to 2.5 Microns
ROI	Region of Influence
SCAQMD	South Coast Air Quality Management District
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SR	State Road
TCP	Traditional Cultural Properties

LIST OF ACRONYMS, ABBREVIATIONS, AND SYMBOLS, CONT'D

U.S.	United States
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VOC	Volatile Organic Compound
WQA	Water Quality Association
WRCA	Water Resource Caution Area

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1. INTRODUCTION

The city of Freeport has prepared this Environmental Assessment (EA) to analyze the potential environmental effects associated with the construction of a 7.5-mile water main pipeline along the north right-of-way of Florida State Road (SR) 20 from Portland, Florida, to Choctaw Beach, Florida, an area approximately 25 miles east of the main cantonment part of Eglin Air Force Base. Once established, the pipeline would extend services to communities bound by the Eglin Reservation boundary and/or Choctawhatchee Bay. The Proposed Action would bisect the Eglin Reservation boundary at three locations including: 1) approximately 2 miles between the Choctaw Beach and Indian Bay communities; 2) approximately 1.6 miles between the Indian Bayou and Basin Bayou communities; and 3) approximately 2.4 miles between the Basin Bayou and Portland communities. The city of Freeport would obtain an easement from the Eglin Real Estate Office to allow the placement of the pipeline on Air Force property. The regional setting for the project is shown in Figure 1-1.

1.1 BACKGROUND

In 2001, the city of Freeport purchased two water systems, the Villa Tasso and Choctaw Beach systems, from a private individual. At the time of purchase, both systems had exceeded their capacity and were in need of repairs and could no longer provide adequate service to existing and potential customers. To remedy the situation, the city of Freeport, with assistance from the United States Department of Agriculture (USDA) Rural Development, upgraded all facilities of the two systems and began combining them into one functional system. In 2003, the systems were successfully combined into one and became known as the North Bay Water System. Since then, the North Bay Water System has had the capacity to serve existing and future customers.

Two years after the North Bay Water System was completed, the city of Freeport began receiving requests for water service provided by the North Bay Water System from existing residents and developers in the nearby communities of Trout Creek and Basin Bayou. The communities, which lie **west** of the city of Freeport in “pockets” of privately owned lands and surrounded on all sides by the Eglin Reservation and/or Choctawhatchee Bay, are currently serviced by well water. The requests by existing residents in these communities were the first of several reasons to extend the North Bay Water System to the sparsely developed and unincorporated areas west of the city of Freeport. The most influential reasoning for extending services was identified in the most recent Northwest Florida Water Management District (NFWFMD) Regional Water Supply Plan. One of the objectives outlined in the NFWFMD Regional Water Supply Plan was to interconnect all existing coastal potable water systems to provide redundancy and emergency backup supply to participating systems. In order to realize the objective, the system would have to extend through the area located between Choctaw Beach and the Portland community and in doing so would subsequently extend services to the communities of Trout Creek and Basin Bayou. As a result of attempting to meet the objectives of the Regional Water Supply Plan, the NFWFMD has allocated funds for the city of Freeport to begin the process of installing a water main that would provide access to the North Bay Water System from the existing Freeport Water System. Below is a brief timeline of events beginning with the purchase of the Villa Tasso and Choctaw Beach water systems in 2001 to the most current activities in 2009.



Figure 1-1. Regional Setting

- 2001** The city of Freeport purchased the Villa Tasso and Choctaw Beach Water Systems from a private owner; upgraded all facilities of the two systems; and began combining them into one new system known as the North Bay Water System. This system serves the Choctaw Beach area, which is west of the city of Freeport.
- 2001** The Northwest Florida Regional Water Supply Plan described the need to interconnect all existing coastal potable water systems to provide redundancy and emergency backup supply to participating systems.
- 2003** The North Bay Water System was completed. As of 2003, it was isolated from the Freeport Water System. At this time there were communities between the two systems that were not connected to either system.
- 2005 April 18, 2005** – The city of Freeport received a request for water service from a community located between the North Bay and Freeport Water systems. Consideration of the request revealed that a line extension from the North Bay System connected to the Freeport Water System would necessitate an easement from Eglin and would cost approximately \$500,000. Since the initial request, the city of Freeport has continued to receive requests for service from residents within the study area.
- 2005 April 29, 2005** – Mayor Marse contacted Mr. Robert Arnold, Eglin Air Force Base (AFB) Encroachment Committee, requesting conceptual approval of an easement to connect water supplies to communities within the study area.
- 2005 June 23, 2006** – Mayor Marse received a letter from Mr. Arnold stating conceptual approval for a water main easement from the Eglin Encroachment Committee.
- 2005 December 12, 2005** – The city of Freeport submitted a request to Mr. Standley, General Manager of Regional Utilities, regarding the needs of Freeport Water System, which included a line extension from Choctaw Beach to Portland.
- 2006 February** – All requests included on the December 12, 2005, letter were presented to the Northwest Florida Water Management District (NFWFMD) and initially denied by Mr. Doug Barr, District Manager. Mr. Barr later approved the request for a water main extension.
- 2006 October 3, 2006** – Mr. John Pope, Potable Water Section Supervisor at the Florida Department of Environmental Protection (FDEP), advised Mr. Charles Peters of Peters Municipal Associates, Inc., the city's engineering firm on this project, to contact the NFWFMD to ensure compliance with requirements outlined in the Florida Administrative Code.
- 2006 October 5, 2006** – Mr. Peters informed Mr. Pope that information sent initially to Mr. Pope (on September 29, 2006) was simultaneously sent to NFWFMD. As of October 5, 2006, the NFWFMD had not responded. Mr. Peters requested assistance collecting data sources for information regarding wave-action requirements.
- 2007 August 22, 2007** – Mr. John King, a developer, sent an agreement to purchase water taps from Freeport Water System to Mayor Marse, pending the extension of water service to the study area.
- 2007 September 21, 2007** – Mayor Marse informed Mr. John King that he would like to extend the water system to serve the Trout Creek area but that due to the requirement for

an easement from Eglin AFB, the City was unable to do so until the process was completed.

2008 The NFWFMD approved the installation of the water main to connect the North Bay and Freeport Water Systems, and identified the project as a priority need.

2009 NFWFMD allocated funds for the city of Freeport to assist in the construction of the missing “gap” in service between the Choctaw Beach community and the Portland community. More specifically, the District agreed to pay 50 percent of the entire connection cost up to \$750,000. With this contribution, the proposed interconnection of the North Bay Water System to the Freeport Water System was deemed financially feasible.

1.2 PURPOSE AND NEED

The purpose of the Proposed Action is to establish interconnectivity between the Choctaw and Portland community municipal water systems and provide better quality potable water to Walton County residents living along SR 20 between those two communities. Interconnectivity, a NFWFMD priority, is needed because municipal water systems need more than one source of water in times of emergency (NFWFMD, 2009). If contamination, drought or natural disaster, such as a hurricane, impacted one water supply, an interconnection with neighboring municipalities would allow affected residents access to potable water.

The proposed water line is meant to benefit populations within an economically disadvantaged area in multiple ways. Need for this project is driven by drawdowns of freshwater aquifers along coastal areas occurring because well usage exceeds the natural recharge rate. As this drawdown from local well usage decreases hydrostatic pressure, the boundary of saltwater enters the aquifer, resulting in poor water quality from salt water intruding into existing fresh water wells. A new municipal water line would serve to provide safe drinking water for coastal populations.

Increased and more reliable water supply additionally will serve public safety as improved fire response is realized from the addition of this water main to more remote areas. Due to the lack of current interconnectivity in the water supply of these remote areas, the city of Freeport and the NFWFMD suggests that this project:

- 1) Will provide a safe, reliable, potable water source to all existing and future residents along the proposed corridor.
- 2) Eliminate the need for numerous individual wells, which are subject to groundwater contamination.
- 3) Will provide adequate water pressure to maintain fire suppression capabilities not only to residents, but would be available to government-owned facilities such as the former Fort Rucker Recreation Area (Eglin Test Area D-84).
- 4) Will provide system redundancy to not only the city of Freeport’s component systems but to all other water systems in the region as well.

1.3 PUBLIC INVOLVEMENT PROCESS

Executive Order (EO) 12372, *Intergovernmental Review of Federal Programs*, requires intergovernmental notifications prior to making any detailed statement of environmental impacts. Through the process of Interagency and Intergovernmental Coordination for Environmental Planning, the proponent must notify concerned federal, state, and local agencies to allow them ample time to evaluate the potential environmental impacts of the Proposed Action. Comments from these agencies are incorporated into the Environmental Impact Analysis Process (EIAP). The National Environmental Policy Act (NEPA) of 1969 also requires the proponent to provide the public with an opportunity to review and provide input on the Proposed Action and the potential environmental consequences prior to the Air Force's decision regarding the Proposed Action.

As part of the public involvement process, a public notice regarding the availability of the Draft EA/Draft Finding of No Significant Impact (FONSI) was published in the Northwest Florida Daily News July 17, 2009. A comment period of 30-days ending August 17, 2009 yielded comments from one citizen (Appendix F).

1.4 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

This document was prepared in accordance with the requirements of NEPA, the Council on Environmental Quality (CEQ) regulations of 1978, 32 Code of Federal Regulations (CFR) Part 989, and Air Force Instruction (AFI) 32-7061, *Environmental Impact Analysis Process*. To initiate the environmental analysis on behalf of the city of Freeport, Eglin Real Estate Flight (96 CEG/CEAR), submitted an Air Force (AF) Form 813, Request for Environmental Impact Analysis, to the Environmental Management Division, Stewardship Branch, Environmental Analysis Section (96 CEG/CEVSP). A review of the AF Form 813 by CEVSP determined that the EIAP Working Group would address the Proposed Action.

The scope of the environmental analysis includes the environment affected by the installation of the 7.5-mile water main from Portland to Choctaw Beach, specifically the land and water resources contained within the proposed water main easement. Resources outside of the proposed water main easement, which are not within the construction footprint are outside of the scope of the analysis of this document and will only be discussed as applicable.

1.4.1 Issues Eliminated from Analysis

Issues with minimal or no impacts were identified through a preliminary screening process. The following describes the issues that were not carried forward for a detailed analysis and the rationale associated with their elimination.

Recreation – Access to seven public roads and seven access point roads leading into the Eglin Reservation would be impeded for a single episode during the actual water main installation. This roadway blockage would occur during daylight hours only and is not expected to last longer than an hour per road.

Land Use – The water main would be installed within an existing roadway easement. As a result, no changes to land use would occur as a result of the Proposed Action.

Hazardous Materials/Waste – The action involves the installation of a pipe used to transport potable water. There would be no hazardous materials stored on-site, nor accumulated as a result of the installation of the water main. There are no Air Force Environmental Restoration Program (ERP) sites within the project footprint. Previously, reports of a potential ERP/waste disposal site were made within the project area; however, further investigations by the Air Force indicated that no disposal site actually existed, and the potential site was designated by the U.S. Environmental Protection Agency (USEPA) as requiring “no further action” (U.S. Air Force, 2003a; 2007).

Soil – The water main would be installed within an existing, disturbed, roadway easement, and anticipated trenching and directional boring activities as a result of the Proposed Action are not expected to adversely affect soils. Top cover soils would either not be disturbed due to directional boring activities or would be replaced immediately after sections are in place. Silt fencing would be laid to prevent soil runoff.

Debris and Solid Waste – The installation of the water main would not generate debris or solid waste.

Safety and Occupational Health – All proposed construction would conform to Occupational Safety and Health Administration (OSHA) standards and requirements. Industry and regulatory standards would govern all materials and equipment use. Proper safety measures and signage would be used to prevent public access. As a result, risks to personnel and the public would be minimized.

1.4.2 Potential Issues Studied in Detail

The following environmental features were identified for analysis in this EA: water resources, air quality, noise, biological resources, utilities, cultural resources, transportation, recreation, safety, and socioeconomics.

Water Resources – Surface waters and wetlands would be avoided entirely via directional boring.

Air Quality – The EA addresses the potential effects to air quality from the operation of machinery used to install the pipe, and from the dust that would result from ground disturbance.

Biological Resources – Most vegetation within the study area is currently maintained by mowing; thus, the potential for impacts to habitat is low. Salamander habitat buffer may extend over the project area and the EA analyzes the potential for impacts to this species. Eglin Natural Resources has initiated an informal consultation with the U.S. Fish and Wildlife Service (USFWS).

Cultural Resources – Section 106 of the National Historic Preservation Act (NHPA) of 1966 (16 U.S. Code [USC] 479(f)) requires that federal agencies analyze the impacts of federally

directed or funded undertakings on historic properties. Known cultural resources are located in the vicinity of the project corridor. The EA will examine potential impacts to cultural resources resulting from this Proposed Action.

Utilities – Utilities are present within the study area. The EA examines the potential to affect buried and above ground utilities.

Transportation – Access to range roads and driveways may be temporarily affected. The proponent would drill under paved roads, but trench unpaved roads. The EA addresses the potential impacts with regard to public access and how the project may affect traffic flow along SR 20.

Socioeconomics – Environmental Justice, Risks to Children, Economics – The EA addresses whether the proposed action would have positive socioeconomic benefits or negative impacts to the community, and if these changes would be short or long term.

1.5 RELATED ENVIRONMENTAL DOCUMENTATION

The following environmental and planning documents are related to actions and resources associated with the city of Freeport water main installation region of influence (ROI):

- *Regional Water Supply Plan for Santa Rosa, Okaloosa, and Walton Counties* – NFWFMD, July 2000
- *Final Environmental Baseline Survey for the State Road 20 Watermain at Eglin Air Force Base, Florida* – Science Applications International Corporation (SAIC), June 2010
- Phase I Cultural Resource Survey – Panamerican Consultants, Inc., completed in December 2009.
- Phase II Cultural Resources Test and Evaluation – Panamerican Consultants, Inc., completed in March 2010.
- Phase II Cultural Resources Test and Evaluation – Prentice Thomas and Associates, Inc., fieldwork and Management Summary completed in 2010.

1.6 APPLICABLE REGULATORY REQUIREMENTS

The following regulatory requirements and coordination are associated with the Proposed Action:

- *Because the project area involves land owned by a federal entity (Eglin AFB), the City of Freeport has completed this EA to fulfill the requirements of the National Environmental Policy Act of 1969.*
- Eglin AFB has submitted a Coastal Zone Management Act (CZMA) Consistency Determination to the FDEP (Appendix A). The state of Florida has concurred with Eglin's determination. (Appendix A).

- Eglin AFB has conducted an Endangered Species Act (ESA) Section 7 consultation with the USFWS for potential impacts to terrestrial threatened and endangered species and critical habitat. The USFWS concurred with Eglin's No Effect Determination (Appendix E).
- Eglin AFB has conducted a NHPA Section 106 consultation with the Florida State Historic Preservation Officer (SHPO) and other interested parties to identify the potential impacts to known or suspected areas of cultural resources. Surveys and previously located sites have been located within this project area and the SHPO has concurred with the National Register of Historic Places (NRHP) eligibility recommendations (Appendix D).
- Eglin AFB executed a project work plan summary and signature sheet for the project corridor fieldwork.
- The city of Freeport would be required to obtain a Potable Water Permit from the state. Questions regarding Potable Water distribution system permitting can be obtained from Mr. John Pope in the FDEP's Northwest District Office at (850) 595-8300 ext. 1145.
- The Florida Department of Transportation (FDOT) District Three noted that the utility construction is proposed within the right-of-way of SR 20. A utility permit will be required from VMS. Further permitting information can be obtained from Mr. Charles Washington at (850) 678-2973.
- Pursuant to Executive Order 11988, *Floodplain Management*, the Air Force has prepared a Finding of No Practicable Alternative (FONPA).

2. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

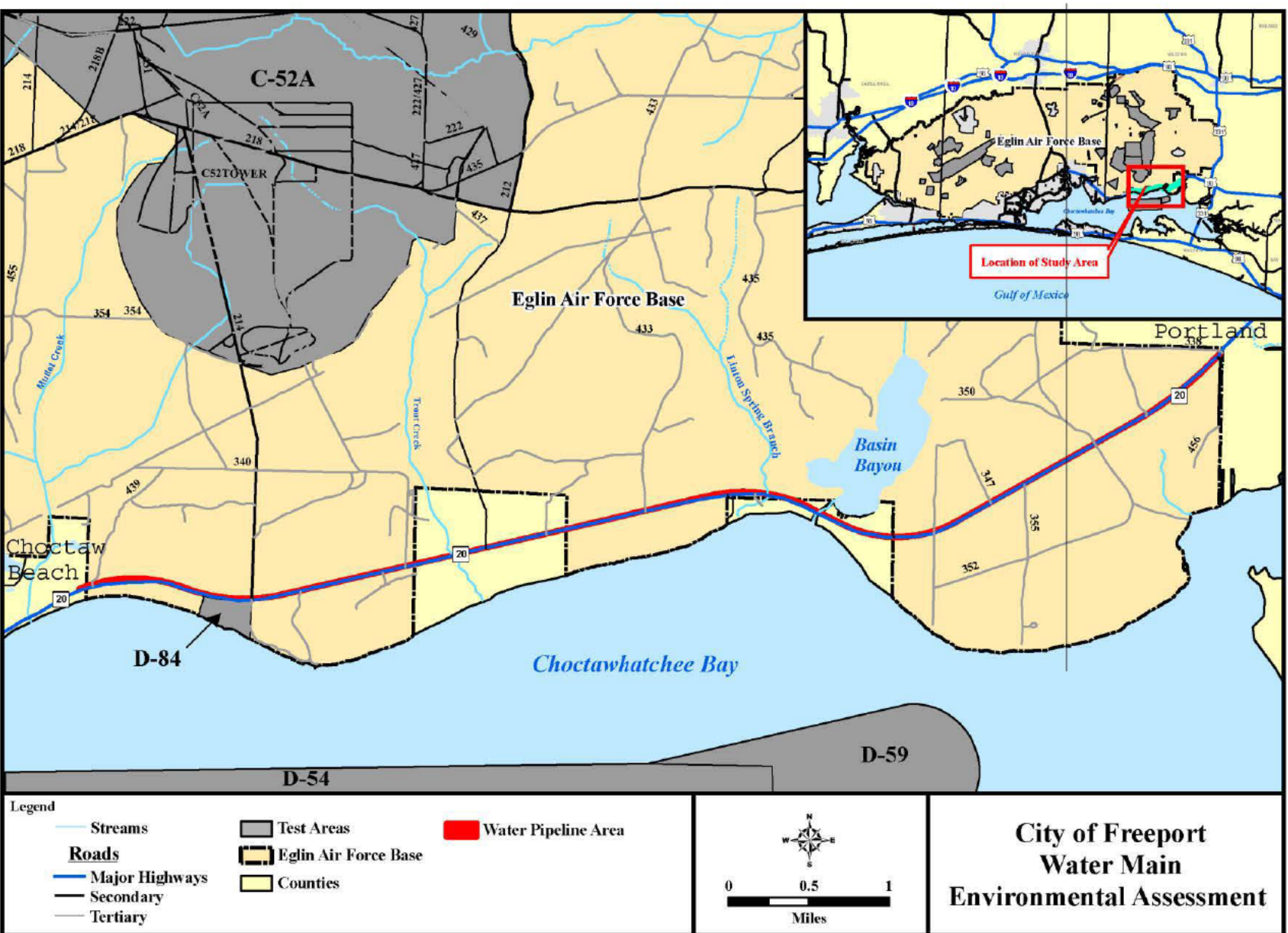
2.1 PROPOSED ACTION (PREFERRED ALTERNATIVE)

The city of Freeport, the proponent of the action, proposes to install a transmission water main, referred to hereafter as the water main, connecting the city of Freeport, Florida, and Portland, Florida that would cross through Eglin AFB. The approximately 7.5-mile line segment would run along the northern side of SR 20 within the confines of the FDOT right-of-way from Eastern Street in Choctaw Beach to Alaqua Drive in Portland. This segment would bisect the boundaries of Eglin AFB in three separate locations amounting to a total of approximately 6 miles on base. The Proposed Action, which is also the Preferred Alternative, is to lay the pipe along the north side of SR 20 in the configuration shown in Figure 2-1. The water main would measure 12 inches diameter and would be an extension to an existing 12-inch diameter main located at Eastern Street in Choctaw Beach and eventually join to an existing 10-inch diameter main located at Alaqua Drive. Installing the water main within the existing SR 20 right-of-way intentionally minimizes the potential environmental impacts as the right-of-way constitutes a previously disturbed area. Impacts to wetlands along the right-of-way would be prevented by directionally boring underneath them.

2.1.1 Installation of the Water Main

The pipe would be connected at either end of the project area to existing hydrants. There are no plans to install other components such as pumps within the proposed pipeline route. The shoulder of SR 20 provides sufficient space to accommodate all equipment for the Proposed Action. There would be no lane closures of SR 20. The proponent would place highly visible signs near the study area to caution drivers of the activity and to protect workers operating equipment near SR 20.

The water main pipe would be laid using standard trenching equipment, including up to two backhoes, a bulldozer, front end loader, and a directional bore machine for certain situations. Two backhoes may be used at the same time, one to dig and one to backfill. The proponent would employ directional boring to place the pipe under paved roads, culverts and wetland areas without causing disturbance to those features. Directional boring will be used to bore under potential flatwoods salamander habitat.



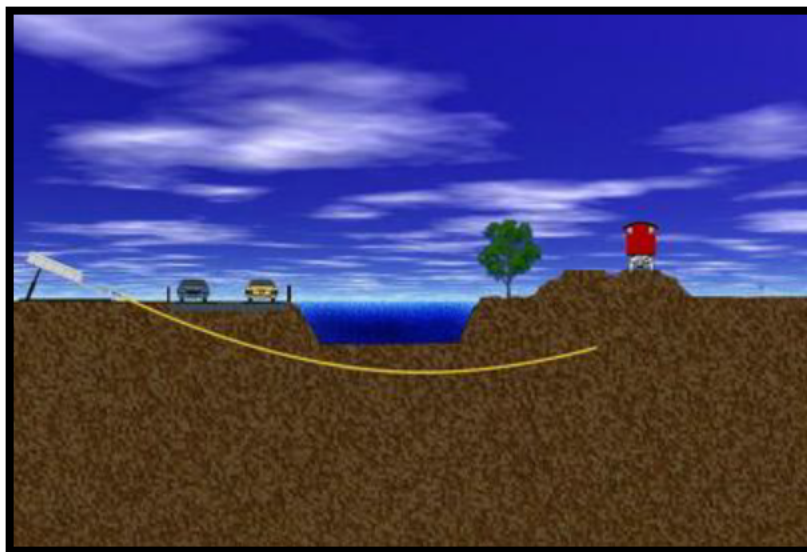
Directional Boring as a Means to Avoid Wetlands and Other Sensitive Areas

Directional boring, also referred to as horizontal directional drilling, is a method of installing underground pipes and conduits along a prescribed bore path from the surface with minimal surface disruption. Applications of directional boring include installation of telecommunication and power cable conduits, water lines, sewer lines, gas line, oil lines, product pipelines, and environmental remediation casings. The most common uses are for crossing waterways, roadways, shore approaches, congested areas, and environmentally sensitive areas. For the installation of the SR 20 water main, directional boring would be employed to avoid wetlands and cultural resources. The process is explained as follows.



Source: Directional Boring Central, 2009

There are several steps associated with the process of directional boring. The first step in the process begins when a bore head connected to a hollow pipe is inserted into the ground. The directional bore machine inserts the pipe at an angle below the surface. Once a joint of the drill pipe is inserted into the ground, a new one is added behind.



Source: Directional Boring Central, 2009

The second step is to pump drilling fluid into the hole. Drilling slurry (typically bentonite mud slurry) is often used to assist the drilling rig in cutting through the soil. The cuttings are suspended in the fluid, which is pumped down the hole and carried back out to the surface where it settles in a pit or removed mechanically in a cleaning system. The third step is to detach the bit upon reaching the exit point. If the bore hole needs to be enlarged, the end of the drill pipe is attached to a reamer or hole opener and is pulled back while rotating the drill pipe. The fourth step is to pump drilling fluid in the hole. The product pipe is then pulled in while the drill pipe and reamer rotate. The final step is to excavate the exit and entry points and make any connections to current systems. (Directional Boring Central, 2009).

Boring operations are designed to have minimal impact on sensitive surroundings and top cover soil resources. There are also other anticipated benefits achieved through the use of directional boring techniques. These include negligible traffic disruption; possibility of deeper and longer installation; no need for an access pit; shorter project completion times; more flexibility in selecting final pipeline locations; minimization of contamination; and minimum impact for surface resources in the environment.

Timeframe to Complete the Action

The expected timeframe for construction of the pipeline project is three to six months. The ideal rate of progress could be as much as 2,000 feet per day for surface trenching and laying the waterlines. However in locations that require directional boring, progress would slow to 500 feet of waterline laid per day. Construction activity would only occur during daylight hours. Initiation of waterline construction of the pipeline would begin immediately once the Air Force approves the easement, which is expected to occur after the Air Force signs the FONSI of this EA.

2.2 ALTERNATIVES DEVELOPMENT

Since 2005, the city of Freeport has worked with the NFWFMD, the public, and the engineering firm of Peters Municipal Associates to find a solution to improving the potable water supply for residents within the study area. The city of Freeport received requests for service from households in the Indian Bay and Basin Bayou communities, just east of Choctaw Beach. In addition, the communities of Villa Tasso and Portland also requested improvements to their existing water system. More importantly, and as it relates to the purpose and need of the Proposed Action, the NFWFMD identified in their 2001 Regional Water Supply Plan a need to interconnect all existing coastal potable water systems. Interconnection would provide redundancy and emergency backup supply to all participating municipal water systems. Interconnectivity is the primary driver of the alternatives development process. The only solution to interconnectivity is to physically construct a connecting water main that spans either end of the study area. Doing so would also alleviate the dependence of residents on the lower quality well water they are currently using.

The aforementioned communities are composed of privately owned land, which in many cases are bounded on all sides by Eglin AFB and Choctawhatchee Bay. As a result, service to

privately owned land via the proposed water main installation is not possible through the existing SR 20 right-of-way easement that crosses Eglin property without permission from the Air Force.

The existing SR 20 right-of-way was selected for the water main route to minimize environmental impacts. The SR 20 right-of-way is characterized as previously disturbed or bulldozed land that is routinely maintained by mowing. As previously mentioned in Section 2.1.1, wetlands within this right-of-way will be avoided.

Based upon the need in these areas, the city of Freeport approached the Eglin AFB Encroachment Committee in April 2005 and presented a conceptual overview of the project. The selected route was arrived upon after balancing the need to connect local communities to the water system; adding connectivity to Okaloosa County water system and the greater Choctawhatchee Bay region; and determining the previously disturbed easement was the route least likely to result in environmental impacts.

2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER ANALYSIS

2.3.1 Drilling a Public Supply Well

An alternative to the Proposed Action was to install within the study area a public water supply well with a hydro pneumatic tank (Peters, 2009). A hydro pneumatic tank is a tank containing compressed air and water, which helps to maintain a constant water pressure and does not require continuous pump operation to deliver water (Washington State Department of Health, 2007). The city of Freeport proposed to the NFWFMD to construct a public well system that could later be converted to serve as a backup well to the study area. The NFWFMD dismissed the well suggestion since the selected location of the well would result in violation of several Sections of the Florida Administrative Code. In addition, the public supply well would not provide a permanent solution for the need to interconnect all existing coastal potable water systems. For these reasons, the installation of a public water supply well was not carried forward for further analysis.

2.3.2 Alternate Routes

Install the Waterline in a Utility Easement North of SR 20

A power line easement lies approximately 40 feet north of the easternmost end of the proposed pipeline route, which is further into the Eglin Reservation from SR 20. The power line easement begins to align more closely with the roadway easement and proposed pipeline route as one moves west. The power line easement is heavily vegetated and would require more time and effort to clear and prep for digging and laying the water main. Further, the power line easement is closer to potential flatwoods salamander ponds and contains more wetland areas, some of which are too large to be avoided by directional boring. Because the ground under the power line easement is undisturbed compared to the roadway easement, which was bulldozed and reshaped during the road construction, the potential for undisturbed cultural resource finds is greater. Given the potentially substantial damage to wetlands, habitat, and potential cultural

resources, this alternative was considered unreasonable and eliminated from further detailed analysis.

Install the Waterline South of SR 20

The south side of SR 20 was considered as an alternative route but dismissed. The existing water main connections are both on the north side of SR 20, and use of the south side as the primary route would mean boring under the highway without an obvious reason to do so, and at greater expense. Further, the south side is more heavily vegetated and is narrower than the north side. The majority of the proposed route is at least 20 feet wide, grassed, and free of thick vegetation. Communications and cable utilities, some belonging to the Air Force, are buried along the south side of SR 20 for much of the project length. Thus, logistical impracticality, increased cost and risk of damage to Eglin AFB fiber optic cables precluded further consideration of this alternative.

2.4 NO ACTION ALTERNATIVE

Under the No Action Alternative, the city of Freeport would not install a water line connecting the cities of Freeport and Portland, Florida. Residents would continue to obtain potable water from their wells. Saltwater infiltration into coastal water supplies would continue to degrade water quality and potability in the area. Under this alternative, the city of Freeport and other smaller coastal communities would not comply with goals for interconnectivity identified by the NFWFMD in their 2001 Regional Water Supply Plan.

3. AFFECTED ENVIRONMENT

This chapter provides a description of the resources potentially affected by the Proposed Action and Alternatives. The existing environmental conditions serve as the baseline from which to evaluate environmental consequences (Chapter 4) resulting from activities associated with the Proposed Action and the Alternatives. The existing environmental conditions within the expected geographic extent of potential impacts, known as the region of influence, or ROI, are addressed for each environmental resource in this chapter, including water resources, air quality, biological resources, cultural resources, utilities, transportation, and socioeconomic resources.

3.1 WATER RESOURCES

3.1.1 Definition of the Resource

Water resources include groundwater, surface waters, wetlands, floodplains, and storm water characteristics of the study area. Figure 3-1 and Figure 3-2 depict water resources within or near the Proposed Action location.

3.1.2 Existing Conditions

Groundwater Resources

Groundwater is defined by the Water Quality Association (WQA) as “all subsurface water”. Subsurface water that is in significant enough amounts to tap via a well is referred to as aquifers. The two aquifers located under Eglin AFB are the Sand and Gravel Aquifer and the Floridan Aquifer. The major source of groundwater supply in Florida is the Floridan Aquifer System, which underlies the entire state (FDEP, 2009). The descriptions of the Sand and Gravel Aquifer and Floridan Aquifer given below apply to all of Eglin AFB, and therefore to the Proposed Action in this EA.

Sand and Gravel Aquifer

The Sand and Gravel Aquifer consists of sand and gravel with interbedded layers of silt and clay. The clay layers form local confined conditions within the aquifer. Groundwater flow is generally towards the coast. The aquifer contains two high-permeability zones separated by less permeable sands and clays. The lower zone, which is under confined conditions, is referred to as the “main producing zone” because most of the groundwater use is withdrawn from this zone (FDEP, 2009). The quality of water in the aquifer has been rated good (i.e., meets its intended use) by the FDEP (U.S. Air Force, 1995). Water from this aquifer is not a primary source of domestic or public supply water on Eglin AFB because of the large quantities of higher quality water available from the underlying upper limestone of the Floridan Aquifer (Overing et al., 1995).

Floridan Aquifer

The Floridan Aquifer consists of a thick sequence of interbedded limestone and dolomite. Water flow direction is northeast to southwest (FDEP, 2009). Throughout the Eglin Reservation, the

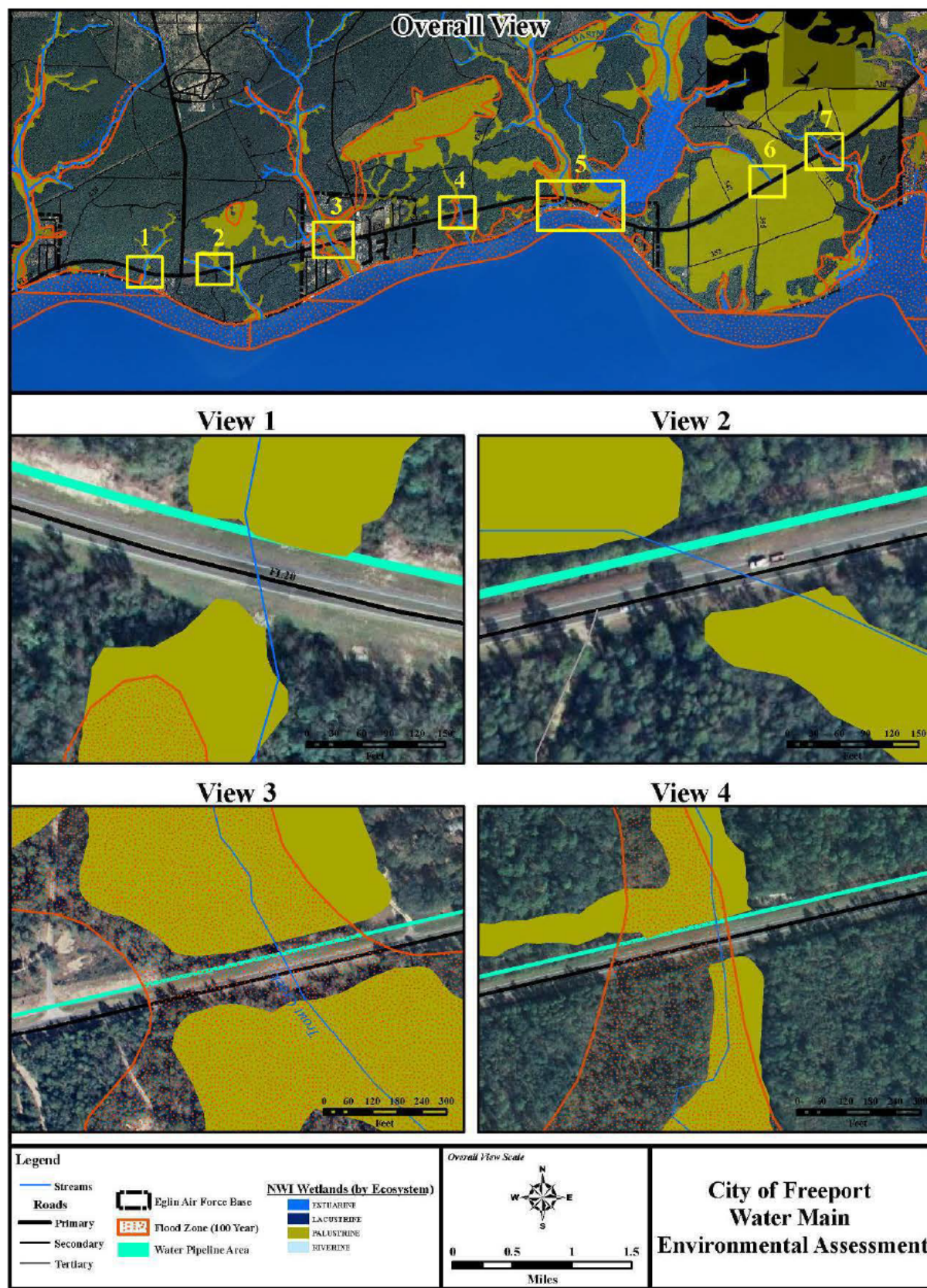


Figure 3-1. Water Resources (View 1 to 4)

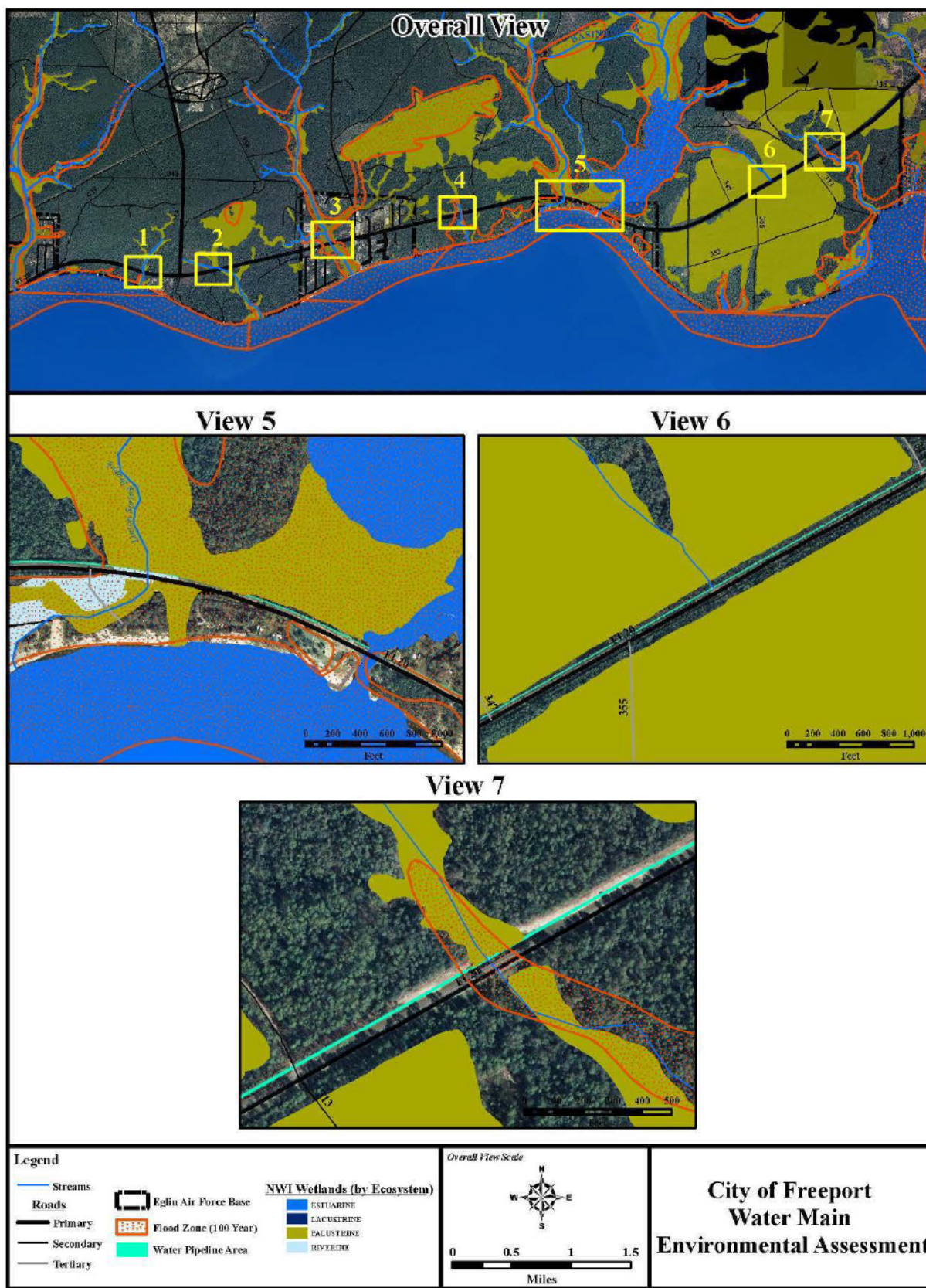


Figure 3-2. Water Resources (View 5 to 7)

Floridan Aquifer exists under confined conditions, bounded above and below by the Pensacola Clay Formation confining bed. This clay layer restricts the downward migration of pollutants and restricts saline water from Choctawhatchee Bay and the Gulf of Mexico from entering the upper limestone layer of the aquifer.

Surface Water

Surface waters have the potential to be impacted by land clearing and construction and demolition activities. Surface waters include bays, bayous, lakes, rivers, streams, ponds, and springs.

The FDEP divides river basins across Florida into groups, which the FDEP addresses according to an established rotation schedule. The eastern portion of Eglin AFB drains to the Choctawhatchee-St. Andrews Bay Basin (Group 3) and the west side drains into the Pensacola Bay Basin (Group 4) (FDEP, 2006a). Surface waters on Eglin AFB are Class 3 waters, meaning that they are designated for “recreation, propagation, and maintenance of a healthy, well-balanced population of fish and wildlife” (FDEP, 2006a). Impaired waters on or adjacent to Eglin AFB include: Boggy Bayou, Poquito Bayou, Rocky Bayou State Park, Choctawhatchee Bay, East Bay, and Yellow River (FDEP, 2006c and FDEP, 2006d).

The Proposed Action is approximately 7.5 miles of cleared right-of-way bordered by a wooded, lowland environment to the north and SR 20 to the south. Five unnamed creeks intersect portions of the Proposed Action. Four of these creeks flow south into Choctawhatchee Bay while the other flows west into Basin Bayou (Figure 3-3), the only major surface water in the project footprint. Basin Bayou is a 220-acre water body located approximately 350 feet north of SR 20. An inlet to Basin Bayou exists off Eglin AFB property crossing under SR 20. Multiple unpaved roads exist adjacent to the Proposed Action area intersecting SR 20. No impervious surfaces exist on the site. The terrain is relatively flat with very little difference in elevation.

Wetlands

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 (wetlands that fall under state or federal regulatory authority) in the United States are described using the three wetland delineation criteria: hydrophytic vegetation, hydric soils, and hydrology (USACE, 1987).

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 familial 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, which is the inflow and outflow of water through a wetland and its interaction with other site characteristics (Mitsch and Gosselink, 2000).



Figure 3-3. Photo of Basin Bayou

Wetlands are present through much of the Proposed Action area and are mostly associated with the five unnamed creeks. A total of 0.24 acre of wetlands is present within the Proposed Action footprint of Eglin AFB property. One wetland within the project footprint has an associated culvert that runs underneath SR 20 (Figure 3-4).

Floodplains

Floodplains exist on the eastern portion of the central segment of the Proposed Action and also a small area on the easternmost segment of the Proposed Action. Floodplains are lowland areas adjacent to surface water bodies (i.e., lakes, wetlands, and rivers), where flooding events periodically cover flat areas with water. Floodplain vegetation and soils store floodwaters during flood events and act as water filters, intercepting surface water runoff before it reaches lakes,



Figure 3-4. Photo of Wetland Culvert

streams, or rivers. 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. Conversely, if soils and sediments are contaminated, these contaminants can then be deposited on floodplains.

The Coastal Zone

The term *coastal zone* is defined as coastal waters and adjacent shorelands strongly influenced by each other and in proximity to the several coastal states, and including islands, transitional and inner tidal areas, salt marshes, wetlands, and beaches. The entire state of Florida is considered part of the coastal zone and is subject to the CZMA. *Coastal waters* are defined as any waters adjacent to the shoreline that contain a measurable amount of sea water, including but not limited to sounds, bays, lagoons, bayous, ponds, and estuaries. The outer boundary of the coastal zone is the limit of state waters, which for the Gulf coast of Florida is 9 nautical miles from shore. Some components of the Proposed Action would take place within the jurisdictional concerns of the FDEP and therefore required a consistency determination with respect to Florida's Coastal Zone Management Plan and the CZMA (Appendix A, CZMA Determination).

Storm Water

Storm water-carried sediment can alter water quality, aquatic habitats, hydrologic characteristics of streams and wetlands, and increase flooding. Land-disturbing activities (such as clearing) and the addition of impermeable surfaces (concrete, asphalt, etc.) can result in increases in storm water runoff. The effects, however, vary based on the amount of new impervious surface areas, topography, rainfall, soil characteristics, and other site conditions. The rate and volume of storm water runoff has the potential to impact the quality and utility of water resources (FDEP, 2002).

3.2 AIR QUALITY

3.2.1 Definition of the Resource

This section discusses air quality considerations and conditions in the area around the city of Freeport to Portland, in Walton County, Florida. Walton County is considered the ROI for air quality analysis because all construction actions associated with the Proposed Action would be located within that county. This section addresses air quality standards and describes current air quality conditions in the region.

Federal Air Quality Standards

Air quality is determined by the type and concentration of pollutants in the atmosphere, the size and topography of the air basin, and local and regional meteorological influences. The significance of a pollutant concentration in a region or geographical area is determined by comparing it to federal and/or state ambient air quality standards. Under the authority of the Clean Air Act (CAA), the USEPA has established nationwide air quality standards to protect public health and welfare, with an adequate margin of safety.

These federal standards, known as the National Ambient Air Quality Standards (NAAQS), represent the maximum allowable atmospheric concentrations and were developed for seven “criteria” pollutants: O₃, NO₂, CO, SO₂, particulate matter less than or equal to 10 microns in diameter (PM₁₀), particulate matter less than or equal to 2.5 microns in diameter (PM_{2.5}), and lead (Pb). Because volatile organic compounds (VOCs) and nitrogen oxides (NO_x) are precursors to the formation of O₃ in the atmosphere, control of these pollutants is the primary method of reducing O₃ concentrations in the atmosphere. The NAAQS are defined in terms of concentration (e.g., parts per million [ppm] or micrograms per cubic meter [$\mu\text{g}/\text{m}^3$]) determined over various periods of time (averaging periods). Short-term standards (1-hour, 8-hour, or 24-hour periods) were established for pollutants with acute health effects and may not be exceeded more than once a year. Long-term standards (annual periods) were established for pollutants with chronic health effects and may never be exceeded. A summary of the federal NAAQS that apply to the proposed project area is presented in Table 3-1.

Table 3-1. National and State Ambient Air Quality Standards

Criteria Pollutant	Averaging Time	Federal Primary NAAQS	Federal Secondary NAAQS
Carbon Monoxide (CO)	8-hour ⁽¹⁾ 1-hour ⁽¹⁾	9 ppm (10 mg/m ³) 35 ppm (40 mg/m ³)	No standard No standard
Lead (Pb)	Rolling 3-month avg Quarterly	0.15 $\mu\text{g}/\text{m}^3$ ⁽²⁾ 1.5 $\mu\text{g}/\text{m}^3$	0.15 $\mu\text{g}/\text{m}^3$ 1.5 $\mu\text{g}/\text{m}^3$
Nitrogen Dioxide (NO ₂)	Annual	0.053 ppm (100 $\mu\text{g}/\text{m}^3$)	0.053 ppm (100 $\mu\text{g}/\text{m}^3$)
Particulate Matter ≤ 10 Micrometers (PM ₁₀)	24-hour ⁽³⁾	150 $\mu\text{g}/\text{m}^3$	150 $\mu\text{g}/\text{m}^3$
Particulate Matter ≤ 2.5 Micrometers (PM _{2.5})	Annual ⁽⁴⁾ 24-hour ⁽⁵⁾	15 $\mu\text{g}/\text{m}^3$ 35 $\mu\text{g}/\text{m}^3$	15 $\mu\text{g}/\text{m}^3$ 35 $\mu\text{g}/\text{m}^3$
Ozone (O ₃)	8-hour ⁽⁶⁾ 8-hour ⁽⁷⁾ 1-hour ⁽⁸⁾	0.075 ppm (2008 std) 0.08 ppm (1997 std) 0.12 ppm	0.075 ppm 0.08 ppm 0.12 ppm
Sulfur Dioxide (SO ₂)	Annual 24-hour ⁽¹⁾ 3-hour	0.03 ppm (80 $\mu\text{g}/\text{m}^3$) 0.14 ppm (365 $\mu\text{g}/\text{m}^3$) No standard	No standard No standard 0.50 ppm (1300 $\mu\text{g}/\text{m}^3$)

Source: USEPA 2009a

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

⁽²⁾ Final rule signed October 15, 2008.

⁽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 $\mu\text{g}/\text{m}^3$.

⁽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 $\mu\text{g}/\text{m}^3$ (effective December 17, 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 0.075 ppm. (Effective May 27, 2008)

⁽⁷⁾ (a) 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. (b) The 1997 standard—and the implementation rules for that standard—will remain in place for implementation purposes as EPA undertakes rulemaking to address the transition from the 1997 ozone standard to the 2008 ozone standard.

⁽⁸⁾ (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 June 15, 2005 EPA revoked the 1-hour ozone standard in all areas except the 8-hour ozone nonattainment Early Action Compact (EAC) areas.

Based on measured ambient criteria pollutant data, the USEPA designates areas of the United States as having air quality equal to or better than the NAAQS (attainment) or worse than the NAAQS (nonattainment). Upon achieving attainment from a nonattainment designation, areas are then considered to be a “maintenance” area for a period of 10 or more years. Areas are

designated as unclassifiable for a pollutant when there is insufficient ambient air quality data for the USEPA to form a basis of attainment status. For the purpose of applying air quality regulations, unclassifiable areas are treated the same as areas in attainment of the NAAQS.

State Air Quality Standards

Under the CAA, state and local agencies may establish ambient air quality standards (AAQS) and regulations of their own, provided that these are at least as stringent as the federal requirements. For all criteria pollutants, Florida has adopted the NAAQS.

State Implementation Plan

For nonattainment regions, states are required to develop a state implementation plan (SIP) designed to eliminate or reduce the severity and number of NAAQS violations, with an underlying goal to bring state air quality conditions into (and maintain) compliance with the NAAQS by specific deadlines. The SIP is the primary means for the implementation, maintenance, and enforcement of the measures needed to attain and maintain the NAAQS in each state.

General Conformity

CAA Section 176(c), General Conformity, established certain statutory requirements for federal agencies with proposed activities to demonstrate conformity of the proposed activities with each state's SIP for attainment of the NAAQS. Federal activities must not:

- (a) cause or contribute to any new violation;
- (b) increase the frequency or severity of any existing violation; or
- (c) delay timely attainment of any standard, interim emission reductions, or milestones in conformity to a SIP's purpose of eliminating or reducing the severity and number of NAAQS violations or achieving attainment of NAAQS.

General conformity applies only to nonattainment and maintenance areas. If the emissions from a federal action proposed in a nonattainment area exceed annual thresholds identified in the rule, a conformity determination is required of that action. The thresholds become more restrictive as the severity of the nonattainment status of the region increases. Walton County, like the entire state of Florida is classified as being in attainment of the NAAQS for all criteria pollutants (USEPA, 2009b).

Greenhouse Gases

Greenhouse gases are chemical compounds in the Earth's atmosphere that trap heat. Gases exhibiting greenhouse properties come from both natural and human sources. Water vapor, CO₂, methane, and nitrous oxide are examples of greenhouse gases that have both natural and manmade sources, while other gases such as those used for aerosols are exclusively manmade. In the United States, greenhouse gas emissions come mostly from energy use. These are driven largely by economic growth, fuel used for electricity generation, and weather patterns affecting

heating and cooling needs. Energy-related CO₂ emissions resulting from petroleum and natural gas represent 82 percent of total U.S. manmade greenhouse gas emissions (Energy Information Administration, 2008).

3.2.2 Existing Conditions

The USEPA estimates point, area, and mobile source emissions as part of their national emission trends database. The emission data for 2002 (USEPA, 2002) are summarized in Table 3-2.

Table 3-2. Summary of Annual Emissions in Walton County

Source Type	Emissions (tons/year)					
	CO	NO _x	SO ₂	VOC	PM ₁₀	PM _{2.5}
Area Sources	1,060	77	21	1,515	7,381	1,745
Non-Road Mobile	8,892	741	67	1,675	208	122
On-Road Mobile	23,915	3,849	153	1,671	190	83
Point Sources	25	14	4	28	6	1
Total	33,893	4,681	246	4,890	7,785	1,950

Source: USEPA 2002 (National Emissions Inventory)

3.3 BIOLOGICAL RESOURCES

3.3.1 Definition of the Resource

Biological resources include native and introduced terrestrial and aquatic plants and animals that inhabit areas on and around Eglin AFB, along with the habitats where they reside. The habitats of Eglin AFB are home to an unusually diverse biological community, including several sensitive species and habitats.

Eglin applies a classification system of ecological associations to all its lands, based on floral, faunal, and geophysical characteristics (U.S. Air Force, 2007). Four broad ecological associations exist on Eglin AFB: sandhills, flatwoods, wetlands/riparian, and barrier island. Artificially maintained open grasslands/shrublands and urban/landscaped areas also exist on Eglin AFB, but are primarily on test areas and Eglin Main Base.

Sensitive habitats include areas that the federal government, state government, or the Department of Defense (DoD) has designated as worthy of special protection due to certain characteristics, such as high species diversity, rare plant species, or other unique features.

Sensitive species are those species protected under federal or state law (see Appendix B), to include migratory birds and threatened and endangered species. A *migratory bird* is defined by the USFWS as any species or family of birds that lives, reproduces, or migrates within or across international borders at some point during their annual life cycle. An *endangered* species is one that is in danger of extinction throughout all or a significant portion of its range. A *threatened* species is any species that is *likely* to become endangered within the foreseeable future throughout all or a significant portion of its range.

3.3.2 Existing Conditions

Flora and Fauna

All of the four broad ecological associations that exist on Eglin AFB (sandhills, flatwoods, wetlands/riparian, and barrier island) occur within or adjacent to the Proposed Action sites (Figure 3-5). Appendix B provides descriptions of the ecological associations at Eglin AFB and includes typical flora (plants) and fauna (animals) found within each of these associations.

No invasive nonnative plant species have been documented within or adjacent to the Proposed Action sites.

Sensitive Habitats and Sensitive Species

Sensitive habitats within or adjacent to the Proposed Action site include High Quality Natural Communities, potential reticulated flatwoods salamander pond buffer, wetlands, and floodplains (Figure 3-6). The habitat associated with the potential flatwoods salamander pond buffer area located along the middle of the project area is considered to be degraded due to previous disturbance associated with the existing SR 20 right-of-way. However, the habitat located within the buffer area associated with the potential flatwoods salamander pond north of Range Road (RR) 352 is considered suitable habitat due to its association with the surrounding wetland area (Knight, 2009). Wetlands and floodplains are discussed in Section 3.1, Water Resources. Appendix B provides details on each of the sensitive habitat types found at the Proposed Action sites.

Based on existing information, species documented to occur or potentially be present within the proposed sites are identified in Table 3-3. Species documented to occur in the vicinity of the proposed sites include the Florida black bear and the reticulated flatwoods salamander (Figure 3-6). Additionally, due to the habitat type, the gopher tortoise, indigo snake, kestrel, and Florida pine snake may utilize the area. Appendix B provides additional detail on the natural history of sensitive species related to the Proposed Action.

3.4 CULTURAL RESOURCES

3.4.1 Definition of the Resource

Cultural resources consist of prehistoric and historic sites, structures, artifacts, and any other physical or traditional evidence of human activity considered relevant to a particular culture or community for scientific, traditional, religious, or other reasons. As defined under 32 CFR 800 (l)(1), "Historic Property means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria."

Table 3-3. Potentially Occurring Sensitive Species Within or Adjacent to the Proposed Action Sites

Scientific Name	Common Name	Status	
		State	Federal
Amphibians and Reptiles			
<i>Ambystoma bishopi</i>	Reticulated Flatwoods Salamander	LS	LE (proposed)
<i>Crotalus adamanteus</i>	Eastern Diamondback Rattlesnake	-	-
<i>Drymarchon corais couperi</i>	Eastern Indigo Snake	LT	LT
<i>Gopherus polyphemus</i>	Gopher Tortoise	LT	-
<i>Pituophis melanoleucus mugitus</i>	Florida Pine Snake	LS	-
Birds			
<i>Falco sparverius paulus</i>	Southeastern American Kestrel	LT	-
<i>Picoides borealis</i>	Red-cockaded Woodpecker	LS	LE
Mammals			
<i>Ursus americanus floridanus</i>	Florida Black Bear	LT	-
Plants			
<i>Calamovilfa curtissii</i>	Curtiss' Sand Grass	LT	-
<i>Rhododendron austrinum</i>	Orange Azalea	LE	-

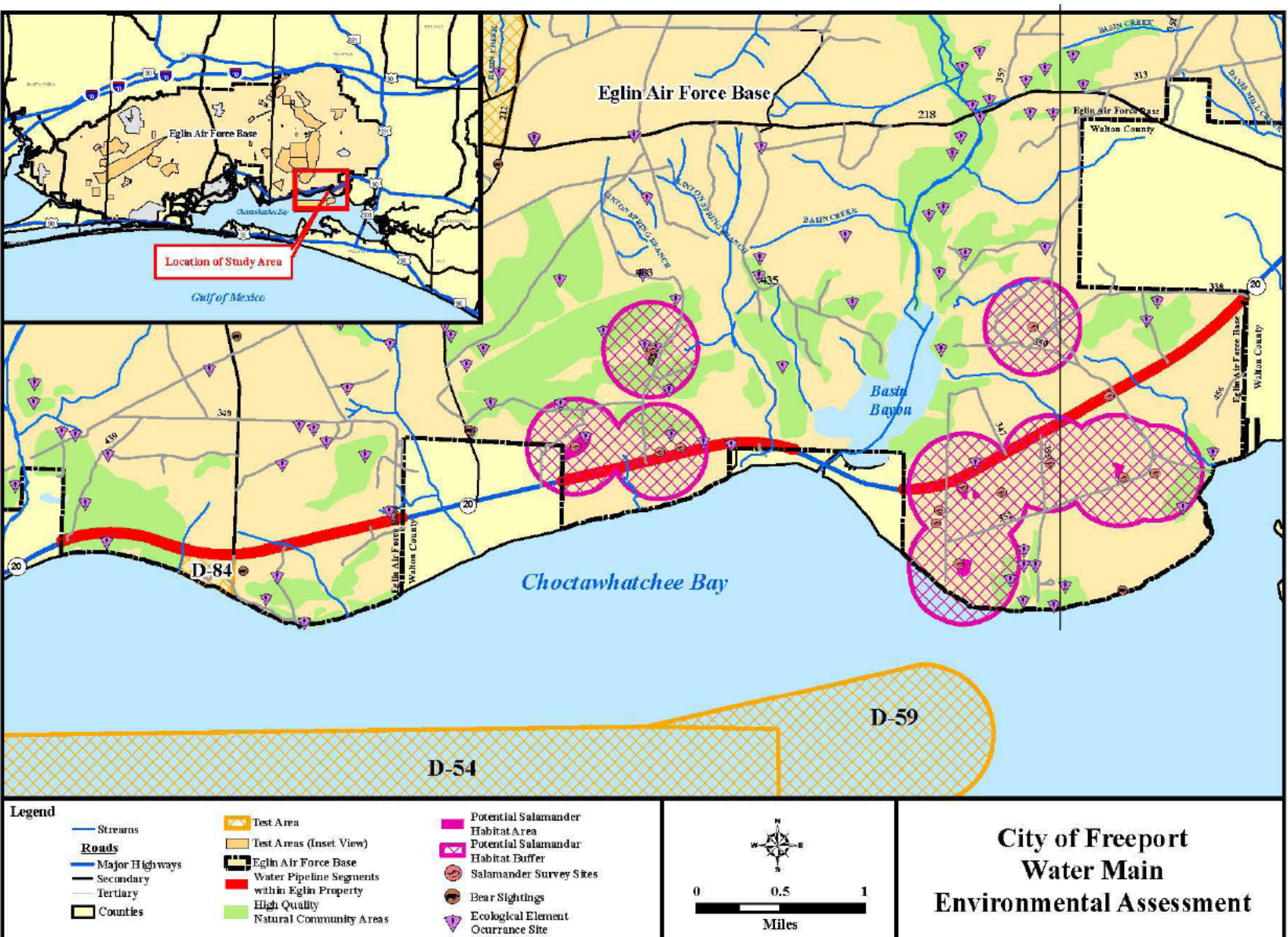
LT = Listed as Threatened; LE = Listed as Endangered.

The Cultural Resources sections within this EA describe known historic properties within the Area of Potential Effects (APE; Figure 2-1) that are potentially eligible for the NRHP. This includes any archaeological resources considered eligible, potentially eligible, or currently listed on the NRHP. This may also include historic structures, historic districts, any of the known historic cemeteries, or traditional cultural properties (TCPs).

Laws pertinent to the Proposed Action include the NHPA, as amended; the Antiquities Act of 1906; the Historic Sites Act of 1935; NEPA; the Archaeological and Historic Preservation Act of 1974; the Archaeological Resources Protection Act of 1979; the Native American Graves and Repatriation Act of 1990; and the American Indian Religious Freedom Act of 1978 (U.S. Air Force, 2004).

As this project is considered a federal undertaking, the Air Force is required to ensure that this environmental assessment and the underlying water main installation complies with federal statutes, regulations, Air Force instructions, and executive orders. Under Section 106 of the NHPA, the proponent and Eglin AFB must consider the effects of their undertakings on historic properties that are listed or are eligible for listing in the NRHP, and must consult with the SHPO, Tribes, and other consulting parties regarding potential effects as per 36 CFR, but these processes are generally coordinated through the NEPA process.





TCPs are historic sites eligible for the NRHP under one or more of the criteria in 36 CFR 60.4 (Sebastian, 1995). According to the National Park Service *Guidelines for Evaluating and Documenting Traditional Cultural Properties*, a TCP is defined as, "...one that is eligible for inclusion in the National Register of Historic Places because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community" (Parker and King, 1998). No specific studies have been conducted to date at Eglin AFB to identify TCPs. However, Eglin AFB has consulted with the Native American Tribes in the past and no TCPs have been identified.

The Native American Graves Protection and Repatriation Act of 1990 (25 United States Code 3001 et seq., as amended) addresses the protection of Native American burial sites and regulates the removal and study of human remains, funerary objects, sacred objects, and items of cultural patrimony on federal and tribal lands, or by institutions receiving federal funding. At present, no Native American traditional resources, sacred sites, or spiritual areas have been identified on Eglin AFB or within the Area of Potential Effects (APE) for this pipeline.

For the purpose of this EA, cultural resources, with a description of their state of investigation and condition, are presented for analysis as they intersect with the APE created by the undertaking. As defined under 36 CFR 800.16(d), "the Area of Potential Effects is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist. The area of potential effects is influenced by the scale and nature of the undertaking and may be different for different kinds of effects caused by the undertaking." The APE for this project is assumed not to extend beyond the footprint of the proposed pipeline within the existing right-of-way.

Properties identified in the APE by the Air Force are evaluated according to the NRHP criteria, in consultation with the SHPO and other parties. Typically, if the SHPO and other parties and the Air Force agree in writing that a historic property is eligible or not eligible for listing on the NRHP, that judgment is sufficient for Section 106 purposes (36 CFR 800.4[c][2]). Procedures and criteria for this can be found in 36 CFR 63, Determinations of Eligibility for Inclusion in the National Register of Historic Places, *Programmatic Agreement Between The Air Armament Center, Eglin Air Force Base, Advisory Council Historic Preservation and the Florida State Historic Preservation Officer Regarding the Preservation and Protection of Historical and Archaeological Resources Located at Eglin AFB, FL* (Eglin AFB, 2003) and in Eglin AFB's *Integrated Cultural Resource Management Plan* (Eglin AFB, 2004).

3.4.2 Existing Conditions

Historic Background of Area

This area of Florida was first occupied by Paleo-Indian populations approximately 12,000 years ago (Milanich, 1994). These early populations were geographically tethered to inland watering holes and along coastal areas with access to water. They subsisted primarily on now-extinct species of Pleistocene megafauna such as bison and mammoth. As the climate grew warmer and

more arid during the hypsithermal period (10,000–5,000 years ago), humans began exploiting a wider variety of plants and animals found within the local ecology. New technologies to exploit these resources were also developed during this time period, and these tools are often recovered from archaeological sites in the region (Anderson and Sassaman, 2004a). During this time, also known as the Archaic period, mound complexes in the region, such as Poverty Point in Louisiana, developed as populations in the southeastern United States increased in ceremonial and cultural complexity. The Archaic period and subsequent time periods are also witness to incipient agriculture, mound burials, and increasingly permanent settlements (Anderson and Sassaman, 2004b). The terminus of these trends during the Woodland period (2,700–1,000 years ago) led to the development of distinct prehistoric Native American cultures. These cultures are more visible and definable in the archaeological record, due to better preservation of more recent material remains and more stylistically identifiable objects such as pottery (Jeffries, 2004).

Early Spanish entradas (entry) by individuals such as Juan Ponce DeLeon in 1513 and 1521, and later by Hernando DeSoto (who is believed to have passed near Alabama and Tallahassee, Florida, to the north and east of Eglin Range, respectively), brought drastic changes to the region. These changes affected even populations untouched by direct colonization in terms of technology, culture, mass depopulation, and upheaval as a result of introducing foreign pathogens such as smallpox, measles, and influenza (Saunt, 2004). Estimates of native populations in the southeastern United States range from 1,000,000 to 4,000,000 individuals just prior to European arrival. By 1685, population estimates within the same region had fallen to 200,000 individuals (Saunt, 2004).

French and British populations also moved through and laid claim to portions of the region (Saunt, 2004). European involvement in Florida ended in 1819 when, by treaty, the United States received rights to the remaining Spanish claims in the region (Dowd, 2004). In 1845, Florida became the twenty-seventh state of the Union. For the next 50 years, plantation agriculture, citrus, cattle, and the naval stores industries along with supporting infrastructure were the primary occupations for most Floridians (Florida Environments Online [FEO], 2006).

Eglin AFB was originally established as an Army bombing and gunnery base in 1935. In 1940, as World War II approached, Congress ceded the surrounding Choctawhatchee National Forest from the Forest Service to the War Department (U.S. Air Force, 2006a). During World War II, Eglin would gain notability as the location where Doolittle's raid was planned, where captured German V-1 rockets were reverse engineered by American scientists into the JB-2 buzz bomb weapon, and where "Operation Crossbow," the reconstruction of Germany's "Vengeance" (or "V" weapon) rocket launch facilities took place, as well as testing of methods that would be used to destroy those launch sites. Because of this early foundation, Eglin Field would become an important armaments testing facility for the U.S. military after the war (Global Security, 2006).

Based upon the work conducted during World War II on captured German rocket technology, the Army Air Force created the first Experimental Guided Missiles Group to develop and test missiles at Eglin Field on 26 January 1946. In December of 1957, Eglin AFB would become home to the newly established Air Proving Ground Center. Under this aegis, numerous systems

would be tested at Eglin Range during the 1950s and 1960s, including the Boeing/Michigan Aeronautical Research Center (BOMARC) ground-to-air missile system and Hound Dog, a standoff, air-to-ground missile. In 1968, the Air Proving Ground Center was redesignated the Armament Development and Test Center (Global Security, 2006).

Historic Property Identification Efforts and Historic Properties Identified to Date within the APE

This section documents the Air Force's effort to identify and evaluate historic resources in compliance with Section 106 of the NHPA. Eleven archaeological surveys (survey units 132, X-183, X-190, X-283, X-296, X-493, X-494, X-523, X-556, X-645, X-800) were previously conducted within and adjacent to the APE (Baxter et al. 1995; Campbell and Mallory, 2001; Campbell et al. 2001; Mallory and Campbell, 2002; Moorehead et al., 2001; Thomas and Campbell, 2003; Thomas et al. 2006; Thomas et al. 2008).

In addition to these previous actions, one survey was completed under the current undertaking to identify resources in the pipeline corridor. In September 2009, Panamerican Consultants, Inc. completed a Phase I cultural resources survey of the pipeline corridor (Mikell, 2009).

In February 2010, PCI also conducted Phase II site assessments of two of the sites recorded during the Phase I investigation, 8WL2444 and 8WL2445 (Mikell, 2010). Cultural deposits recorded by PCI were less than 70cm in depth and appeared to lack integrity in most portions of the drainage swale within the APE. Prentice Thomas and Associates, Inc. concurrently conducted survey and delineation of sites 8WL41 and 8WL68, recording of 8WL2447 and 8WL2448, and evaluation of Sites 8WL1752 and 8WL1932 (Campbell et al., 2010; USAF, 2010; Kammerer, 2010). All these sites are upon Air Force (i.e., federal) land.

As a result of these surveys, eight NRHP-eligible historic properties, considered either potentially eligible or potentially significant pending further investigation (8WL41, 8WL68, 8WL1752, 8WL1932, 8WL2444, 8WL2445, 8WL2447, and 8WL2448) have been identified within the APE (USAF, 2010; Kammerer, 2010). No other cultural resources or historic buildings or structures have been identified within the Area of Potential Effects. Identified historic properties are presented in the Table 3-4.

3.5 UTILITIES

3.5.1 Definition of the Resource

The utilities resource consists of the services and facilities that typically supply potable water, wastewater treatment, electricity, and natural gas or propane. During project and site planning, engineers consider the utility specifications that are required as part of the project. Potential modifications and upgrades to existing systems are factored into the planning process. Existing utility service lines have been identified for the area surrounding the proposed site. Utilities in the area of concern include potable water and electricity.

Table 3-4. Archaeological Sites Identified Within Project Corridor

Site #	Site Description	Site Density	Comments	NRHP Status
8WL00041	Short term camps; Possible village or hamlet	Low Density Artifact	None	Eligible
8WL00154	Historic Late 19th - Early 20th Century	Historic Scatter	Severely disturbed/destroyed; Not Significant. No further work recommended.	Ineligible
8WL00235	Single Component Prehistoric	Surface scatter	All artifacts found on the surface. Site has been severely disturbed by the construction of SR 20. Site is not significant. No further work recommended.	Ineligible
8WL00997	Deptford and Weeden Island components	Variable density	The site has in situ remains with some diagnostics. Research potential has been maximized. No further work recommended.	Ineligible
8WL00068	Multicomponent Paleoindian, Early Archaic, Late Archaic (Elliot's Point), Deptford, Weeden Island, Ft. Walton	Low Density Artifact scatter	Prehistoric habitation site, shell midden, and burial mounds.	Eligible
8WL01040	Small Late Weeden Island site	Diffuse scatter	Site has been heavily impacted by construction of SR 20. Site is a small late Weeden Island site. Disturbance has eradicated the possibility of determining its original function. No further work recommended.	Ineligible
8WL01041	Multicomponent Prehistoric camps and possibly preceramic culture in the lower levels.	Diffuse scatter	Site was ephemeral use with limited tasks. One task points to tool maintenance. The site lacks good chronological control. Site lacks research potential. No further work recommended.	Ineligible
8WL01752	Multicomponent Prehistoric campsites	Low Density Artifact	None	Potentially Eligible
8WL1932	Prehistoric campsite	Low Density Artifact scatter	Weeden Island artifact scatter and habitation site.	Potentially Eligible
8WL2444	Unidentified prehistoric lithic scatter	Low Density Artifact scatter	None	Potentially Eligible
8WL2445	Fort Walton habitation site and shell midden	Low Density Artifact scatter	Low Density Artifact scatter with intact midden immediately adjacent to corridor	Potentially Eligible
8WL2447	unidentified Woodland artifact scatter	Low Density Artifact scatter	None	Potentially Eligible
8WL2448	unidentified Woodland artifact scatter	Low Density Artifact scatter	None	Potentially Eligible

All survey reports on file 96 CEG/CEVSH; Data from Baxter et al. 1995; Campbell and Mallory, 2001; Campbell et al. 2001; Campbell et al. 2010; CRIMS, 2009; Mallory and Campbell, 2002; Mikell, 2009, 2010; Moorehead et al., 2001; Thomas and Campbell, 2003; Thomas et al. 2006; Thomas et al. 2008; NRHP = National Register of Historic Places.

3.5.2 Existing Conditions

Potable Water

Around all three municipalities and in portions of the coast area near U.S. Highway 98, water and sewerage service are available. Potable water can be obtained from wells into the aquifer for those areas not served by public utilities. The primary water source for Walton County is the Florida Aquifer. Currently, there are 10 utilities located in Walton County that use more than 0.05 million gallons per day (Mgal/d) (Bartel et al., 2000). The utilities are classified as coastal and inland. Utilities within the “coastal” region are located south of Eglin AFB and are within the Water Resource Caution Area (WRCA) as designated by the NFWFMD. The city of Freeport is classified as a coastal utility and has a current consumptive use permit (CUP) totally 2.33 Mgal/d. This represents approximately 44 percent of the total CUP in the coastal utilities and 34 percent of the county total permitted water use (Bartel et al., 2000). There are five wells servicing the Freeport area but only three are operational. Potable water in the proposed project area is provided by the city of Freeport (Bartel et al., 2000).

Energy

The Choctawhatchee Electric Cooperative (CHELCO) and Gulf Power Company provide electrical services to Walton County (WCDEDC, 2009). There is an electrical easement near the proposed waterline easement. The electrical easement lies approximately 40 feet north of the starting point of the waterline easement across from SR 20 and the Alaqua Drive intersection and runs parallel to the proposed waterline. Nearly 7.5 miles from the start point of the waterline, the electrical easement begins to align more closely to the proposed pipeline.

Communications

The Eglin Air Force Base Test Wing has a fiber optic cable in the vicinity of the project area. Markers denoting buried communications cables were observed on the south side of Highway 20 opposite the project site.

3.6 TRANSPORTATION

3.6.1 Definition of the Resource

Transportation is defined as the movement of goods from place to place. In general, transportation refers to air, water, and ground vehicles and those services that make use of these infrastructures. Roadways are an example of a transportation infrastructure for automobiles, trucks, and buses to carry both people and goods.

3.6.2 Existing Conditions

Transportation resources analyzed within this EA include the roadway network adjacent to the Proposed Action and the local roadway network within Eglin Main Base boundary. Collectively, these resources compose the ROI for transportation. The ROI is defined as the existing road network serving the area near the Proposed Action along SR 20 between King Road and Center Street. Also included in the ROI are the range roads within Eglin Main Base boundary that

intersect the project area. Figure 3-7 and Figure 3-8 show the study area including the location of the Proposed Action and interactions with existing roads.

There are seven county roads and seven range roads on Eglin Main Base that intersect the water pipeline and are therefore part of the affected environment. The roads and the associated surface type are listed below in Table 3-5 and Table 3-6.

Table 3-5. County Roads that Intersect Water Pipeline

County	Surface Type
Rogers Drive	Dirt
Eastern Street	Paved
Smith Road	Dirt
Basin Street	Dirt
Basin Bayou Camp Site	Dirt
Sioux Lane	Dirt
Trout Branch Drive	Dirt

Table 3-6. Eglin Roads that Intersect Water Pipeline

Eglin	Surface Type
Unnamed	Sand
Unnamed	Paved
Unnamed	Sand
347	Sand
Unnamed	Sand
439	Sand
Unnamed	Sand

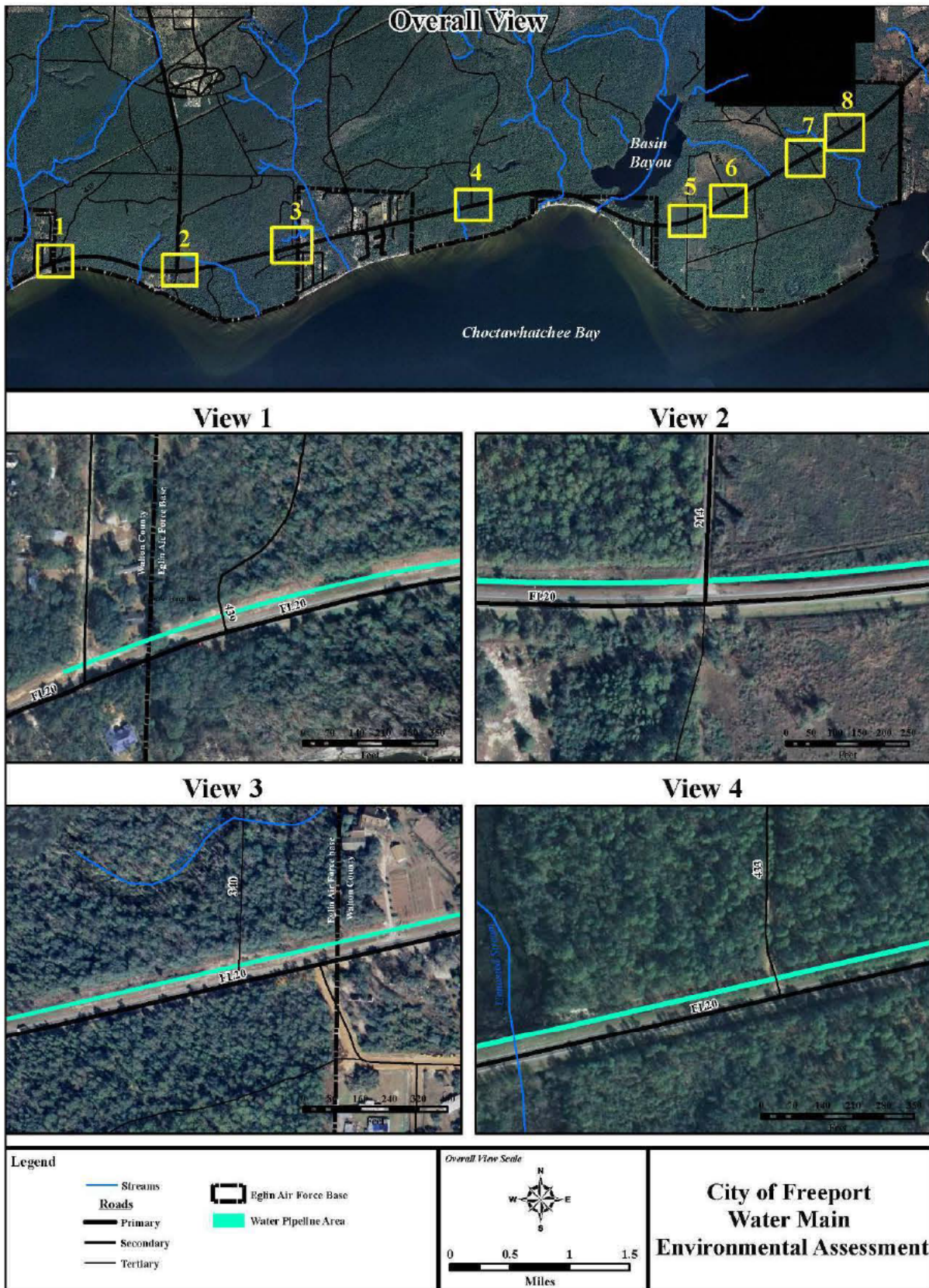


Figure 3-7. Existing Roads in the Proposed Action Study Area (View 1 to 4)

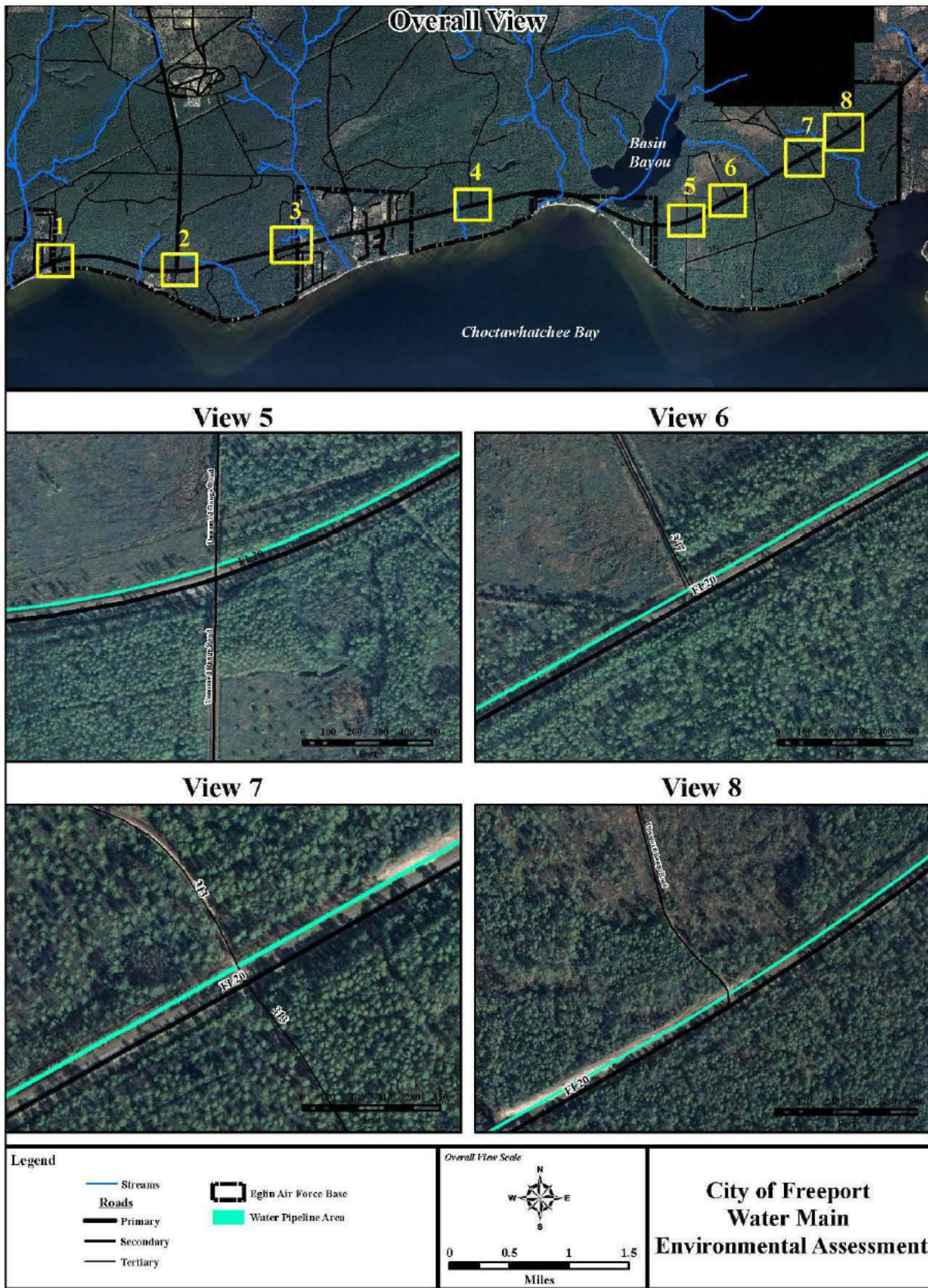


Figure 3-8. Existing Roads in the Proposed Action Study Area (View 5 to 8)

3.7 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

3.7.1 Definition of the Resource

Socioeconomic resources for this analysis are characterized in terms of population and employment, with a particular emphasis on minority, low-income, and youth populations. The Proposed Action would occur along SR 20 and affect the unincorporated areas of Portland, Choctaw Beach, and Basin Bayou in Walton County. Walton County comprises the ROI for this analysis for several reasons. First, there is limited data for specific unincorporated areas of Walton County. Second, construction would directly impact the unincorporated areas of Portland, Choctaw Beach, and Basin Bayou. Where possible, information on the unincorporated area of Walton County is included.

3.7.2 Existing Conditions

Walton County

In 2007, Walton County had a total county population of 52,739 persons (USCB, 2008). There are three incorporated cities in the county including DeFuniak Springs, Freeport, and Paxton. DeFuniak Springs is the largest of the incorporated areas, making up approximately 10 percent of the county population (City of DeFuniak Springs, 2007). The second largest incorporated area is Freeport with 3.3 percent (USCB, 2007a), followed by Paxton with 1.5 percent of the overall county population (Sperlings, 2009). The remaining 85 percent of the population lives in the unincorporated areas of Walton County.

There has been a significant increase in population since 1980 due in large part to beach-related tourism. Recent years have seen a shift in population toward unincorporated areas particularly South Walton, a 26-mile area located between the Choctawhatchee Bay, the Intracoastal Waterway, and the Gulf of Mexico (HAAS, 2001). The area consists of over 52,000 acres (approximately 8 percent) of the total county land area. While most of the recent and major commercial and residential development has occurred in South Walton, it is anticipated that future development will occur in the county's central area (east of Freeport) and northern areas (Mossy Head-Oakwood Hills) located west of DeFuniak Springs (Walton County, 2009).

Total employment in the ROI increased at an average annual rate of 10.5 percent over a six-year period for a total of 28,759 jobs in 2007. Employment in the state of Florida increased at a much lower rate (Table 3-7). Walton County has consistently had one of the lowest unemployment rates among all 67 counties in Florida. In March 2009, Walton County experienced a 7-percent unemployment rate compared to the statewide average of 9.5 percent (WCEDC, 2009b).

Table 3-7. Employment Growth, 2001–2007

Region	2001	2007	Average Annual Change, 2001–2007
Walton County	17,634	28,759	10.51
State of Florida	9,112,069	10,679,883	2.87

Source: BEA, 2009a

The largest source of employment in the region is the Accommodation and Food services Industry. In 2007, the Accommodation and Food industry accounted for approximately 16 percent of total employment with an estimated 4,523 jobs (BEA, 2009a). The second largest industry by employment was construction and accounted for nearly 15 percent of total employment with approximately 4,262 jobs in the ROI (BEA, 2009a). The third largest industry by employment was retail trade which accounted for nearly 14 percent of total employment in Walton County with approximately 3,797 jobs.

All three of the top employment industries are related to tourism. Tourism has a significant local economic impact in Walton County particularly the southern part of Walton County. In 2001, the tourism industry generated approximately \$412 million in local inter-industry sales and purchases and created nearly 7,243 direct and indirect jobs. The northern part of the county includes farming and poultry raising and processing. In addition, the dairy and beef cattle business are important economic drivers (HAAS, 2001).

In order to encourage economic growth and investment in Walton County, several areas have been established as “enterprise zones.” An enterprise zone is a geographical area that offers tax advantages and incentives to businesses that locate within the zone boundaries. There are three rural enterprise zones located in Walton County, including the City of DeFuniak Springs, the city of Freeport, and Walton County (unincorporated area of Mossy Head) (WCEDC, 2009b).

Per capita personal income (PCPI) in the ROI in 2007 was less than the per capita income in the state of Florida. Between 2001 and 2007, per capita income in Walton County increased at an average annual growth rate of 6.4 (BEA, 2009b). The 2001-2007 average annual growth rate of PCPI for the state was 4.6 percent (Table 3-8).

Table 3-8. Per Capita Personal Income, 2001–2007

Region	2001	2007	Average Annual Growth Rate
Walton County	19,480	28,235	6.4
State of Florida	29,291	38,417	4.6

Source: BEA, 2009b

The Government and Government Enterprises industry comprises the largest share of total earnings in Walton County. With total earnings in Walton County during 2007 of approximately \$694 million, the Government and Government Enterprises industry accounts for over 23 percent (BEA, 2009b). The second largest contributor of earnings is the Accommodation and Food Services industry (19 percent) followed by the Real Estate and Rental and Leasing industry (11 percent).

Environmental Justice

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, directs federal agencies to address environmental and human health conditions in minority and low-income communities. In addition to environmental justice issues are concerns pursuant to EO 13045, *Protection of Children from Environmental Health Risks*

and Safety Risks, which directs federal agencies to identify and assess environmental health and safety risks that may disproportionately affect children.

For purposes of this analysis, minority, low-income and youth populations are defined as follows:

- **Minority Population:** Persons of Hispanic origin of any race, African Americans, American Indians, Eskimos, Aleuts, Asians, or Pacific Islanders.
- **Low-Income Population:** Persons living below the poverty level.
- **Youth Population:** Children under the age of 18 years.

Estimates of these three population categories were developed based on data from the U.S. Bureau of the Census.

As presented in Table 3-8, the incidence of persons and families in the ROI with incomes below the poverty level were slightly higher than state levels (USCB, 2000a; 2000b). In the ROI during 2000, 14.4 percent of persons living below the poverty level compared to 12.5 percent of persons in the state of Florida as a whole.

Table 3-8. 2000 Population and Environmental Justice Data

Area	Population	Minority Persons		Persons Below Poverty		Children Under 18	
		Number	Percent	Number	Percent	Number	Percent
Walton County	40,601	4,705	11.6	5,577	14.4	8,795	21.7
State of Florida	15,982,378	3,141,034	22.0	1,952,629	12.5	3,646,340	22.8

Source: U.S. Census Bureau 2000a.; 2000b

Notes: 1. The U.S. Census calculates percent low-income for individual counties based on total county populations differing slightly from the county populations reported in the first column.
 2. Population figures for the each category are from different reporting years as described in the previous section. Therefore, except for minority population, the percentage figures are not based on the total population presented in this table but from the relevant data year.

Minority persons represent 11.6 percent of the ROI population. By comparison, minority persons represent 22 percent of the state population. The youth population, which includes children under the age of 18, accounts for 21.7 percent of the ROI population, compared to 22.8 percent at the state level.

4. ENVIRONMENTAL CONSEQUENCES

This section discusses potential impacts to environmental resources from the activities associated with the Proposed Action and Alternatives. Analysis focuses on assessing the potential for impacts to resources from construction activities and on identifying methods to reduce the potential for negative impacts to environmental resources from these activities, if applicable.

4.1 WATER RESOURCES

4.1.1 Proposed Action

The Proposed Action would not significantly affect water resources. While surface waters and wetlands do exist inside the study area, the city of Freeport will completely avoid impacts by directional boring underneath the earth's surface. The boring will go into and out of upland areas on either side of a given wetland or surface water area. Any clearing or land disturbance would need to be minimized near the existing unnamed creeks in order to avoid water resources being adversely affected. The use of silt fences around operation areas will keep sediment from indirectly compromising surface waters and wetlands.

The floodplain, which is based on storm surge, cannot be avoided due to its size. However impacts to the floodplain would not be significant as there would be no change to the floodplain in terms of elevation, just operations within it.

Because water would be piped in from the city of Freeport, coastal wells within the study area would be beneficially impacted through reduced water draw. The wells that would be drawn from are further inland and deeper and thus not as susceptible to saltwater intrusion. In accordance with FDEP regulations, the Proposed Action would likely require an application for an Environmental Resource Permit. This permitting process would determine any required erosion control measures. Also, an Erosion, Sedimentation, and Pollution Control Plan would be required. This would serve to further ensure that erosion and the transport of sediment off the project site do not occur.

This construction project required consistency with Florida's CZMA. The CZMA Determination and state concurrence is provided in Appendix A.

4.1.2 No Action Alternative

There would be no potential impacts to water resources under this alternative. Under the No Action Alternative, the city of Freeport would not install a water line connecting the cities of Freeport and Portland, Florida. Residents would continue to obtain potable water from their wells.

4.2 AIR QUALITY

In order to evaluate air emissions and their impact on 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 criterion approach is used in the USEPA's General Conformity Rule as an indicator for impact analysis for nonattainment and maintenance areas. According to the USEPA's General Conformity Rule in 40 CFR Part 51, Subpart W, any proposed federal action that has the potential to cause violations in a NAAQS nonattainment or maintenance area must undergo a conformity analysis. A conformity analysis is not required if the Proposed Action occurs within an attainment area.

4.2.1 Proposed Action

The air quality analysis included an assessment of direct and indirect emissions from the known activities associated with the Proposed Action that would affect the regional air quality. Emissions from the Proposed Action are either "presumed to conform" (based on emissions levels that are considered insignificant in the context of overall regional emissions) or they must demonstrate conformity with approved SIP provisions.

Emissions for the project period were quantified to determine the potential impacts on regional air quality. Although Walton County is in attainment of the NAAQS, in order to provide a consistent approach, these emissions were compared to federal conformity *de minimis* and 10-percent thresholds on an individual pollutant basis. Emissions of VOC, NO_x, CO, SO_x, and PM₁₀ and PM_{2.5} from construction activities were calculated using emission factors from the California Environmental Quality Act Air Quality Handbook (South Coast Air Quality Management District [SCAQMD], 2008), which is a compilation of USEPA (AP-42) emission factors.

The emissions included contributions from construction equipment engine exhaust emissions (i.e., on-site construction and grading equipment such as excavators, backhoes, and generators), vehicle emissions from on-road work vehicles like dump trucks and personal vehicle used in worker commutes, and fugitive dust emissions (e.g., from construction as well as from grading and trenching activities). Assuming that 1,000 feet of pipe could be laid per day, the project was estimated to occur over 40 8-hour working days during a three- to six-month period, including construction and material hauling. Details of the emissions calculations and factors used can be found in Appendix C, Air Emissions Calculations. The emissions, in tons from the Proposed Action in comparison to the significance thresholds are presented in Table 4-1.

Table 4-1. Project Emissions – Proposed Action

	Criteria Pollutant					
	CO	NO _x	VOC	SO ₂	PM ₁₀	PM _{2.5}
Proposed Action	0.61	1.18	0.15	0.00	0.06	0.06
ROI Baseline Emissions	33,893	4,681	4,890	246	7,785	1,950
Percent of ROI	<0.01	0.03	<0.01	<0.01	<0.01	<0.01

CO = carbon monoxide; NO_x = nitrogen oxides; SO₂ = sulfur dioxide; PM₁₀ = particulate matter less than or equal to 10 microns in diameter; PM_{2.5} = particulate matter less than or equal to 2.5 microns in diameter; VOC = volatile organic compounds.

Total project emissions generated within Walton County is well below the 100-ton-per-year *de minimis* and 10-percent regional federal conformity thresholds set forth in 40 CFR 51 Subpart W. Furthermore, emissions generated by construction projects are temporary in nature and would end when the project is complete.

Additionally, the emissions from fugitive dust (PM₁₀ and PM_{2.5}) could be significantly lessened through the implementation of control measures in accordance with standard construction practices. For instance, frequent spraying of water on exposed soil during ground disturbance and construction activities and prompt replacement of ground cover or pavement are standard landscaping procedures that could be used to minimize the amount of dust generated during construction. Using efficient grading practices and avoiding long periods where engines are running at idle may reduce combustion emissions from construction equipment.

No direct operational emissions are expected to occur after the proposed project is completed, as the pipeline would carry water only. No new stationary emission sources would be constructed as a result of the proposed project.

Greenhouse Gas Emissions

The Council on Environmental Quality (CEQ) recommended in their draft guidance of February 2010 that emissions equal or greater than 25,000 metric tons annually should be included in NEPA assessments (CEQ, 2010). The Proposed Action would include GHG emissions from fossil fuel combustion associated with construction equipment and worker trips, but these emissions would be temporary during construction and would not approach 25,000 metric tons annually. Therefore, a detailed analysis of GHG emissions is not required per the CEQ guidance.

4.2.2 No Action Alternative

No impacts to air quality would occur under the No Action Alternative. Under the No Action Alternative, the pipeline would not be constructed. Therefore, there would be no additional construction emissions or impacts anticipated and emissions in the ROI would remain at or near the baseline levels. There would be no environmental consequences to this resource.

4.3 BIOLOGICAL RESOURCES

The first step in the analysis of potential impacts to biological resources was to determine the locations of sensitive habitats and species in relation to the Proposed Action. Maps were examined to locate sensitive species and habitats; and, where necessary, site visits and additional surveys were conducted to confirm locations. Next, areas of overlap for the Proposed Action and sensitive habitats and species were identified. Scientific literature was reviewed for studies that examined similar types of impacts to biological resources. The literature review included a review of basic characteristics and habitat requirements of each sensitive species. Where available, information was also gathered relative to management considerations, incompatible resource management activities, and threats to each sensitive species. Impact analyses were then conducted based on the information gathered from the literature review and discussions with experts in these areas. The analyses included an assessment of the impacts on biological resources resulting from activities associated with the construction of the pipeline on Eglin AFB.

Existing conditions were analyzed against the Proposed Action and a determination was made as to whether direct or indirect impacts would occur. For biological resources, conclusions were drawn regarding the extent of impacts in which the level of anticipated impact is or is not likely to result in jeopardizing the continued existence of the species. Direct and indirect impacts to species and their habitat are included in the analysis. The USFWS considers any impact to be significant if potential impacts are anticipated and the action is likely to jeopardize the continued existence of the species. Therefore, significance was determined by the likelihood of an action to jeopardize the continued existence of a species.

4.3.1 Proposed Action

The Proposed Action would not have any significant impacts on biological resources or threatened and endangered species.

The construction area primarily consists of previously disturbed land within the existing SR 20 right-of-way, which is mostly grassed and free of thick vegetation. Most of the existing vegetation located within the project area would be maintained; brush and tree clearing would only occur on an as needed basis.

Construction activities may have an indirect localized effect on native terrestrial wildlife species such as squirrels, raccoons, and rabbits. However, it is anticipated that these species would either move to another location or remain within the area and utilize adjacent habitat.

Directional boring would be utilized to avoid direct impacts to wetlands and the suitable potential flatwoods salamander pond buffer area. Direct impacts to species habitat would not be significant due the minimal amount of vegetation clearing that may take place, the availability of similar habitat adjacent to the project area, and the use of directional boring.

Additionally, due to the use of directional boring, construction activities are not likely to affect the federally listed flatwoods salamander. The Eglin AFB Natural Resources Section

coordinated a “No Effect” determination on the Proposed Action with the USFWS under Section 7 of the ESA (Appendix E). The USFWS concurred with Eglin’s determination.

Although not all sensitive species listed in Table 3-3 in Chapter 3 have been documented to occur in the project area, there is potential for any of these species to be present. Project and construction personnel should be alert to the potential presence of these species and avoid them. Eglin AFB Natural Resources Section should be contacted immediately if any of these species are encountered during construction activities.

4.3.2 No Action Alternative

There would be no impacts to biological resources under the No Action Alternative. The city of Freeport water pipeline would not be constructed and, therefore, no impacts to biological resources would occur.

4.4 CULTURAL RESOURCES

4.4.1 Proposed Action

No adverse effects to cultural resources are expected as a result of the Proposed Action. Eight NRHP-eligible or potentially eligible historic properties (8WL41, 8WL68, 8WL1752, 8WL1932, 8WL2444, 8WL2445, 8WL2447, and 8WL2448) have been identified within the APE. No historic structures, historic districts, TCPs, or cemeteries are present within the APE.

SHPO has concurred with the U.S. Air Force determination that the proposed undertaking with avoidance strategies would have no adverse effect on historic properties (USAF, 2010; Kammerer, 2010). Inadvertent discoveries of materials associated with the eight known historic properties or newly discovered historic properties would be processed under Section 6.3.4 of this EA, 36CFR§800.13 “Post Review Discoveries,” and applicable portions of Eglin AFB’s Integrated Cultural Resources Management Plan. The five Tribes Eglin AFB normally consults would be notified immediately. In previous consultations, Tribes indicated to Eglin during an official meeting on September 2008 that they do not want to be informed of projects that do not adversely affect cultural resources (Stanley, 2010).

Required Avoidance Strategies

No significant portions of Sites 8WL68, 8WL1752, 8WL1932, 8WL2444, 8WL2445, 8WL2447, or 8WL2448 were found within the area of potential effect. Ground disturbing investigations will be monitored in the vicinity of these sites so that adverse effect to any unexpected intact cultural deposits can be prevented (USAF, 2010; Kammerer, 2010).

Intact portions of Site 8WL41 are present within the project area. The proposed pipeline would be installed via directional boring so that 8WL41 will not be adversely impacted by the proposed undertaking. In addition, the pipeline would be placed between the north edge of the road and the south edge of the drainage ditch in the vicinity of 8WL2445 so that significant portions of the site will be avoided. Professional archaeologists will monitor ground disturbance in these areas to prevent unidentified intact deposits from being disturbed (USAF, 2010; Kammerer, 2010).

4.4.2 No Action Alternative

There would be no adverse effects to cultural resources under the No Action Alternative. The water main would not be installed. Cultural resources in the project corridor would continue to exist in their current state.

4.5 UTILITIES

4.5.1 Proposed Action

There would be no significant impacts to utilities from activities associated with the Proposed Action. The proponent would coordinate with the Eglin Air Force Base Range Engineer and all utility providers prior to any ground-disturbing activities to avoid damage to existing buried utilities. Eglin has a fiber optic cable near the vicinity of the project site. Alignment and boring activities would be conducted in such a way as to identify and avoid potential disruptions in other utility services. Utilities in the vicinity of the project area have been sited and would be clearly marked during construction activities.

The FDOT District Three noted that the utility construction is proposed within the right-of-way of SR 20. A utility permit will be required from VMS. Further permitting information can be obtained from Mr. Charles Washington at (850) 678-2973.

The city of Freeport would be required to obtain a Potable Water Permit from the state. Questions regarding Potable Water distribution system permitting can be obtained from Mr. John Pope in the FDEP's Northwest District Office at (850) 595-8300 ext. 1145.

The Proposed Action would have beneficial impacts with regard to a better water supply for residents, interconnectivity between communities and more efficient fire response to incorporated areas of Walton County and parts of Eglin AFB, such as Test Area D-84.

4.5.2 No Action Alternative

There would be no significant impacts to existing utilities under the No Action Alternative as the SR 20 water main would not be installed. However, certain benefits would not be realized under the No Action Alternative. The objective of the Northwest Florida Regional Water Supply Plan to interconnect all existing coastal potable water systems would not be achieved. The local community would continue to receive potable water from the existing wells and would not receive the benefits of the cleaner water provided by the North Bay Water System. In addition, the unincorporated areas of Walton County and parts of Eglin AFB would not benefit from increased fire response or the increased protection from the alternative water source in times of emergency. Utilities in the Water Resource Caution Area (WCRA) along the coastline would continue to experience problems with saltwater intrusions and sustainability of coastal groundwater withdrawals.

4.6 TRANSPORTATION

4.6.1 Proposed Action

As discussed in Chapter 3 (Section 3.6) the roadways operating near the action include SR 20 and intersecting Eglin range and county roads. County roads, driveways, and range roads on Eglin Main Base that are not paved and consist of sand or gravel surfaces that intersect the proposed project area would be inaccessible due to digging activities. However, these impacts would be temporary and minor, lasting about one hour, which is the expected duration to install the water main across the width of a two-lane gravel road. To further minimize impacts from lane closures or restricted access along these roads, warning signs and alternate route signs would be posted for the public.

Activities associated with the Proposed Action would not require any lane closures or restricted access along SR 20, as the work would be accomplished along the road shoulder and within the existing right-of-way easement. Paved roads would be directionally bored and would not be impacted. Therefore, activities associated with the Proposed Action would not require any lane closures nor impede traffic along SR 20. There would not be any significant impacts to transportation resources from activities associated with the Proposed Action.

4.6.2 No Action Alternative

There would be no impacts to transportation resources under the No Action Alternative. The SR 20 water main would not be constructed.

4.7 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

4.7.1 Proposed Action

The Proposed Action would provide beneficial impacts to socioeconomic resources. There would be a slight positive impact on the local economy during construction of the Proposed Action from the use of local labor and supplies. The revenue generated from construction activities is expected to be temporary, lasting only for the duration of the project. The increase would be minor since the creation of new jobs is not expected. However, once the water main is installed and operational, the city of Freeport would gain additional revenue from the sale of potable water. The revenue generated would provide continuous and long term benefits to the city of Freeport and to the adjacent communities. Therefore, beneficial impacts to socioeconomic resources are anticipated from construction type activities under the Proposed Action. The action would not result in an increase in population, nor disproportionately affect low-income or minority persons. There would be positive benefits to all persons living within the study area. Thus, there would be no environmental justice impacts.

4.7.2 No Action Alternative

Under the No Action Alternative, the proposed construction of the SR 20 water main would not be implemented. Therefore, under the No Action Alternative the surrounding community would

not capture local economic benefits from the temporary increase in expenditures related to construction activities or the long-term revenue gains from additional customers.

5. CUMULATIVE IMPACTS

According to the CEQ regulations, cumulative impact analysis in an environmental assessment 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).

5.1 DEFINITION OF CUMULATIVE IMPACTS

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. Actions overlapping with or in close proximity to the Proposed Action can reasonably be expected to have more potential for cumulative effects on “shared resources” than actions that may be geographically separated. Similarly, actions that coincide temporally would tend to offer a higher potential for cumulative effects.

5.2 PAST AND PRESENT ACTIONS RELEVANT TO THE PROPOSED ACTION AND ALTERNATIVES

No other past or present actions that are relevant to the current Proposed Action have been identified.

5.3 RELEVANT REASONABLY FORESEEABLE ACTIONS

It is reasonable to assume that other construction efforts and ground-disturbing activities would likely occur in the area within the next five years; there are no planned road construction or road widening projects according to the FDOT. Likewise, the Walton County Comprehensive Plan does not indicate any major construction activities within the study area. The analysis of cumulative impacts therefore assumes a minor and infrequent rate of new construction, renovation, and/or demolition.

5.4 ANALYSIS OF CUMULATIVE IMPACTS

5.4.1 Water Resources

Other construction activities within the study area would not likely result in cumulative impacts to water resources. Due to the use of best management practices (BMPs) regarding construction activities and utilization of techniques such as directional boring, the overall cumulative impact with regard to water resources is anticipated to be minimal.

5.4.2 Air Quality

Other construction activities within the Proposed Action area would likely have minor and/or temporary impacts on air quality during construction phases. Construction typically results in a

short-term increase in particulate matter, vehicle emissions, and an increase in wind-borne dust. However, Walton County and the surrounding areas are currently in attainment, and the Proposed Action would not have an effect on this status. Any impacts to air quality from construction would be temporary and minor. Therefore, there would be no significant cumulative impacts to air quality.

5.4.3 Biological Resources

Construction activities would most likely occur in existing developed areas and/or already disturbed areas. Thus, no cumulative impacts to biological resources would be expected. Practices for protecting sensitive species and habitats would be consistent with existing documented procedures and site conditions would dictate these considerations.

5.4.4 Cultural Resources

Although construction activities would most likely occur in existing developed areas and/or already disturbed areas, any potential future activities in the project area on Eglin AFB property or as part of future federal undertakings in other portions of the right-of-way would require completion of the NHPA Section 106 process. Any NRHP-eligible resources that exist within the specific APE of that project would require identification and possibly mitigation to prevent potential cumulative impacts to cultural resources.

5.4.5 Utilities

Construction activities within the proposed area could cumulatively impact available utilities; however, the local utility infrastructure capacity would not be expected to be significantly impacted. Significant changes in residents or persons relocating to the area are not anticipated, and new construction would likely incorporate improved energy efficient equipment and materials. The current number of residents in the unincorporated areas between Freeport and Choctaw Beach represents a minor influence on the local utility suppliers.

5.4.6 Transportation

Other construction activities within the study area would not likely result in cumulative impacts on transportation because significant increases in traffic flow would be unlikely. Any limitations on transportation surrounding construction sites would be temporary in nature and would not be anticipated to result in significant impacts.

5.4.7 Socioeconomics and Environmental Justice

Other construction activities within the unincorporated area of Walton County would likely have minor and/or temporary impacts on socioeconomics during construction phases. Construction typically results in a temporary economic impact by providing employment through the duration of the construction activity. Community developers often discourage against urban sprawl, in which case any potential construction activities would most likely occur in existing developed areas. Foreseeable activities would be anticipated to occur within these same areas; therefore, no cumulative impacts to socioeconomics or areas of concern would be expected.

6. PLANS, PERMITS, AND MANAGEMENT PRACTICES

The following is a list of plans, permits, and management actions associated with the Proposed Action. Management practices described below are one of two types, either mandatory or recommended. Mandatory management practices are identified as actions the proponent will do, whereas recommended management practices are identified as impact minimization measures the proponent should consider implementing. The need for these requirements was identified by the EIAP for this EA and was developed through cooperation between the proponent and interested parties involved in the Proposed Action. Requirements to be considered as part of the Proposed Action are identified as such. The proponent is responsible for adherence to and coordination with the listed entities to complete the plans, permits, and management practices.

6.1 PLANS

- Site design plan.
- Storm Water Pollution Prevention Plan
- CZMA Negative Determination

6.2 PERMITS AND OTHER REQUIREMENTS

- Storm water facility design and construction permit.
- Generic permit for storm water discharge from construction activities that disturb 1 or more acres of land (in accordance with National Pollutant Discharge Elimination System standards).
- The city of Freeport would be required to obtain a Potable Water Permit from the state. Questions regarding Potable Water distribution system permitting can be obtained from Mr. John Pope in the FDEP's Northwest District Office at (850) 595-8300 ext. 1145.
- The FDOT District Three noted that the utility construction is proposed within the right-of-way of SR 20. A utility permit will be required from VMS. Further permitting information can be obtained from Mr. Charles Washington at (850) 678-2973.

6.3 MANAGEMENT PRACTICES

The proponent is responsible for the implementation of the following management actions.

6.3.1 Water Resources

The proponent will ensure that the construction contractor coordinates with 96 CEG/CEVCE (Compliance Engineering, 882-7660) for final storm water design and permitting.

The proponent will ensure that the construction contractor implements the following storm water BMPs:

- Utilize directional boring techniques to avoid impacts to water resources such as wetlands and floodplains. **This action is part of the Proposed Action.**
- Install and maintain entrenched silt fencing and staked 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. Replace fencing as needed.
- In permits and site plan designs, include site-specific management requirements for erosion and sediment control.
- Store chemicals, cements, solvents, fuels, or other potential water pollutants in locations where they cannot cause runoff pollution.
- For construction equipment (i.e., directional borer), designate “staging areas” designed to contain any chemicals, solvents, or toxins and prevent them from entering surface waters.
- Stabilize construction site entrance using FDOT-approved stone and geotextile (filter fabric).
- Inspect and maintain the aforementioned BMPs to ensure effectiveness.

6.3.2 Air Quality

The proponent will lessen emissions by implementing the following BMPs:

- Spray the construction area with water frequently to minimize particulate matter emissions.
- Replace or repair ground cover promptly to minimize particulate matter emissions.
- Limit vehicle/equipment idling time to minimize combustion emissions.

6.3.3 Biological Resources

The proponent will lessen impacts to biological resources by implementing the following BMPs:

- Use of directional boring to ensure avoidance of impacts to flatwoods salamander habitat.
- If a threatened or endangered species such as a gopher tortoise or black bear is sited, construction personnel will cease all activities, allowing the animal sufficient time to move away from the site on its own before resuming any activities.

6.3.4 Cultural Resources

The proponent will implement the following mitigations:

- The proponent will mitigate potential impacts to identified NRHP eligible and potentially eligible cultural resources through directionally boring under the resources.
- The proponent will also ensure that equipment will be staged outside of these resources areas to prevent impacts to identified resources.

- Should any inadvertent discoveries of archaeological material be made during the course of construction or demolition, all actions in the immediate vicinity will cease and efforts will be taken to protect the find from further impact. The Eglin Cultural Resource Branch, 96 CEG/CEVSH, will be contacted immediately should an unintended discovery occur.
- Construction monitoring is required to ensure mitigations are adhered to by a professional archaeologist who meets the Secretary of the Interior Professional Qualification Standards.
- The proponent will coordinate with the Eglin Cultural Resources office on entry and exit points for the directional bore procedures.

6.3.5 Utilities

- The proponent and construction contractor will coordinate with the Eglin Range Engineer to avoid damaging buried fiber optic cables located near the project site.
- The proponent will coordinate with all other utility providers to avoid damage to buried utilities.

6.3.6 Transportation

The proponent will ensure that the construction contractor coordinates with FDOT (850-414-4100) for required roadway construction practices.

The proponent will ensure that the construction contractor implements the following transportation BMPs:

- Place proper signage to include notification of upcoming construction and/or detour information at the proper distance visible from all points of entry.
- Other roadway construction BMPs as covered in Section 6.3.1, Water Resources.

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7. LIST OF PREPARERS

Name/Title	Project Role	Subject Area	Experience
Boykin, Brad Environmental Scientist B.S. Biomedical Science MBT Biotechnology	Author	Air Quality	5 years, biotechnology and chemistry fields
Koralewski, Jason Archaeologist M. Liberal Studies, Archaeology M.A. Anthropology B.A. Anthropology	Author	Cultural Resources	11 years, environmental science
McBroom, Brent GIS Analyst	GIS Analyst; Figure Development		15 years GIS
McKee, W. James (Jamie) Environmental Scientist B.S. Marine Biology	Author, Technical Lead, Project Manager		24 years, environmental science with experience in freshwater, estuarine and marine applications
Nation, Mike Environmental Scientist B.S. Environmental Science/Policy, Minor in Geography; A.A. General Science	Author	Water Resources	7 years, environmental consultant, interagency coordination, GIS Arc View applications
Safford, Pamela Economist M.A. Applied Economics B.S. Business Administration	Author	Utilities, Socioeconomics and Environmental Justice, and Transportation	3 years, socioeconomics and environmental science
Sands, Amy Environmental Scientist B.S. Environmental Science Master of Environmental Policy and Management	Author	Biological Resources	5 years, environmental science
Utsey, Tara Technical Editor B.A. Liberal Arts	Lead Technical Editor		14 years, editing; 8 years editorial project coordination

List of Preparers

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References

8. REFERENCES

- Anderson, D. G., and K. E. Sassaman, 2004a. "Early and Middle Holocene Periods, 9500 to 3750 B.C." In: *Handbook of North American Indians*, Vol. 14 Southeast. Raymond D. Fogelson, ed. Smithsonian Institution, Washington.
- Anderson, D. G., and K. E. Sassaman, 2004b. "Late Holocene Period, 3750 to 650 B.C." In: *Handbook of North American Indians*, Vol. 14 Southeast. Raymond D. Fogelson, ed. Smithsonian Institution, Washington.
- Ashton, R. E., Jr. 1992. Flatwoods salamander: *Ambystoma cingulatum* Cope. Pages 39-43 in P. E. Moler, editor. Rare and endangered biota of Florida: volume III amphibians and reptiles. University Press of Florida, Gainesville, Florida, USA.
- Ashton, R. E., Jr., and P. S. Ashton. 2005. Natural history and status of the flatwoods salamander in Florida. Pages 62-73 in W. E. Meshaka, Jr. and K. J. Babbitt, editors. Amphibians and reptiles: status and conservation in Florida. Krieger, Malabar, Florida, USA.
- Bartel, R. L., T. R. Pratt, T. L. Macmillan, AICP, R. R. Potts, PE, PG, C. J. Richards, PG, R. D. Womble, PG, J. A. Bonekemper, R. A. Countryman, 2000. Northwest Florida Water Management District Water Resources Assessment. Regional Water Supply Plan for Santa Rosa, Okaloosa and Walton Counties. July 2000.
- Baxter, William, James Mathews, Sharon Brown, Keith Hemphill, L. Janice Campbell and Mathilda Cox, 1995. Survey of Units X-283, X-296, and X-306, Cultural Resources Survey at, Eglin Air Force Base, Okaloosa, Santa Rosa and Walton Counties. Report prepared by Prentice Thomas and Associates for Eglin Air Force Base.
- Bureau of Economic Analysis (BEA), 2009a. CA25N Total full-time and part-time employment by NAICS industry.
- Bureau of Economic Analysis (BEA), 2009b. CA05N-Personal income by Major Source and Earnings by NAICS industry.
- Campbell, L. Janice and William R. Mallory, 2001. Survey of X-556, Cultural Resources Investigations, Eglin Air Force Base, Okaloosa, Santa Rosa and Walton Counties, Florida. Report prepared by Prentice Thomas and Associates for Eglin Air Force Base.
- Campbell, L. Janice, James R. Morehead, Joseph Meyer, James Mathews, 2001. Test and Evaluation, 8OK1241, 8SR1346, 8SR1356, 8SR1426, 8WL41, 8WL42, 8WL117, 8WL164, 8WL1124, 8WL1125, Cultural Resources Investigations, Eglin Air Force Base, Okaloosa, Santa Rosa & Walton Counties, Florida. Report prepared by Prentice Thomas and Associates for Eglin Air Force Base.
- Campbell, L. Janice, Prentice Thomas, James Mathews, 2010. Revised Management Summary of Delineation of 8WL41 and 8WL68 North of State Road 20, Site recording at 8WL2447 and 8WL2448, and Test and Evaluation of 8WL1752 and 8WL1932. Report submitted by PTA, Inc. to Eglin Air Force Base, Florida. March.
- City of DeFuniak Springs, 2007. Preliminary Population Estimates (Permanent Residents). Available at: <http://www.defuniaksprings.net/census.html>. Accessed on May 20, 2009.
- Council on Environmental Quality (CEQ), 2010. *Draft NEPA Guidance on Consideration of the Effects of Climate Change and Green house Gas Emissions*. Memorandum for Heads of Federal Departments and Agencies. February 18, 2010
- CRIMS, 2009. Cultural Resources Information Management System (Restricted Access). Information provided 96 CEG/CEVH to Jason Koralewski, SAIC, June, 2009.

References

- Directional Boring Central, 2009. "Directional Boring Advantage" Available at www.directionalboringcentral.com. Accessed on 24, April 2009.
- Dowd, G. E., 2004. "The American Revolution to the Mid-Nineteenth Century." In: *Handbook of North American Indians*, Vol. 14 Southeast. Raymond D. Fogelson, ed. Smithsonian Institution, Washington.
- Eglin Air Force Base. 2003. Programmatic Agreement Between the Air Armament Center, Eglin Air Force Base, the Advisory Council on Historic Preservation and the Florida State Historic Preservation Officer Regarding the Preservation and Protection of Historical and Archaeological Resources Located at Eglin Air Force Base, Florida. Eglin AFB, Florida.
- Eglin AFB, 2006. Eglin AFB Integrated Cultural Resources Management Plan, Eglin AFB, FL. May.
- Florida Department of Environmental Protection (FDEP), 2002. *Florida Stormwater, Erosion, and Sedimentation Control Inspector's Manual*. Technical Report.
- Florida Department of Environmental Protection (FDEP), 2006a. Wastewater Definitions and Permitting. Retrieved from <http://www.dep.state.fl.us/water/wastewater/dom/dompermit.htm#top>, on 21 September 2006.
- Florida Department of Environmental Protection (FDEP), 2006c. *2006 Water Quality Assessment Report: Choctawhatchee-St. Andrew*, Division of Water Resource Management. Web based document retrieved from <ftp://ftp.dep.state.fl.us/pub/water/basin411/csa/assessment/G3AS-Chocta-LR-Merge.pdf> on 11 July 2006.
- Florida Department of Environmental Protection (FDEP), 2006d. Order Adopting Verified List of Impaired Waters and Delisting Waters. 12 May 2006. Retrieved from www.dep.state.fl.us/water/tmdl/docs/15-ImpairedWatersOrder-5-12-06.pdf, on 26 September 2006.
- Florida Department of Environmental Protection (FDEP), 2009. Aquifers. Retrieved from <http://www.dep.state.fl.us/swapp/aquifer.asp#p1> on 5 June, 2009.
- Florida Environments Online (FEO), 2006. Florida Agricultural History and Rural Life. Retrieved from <http://palmm.fcla.edu/flag/>.
- Florida Fish and Wildlife Conservation Commission (FWC). 2008. Management Strategies for Florida's Ephemeral Ponds and Pond- Breeding Amphibians. 108 pp.
- Florida Natural Areas Inventory (FNAI), 1993. Distribution of the Flatwoods Salamander (*Ambystoma cingulatum*) and the Gopher Frog (*Rana capito*) on Eglin Air Force Base, Florida, Year I. John G. Palis, Tallahassee, Florida.
- Florida Natural Areas Inventory (FNAI), 2001. Field Guide to the Rare Animals of Florida. Florida Natural Areas Inventory, Tallahassee, Florida.
- Gault, K. 2006. Personal communication between Kathy Gault, Eglin Natural Resources Section, Wildlife, and Stephanie Hiers, SAIC. August 2006.
- Gault, K. 2009. Personal communication via email between Kathy Gault, Eglin Natural Resources Section, Wildlife, and Kelly Knight, SAIC. June 2009.
- Global Security, 2006. History of Eglin Air Force Base. Retrieved from <http://www.globalsecurity.org/military/facility/eglin.htm>.
- Haas Center for Business Research and Economic Development (HAAS). 2001. The Impact of Tourism on the Walton County Economy. Prepared for the Walton County Tourism Development Commission. Walton County, Florida. January, 2001.

References

- Jeffries, R. W., 2004. "Regional Cultures, 700 B.C. to A.D. 1000." In: *Handbook of North American Indians*, Vol. 14 Southeast. Raymond D. Fogelson, ed. Smithsonian Institution, Washington.
- Kammerer, Laura A., 2010. Letter to Mark Stanley, Eglin AFB 96 CEG/CEVSH, regarding SHPO Concurrence with Eglin AFB Findings in Water Pipeline Corridor. DHR Project File, No. 2010-02806.
- Knight, K., 2009. Personal communication between Amy Sands (SAIC) and Kelly Knight (96 CEG/CEVSN) regarding status of potential Flatwoods salamander habitat. 21 May 2009.
- Mallory, William R. and L. Janice Campbell, 2002. Survey of X-643, X-644, & X-645, Cultural Resources Management Support, Eglin Air Force Base, Okaloosa, Santa Rosa & Walton Counties, Florida. Report prepared by Prentice Thomas and Associates for Eglin Air Force Base.
- Means, D. B., J. G. Palis, and M. Baggett. 1996. Effects of slash pine silviculture on a Florida population of flatwoods salamander. *Conservation Biology* 10(2): 426-437.
- Mikell, Greg A., 2009. Cultural Resource Survey of the Proposed North Bay Water System Pipeline Corridor Between the Communities of Choctaw Beach and Portland, Walton County Florida. Report Prepared for the City of Freeport, Florida Prepared by Panamerican Consultants, Inc. December.
- Mikell, Greg A., 2010. Phase II Testing and Evaluation of Sites 8WL2444 and 8WL2445 within the Proposed North Bay Water System Pipeline Corridor Basin Bayou, Walton County Florida. Report Prepared for the City of Freeport, Florida Prepared by Panamerican Consultants, Inc. March.
- Milanich, J. T., 1994. *Archaeology of Precolumbian Florida*. University Press of Florida, Gainesville.
- Mitsch, W. J., and J. G. Gosselink, 2000. *Wetlands, 3rd Edition*. John Wiley & Sons: New York.
- Moorehead, James R., Joseph Meyer, James Mathews, Brian H. Schultz, L. Janice Campbell, 2001. Test and Evaluation, 8WL997, 8WL998, 8WL999, 8WL1039, 8WL1041, 8WL1044, 8WL1045, 8WL1047, 8WL1050, 8WL1053, Cultural Resources Investigations, Eglin Air Force Base, Okaloosa, Santa Rosa & Walton Counties, Florida. Report prepared by Prentice Thomas and Associates for Eglin Air Force Base.
- Neill, W. T. 1952. Burrowing habits of *Hyla gratiosa*. *Copeia* 1952(3): 196.
- Northwest Florida Water Management District, 2001. Regional Water Supply Plan for Santa Rosa, Okaloosa, and Walton Counties. Water Resources Assessment. July, 2000. Approved Feb. 22, 2001.
- Northwest Florida Water Management District, 2009. Five Year Water Resource Work Development Program. Fiscal Year 2009-2010 Update.
- Overing et al., 1995. Soil Survey of Okaloosa County, Florida. United States Department of Agriculture.
- Palis, J. G. 1996. Flatwoods Salamanders (*Ambystoma cingulatum* Cope). *Natural Areas Journal* 16(1): 49-54.
- Palis, J. G. 1997. Distribution, habitat, and status of the flatwoods salamander (*Ambystoma cingulatum*) in Florida, USA. *Herpetological Natural History* 5(1): 53-65.
- Parker, P.L., and T.F. King, 1998. "Guidelines for Evaluating and Documenting Traditional Cultural Properties." National Park Service, *National Register Bulletin # 38*.
- Pauly, G. B., O. Piskurek, and H. B. Shaffer. 2007. Phylogeographic concordance in the southeastern United States: the flatwoods salamander, *Ambystoma cingulatum*, as a test case. *Molecular Ecology* 16: 415-429.

References

- Peters, 2009. Personal communication between Jamie McKee (SAIC) and Charles D. Peters (Peters Municipal Associates, Inc.) regarding North Bay Water Extension project correspondence. 21 April, 2009.
- Pilarczyk et al., 2006. To be provided.
- Ripley, R., and D. Printiss. 2005. Management plan for flatwoods salamander populations on National Forests in Florida. The Nature Conservancy Northwest Florida Program, Bristol, Florida, USA.
- Saunt, C., 2004. "History Until 1776." In: *Handbook of North American Indians*, Vol. 14 Southeast. Raymond D. Fogelson, ed. Smithsonian Institution, Washington.
- Sebastian, L., 1995. Point and counterpoint regarding *Historic Preservation and Native American Sites*. <http://www.saa.org/publications/saabulletin/13-4/SAA7.html>.
- South Coast Air Quality Management District (SCAQMD). 2006. Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds. October 2006.
- South Coast Air Quality Management District (SCAQMD), 2008. Air Quality Analysis Guidance Handbook. Accessed online at <http://www.aqmd.gov/ceqa/hdbk.html>. Updated October 2006.
- Sperlings Best Places, 2009. Paxton Florida. Available at: <http://www.bestplaces.net/city/Paxton-Florida.aspx>. Accessed on 20 May 2009.
- Stanley, M., 2010. Personal communication between Jason Koralewski and Mark Stanley regarding Status of Native American Consultation on the City of Freeport Pipeline Project.
- Thomas, Prentice M., and L. Janice Campbell, 1993. Eglin Air Force Base, Historic Preservation Plan, Technical Synthesis of Cultural Resources Investigations at Eglin, Santa Rosa, Okaloosa, and Walton Counties, Florida, Vol. 1: Text; Vol. 2, Technical Synthesis and Appendices; Vol. 3; Folios. Report prepared by Prentice Thomas and Associates for Eglin Air Force Base.
- Thomas, Prentice M., L. Janice Campbell, Erica Meyer, 2006. Delineation & Sampling, East Half of 8WL68, Walton County, Florida, Eglin Air Force Base. Report prepared by Prentice Thomas and Associates for Eglin Air Force Base.
- Thomas Prentice M., L. Janice Campbell, James R. Morehead, Lee Courtney Thomas, Erica Meyer, and Jane Pope 2008. Damage Assessment of 64 Shoreline Sites, Cultural Resources Management Support, Eglin Air Force Base, Okaloosa, Santa Rosa & Walton Counties, Florida. Report prepared by Prentice Thomas and Associates for Eglin Air Force Base.
- Tucker, J.W., G.E. Hill, and N.R. Holler, 1996. Distribution of Nearctic-Neotropical Migrant and Resident Bird Species Among Habitats at Eglin and Tyndall Air Force Bases, Florida. Alabama Cooperative Fish and Wildlife Research Unit, Auburn University.
- U.S. Air Force, 1995. Environmental Baseline Study Resource Appendices 2. Eglin Air Force Base, Florida. March 1995.
- U.S. Air Force, 2003a. Environmental Restoration Program Management Action Plan. Eglin Air Force Base. July, 2003.
- U.S. Air Force, 2003b. Eglin Military Complex Environmental Baseline Study Resource Appendices, Volume 1: Eglin Land Test and Training Range.
- U.S. Air Force, 2004. Air Force Instruction 32-7065, *Cultural Resources Management Program*. 1 June 2004.

References

- U.S. Air Force, 2006a. Eglin Air Force Base History. Retrieved from <http://www.eglin.af.mil/history.htm>.
- U.S. Air Force, 2006b. Threatened and Endangered Species Component Plan, Eglin AFB, FL. 96 CEG/CEVSN.
- U.S. Air Force, 2007. *Integrated Natural Resources Management Plan (INRMP)*. 96 CEG/CEVSN. Eglin Air Force Base, Florida.
- U.S. Air Force, 2010. Letter from Mark Stanley, Eglin AFB 96 CEG/CEVSH, to Scott Stroh SHPO requesting concurrence with Eglin AFB findings in Water Pipeline Corridor. May.
- U.S. Army Corps of Engineers (USACE), 1987. *Wetlands Delineation Manual*. Wetlands Research Program Technical Report Y-87-1. Waterways Experiment Station.
- U.S. Census Bureau (USCB), 2000a. Summary File 1 (SF1) and Summary File 3 (SF3). Walton County Fact Sheet. American Fact Finder.
- U.S. Census Bureau (USCB), 2000b. Summary File 1 (SF1) and Summary File 3 (SF3). State of Florida Fact Sheet. American Fact Finder.
- U.S. Census Bureau. (USCB), 2007a. 2007 Population Estimates, Census 2000, 1990 Census. Population Finder: Freeport City, Florida.
- U.S. Census Bureau (USCB), 2009. Population Estimates Program, 2009. Florida by County. American Fact Finder/
- U.S. Environmental Protection Agency (USEPA), 1995. *America's Wetlands: Our Vital Link Between Land and Water*.
- U.S. Environmental Protection Agency (USEPA), 2002. 2002 National Emissions Inventory Microsoft Access Database. Retrieved from <http://www.epa.gov/ttn/chief/net/2002inventory.html#inventorydata>, in April 2009.
- U.S. Environmental Protection Agency (USEPA), 2009a. National Ambient Air Quality Standards (NAAQS). U.S. Environmental Protection Agency Department of Air and Radiation. Accessed online at <http://www.epa.gov/air/criteria.html>. February.
- U.S. Environmental Protection Agency (USEPA), 2009b. Currently Designated Nonattainment Areas for All Criteria Pollutants. U.S. Environmental Protection Agency Green Book. As of March 12, 2009. Accessed online at <http://www.epa.gov/air/oaqps/greenbk/anc13.html>. March.
- U.S. Fish and Wildlife Service (USFWS), 1979. *National Wetlands Inventory Classification for Wetlands and Deepwater Habitats of the United States*.
- U.S. Fish and Wildlife Service (USFWS), 1998. Okaloosa Darter (*Etheostoma okaloosae*) Recovery Plan (Revised). Atlanta, GA 42p.
- U.S. Fish and Wildlife Service (USFWS), 2007. *National Bald Eagle Management Guidelines*.
- Walton County Economic Development Council (WCEDC), 2009. Utilities. Available at: <http://www.waltonbusiness.com/utilities/utilities.htm>. Accessed on 20 May 2009.
- Walton County Economic Development Council (WCEDC), 2009b. Workforce. Available at: <http://www.waltonbusiness.com/workforce/workforce.htm>. Accessed on 20 May 2009.
- Walton County, 2009. Evaluation and Appraisal Report (EAR). Available at: <http://co.walton.fl.us/index.asp?NID=66>. Accessed on 20 May 2009.

References

Washington State Department of Health, 2007. Drinking Water Tech Tips: Simple Control Systems – Hydropneumatic Tanks. DOH Pub. #331-380. November, 2007.

Weitze, K. J., 2005. *Historic Range Context Eglin AFB*. Weitze Research. January.

APPENDIX A

COASTAL ZONE MANAGEMENT ACT (CZMA) DETERMINATION AND CONCURRENCE

FEDERAL AGENCY COASTAL ZONE MANAGEMENT ACT (CZMA) CONSISTENCY DETERMINATION

Introduction

This document provides the State of Florida with the U.S. Air Force's Consistency Determination under CZMA Section 307 and 15 C.F.R. Part 930 sub-part C. The information in this Consistency Determination is provided pursuant to 15 C.F.R. Section 930.39 and Section 307 of the Coastal Zone Management Act, 16 U.S.C. § 1456, as amended, and its implementing regulations at 15 C.F.R. Part 930.

This federal consistency determination addresses the proposed action for the installation of a transmission water main connecting the City of Freeport and Portland which would cross through Eglin Air Force Base (AFB), Florida (Figures 1 and 2).

Proposed Federal Agency Action:

The approximately 7.5-mile line segment transmission water main would run along the northern side of SR 20 within the confines of the Florida Department of Transportation (FDOT) right-of-way from Eastern Street in Choctaw Beach to Alaquá Drive in Portland. This segment would bisect the boundaries of Eglin AFB in three separate locations amounting to a total of approximately 6 miles on base. The Proposed Action is to lay the pipe along the north side of SR 20 in the configuration shown in Figure 2. The water main would measure 12 inches in diameter and would be an extension to an existing 12-inch diameter main located at Eastern Street in Choctaw Beach and eventually join to an existing 10-inch diameter main located at Alaquá Drive. Installing the water main within the existing SR 20 right-of-way intentionally minimizes the potential environmental impacts as the right-of-way constitutes a previously disturbed area. Impacts to wetlands along the right-of-way would be prevented by directionally boring underneath them.

The pipe would be connected at either end of the project area to existing hydrants. There are no plans to install other components such as pumps within the proposed pipeline route. The shoulder of SR 20 provides sufficient space to accommodate all equipment for the Proposed Action. There would be no lane closures of SR 20. The proponent would place highly visible signs near the study area to caution drivers of the activity and to protect workers operating equipment near SR 20.

The water main pipe would be laid using standard trenching equipment, including up to two backhoes, a bulldozer, front end loader, and a directional bore machine for certain situations. Two backhoes may be used at the same time, one to dig and one to backfill. The proponent would employ directional boring to place the pipe under paved roads, culverts and wetland areas without causing disturbance to those features. Directional boring may also be used to bore under potential reticulated flatwoods salamander habitat.

The expected timeframe for construction of the pipeline project is three to six months. The ideal rate of progress could be as much as 2,000 feet per day for surface trenching and laying the waterlines. However in locations that require directional boring, progress would slow to 500 feet of waterline laid per day. Construction activity would only occur during daylight hours.

Federal Consistency Review

Statutes addressed as part of the Florida Coastal Zone Management Program consistency review and considered in the analysis of the proposed action are discussed in the following table.

Pursuant to 15 C.F.R. § 930.41, the Florida State Clearinghouse has 60 days from receipt of this document in which to concur with or object to this Consistency Determination, or to request an extension, in writing, under 15 C.F.R. § 930.41(b). Florida's concurrence will be presumed if Eglin AFB does not receive its response on the 60th day from receipt of this determination. The state concurrence is provided as Attachment A-1.

Florida Coastal Management Program Consistency Review

Statute	Consistency	Scope
Chapter 161 <i>Beach and Shore Preservation</i>	The proposed action would not affect beach and shore management, specifically as it pertains to: • The Coastal Construction Permit Program. • The Coastal Construction Control Line (CCCL) Permit Program. • The Coastal Zone Protection Program.	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 purpose of the proposed action is to establish interconnectivity between municipal water systems and provide better quality potable water to Walton County residents living along SR 20. Interconnectivity is needed because municipal water systems need more than one source of water in times of emergency. If contamination or natural disaster, such as a hurricane, impacted one water supply, an interconnection with neighboring municipalities would allow affected residents access to potable water. State agencies will be provided the opportunity to review the Environmental Assessment. Therefore, the proposed action would be consistent with Florida's statutes and regulations regarding state plans for water use, land development or transportation.	Details state-level planning efforts. 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 affect 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>	The proposed action would install the water main within the existing SR 20 right-of-way intentionally minimizing the potential environmental impacts as the right-of-way constitutes a previously disturbed area. Therefore, the proposed action would not negatively 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>	The proposed action would not significantly affect water resources. While surface waters and wetlands do exist inside the study area, the City of Freeport will completely avoid impacts by directional boring. The boring will go into and out of upland areas on either side of a given wetland or surface water area. Any clearing or land disturbance would need to be minimized near the existing unnamed creeks in order to avoid water resources being adversely affected. The use of silt fences around operation areas will keep sediment from indirectly compromising surface waters and wetlands. Therefore the proposed action would not negatively affect state parks, recreational areas and aquatic preserves.	Addresses administration and management of state parks and preserves.
Chapter 259 <i>Land Acquisition for Conservation or Recreation</i>	The proposed action would not affect tourism and/or outdoor recreation.	Authorizes acquisition of environmentally endangered lands and outdoor recreation lands.
Chapter 260 <i>Recreational Trails System</i>	The proposed action would not include the acquisition of land and would not affect the Greenways and Trails Program.	Authorizes acquisition of land to create a recreational trails system and to facilitate management of the system.
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 267 <i>Historical Resources</i>	As the project has been determined to be a federal undertaking, the Air Force will comply with Section 106 of the National Historic Preservation Act (NHPA). As results of the survey and potential National Register of Historic Places (NRHP) resources are identified, these findings will be presented to the State Historic Preservation Officer (SHPO) and other interested parties for review. As part of the Section 106 planning process, Eglin AFB will continue to consult with the Florida SHPO and the City of Freeport throughout the process. Implementation of required identification, evaluation, and mitigation of NRHP historic properties under Section 106 will occur in a phased manner over the life of	Addresses management and preservation of the state's archaeological and historical resources.

	the project. A Memorandum of Understanding (MOU) is planned regarding mitigations to identified resources between the SHPO, Eglin AFB, and the City of Freeport. Until the proposed MOU and, as applicable, other agreements are finalized and specific procedures for managing project-related resources identified, the Air Force and the City of Freeport will seek to avoid disturbance to any historic property of unknown eligibility to, listed in, or considered eligible for listing on the NRHP. Until the proposed MOU is executed, guidance for project issues related to cultural resources will be addressed under the procedures of 36 CFR 800 and applicable portions of Eglin's Integrated Cultural Resources Management Plan (ICRMP). Therefore, the proposed action would be consistent with the State's policies concerning the protection of cultural resources.	
Chapter 288 <i>Commercial Development and Capital Improvements</i>	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>	Activities associated with the proposed action would not require any lane closures or restricted access along SR 20. Paved roads would be directionally bored and would not be impacted. Activities associated with the proposed action would not require any lane closures or restricted access along SR 20. Therefore, the proposed action would not affect the planning needs of the state's transportation administration.	Addresses the state's policy concerning transportation administration.
Chapter 339 <i>Transportation Finance and Planning</i>	The proposed action would not affect the finance and planning needs of the state's transportation system.	Addresses the finance and planning needs of the state's transportation system.
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>	Construction activities may have an indirect localized effect on native terrestrial wildlife species such as squirrels, raccoons, and rabbits. However, it is anticipated that these species would either move to another location or remain within the area and utilize adjacent habitat. Directional boring would be utilized to avoid direct impacts to wetlands and the potential reticulated flatwoods salamander pond buffer area (Figure 3). Direct impacts to species habitat would not be significant due the minimal amount of vegetation clearing that may take place, the availability of similar habitat adjacent to the project area, and the use of directional boring. Additionally, due to the use of directional boring, Eglin AFB Natural Resources Section will be coordinating a “No Effect” determination with the USFWS under Section 7 of the ESA. Prior to project initiation a gopher tortoise survey is required. If a gopher tortoise burrow cannot be avoided, then the tortoise would be relocated in accordance with the Florida Fish and Wildlife Conservation Commission (FWC) protocols. Therefore, the proposed action would be consistent with the State’s policies concerning the protection of wildlife and other natural resources.	Addresses the management of the wildlife resources of the state.
Chapter 373 <i>Water Resources</i>	The City of Freeport would coordinate all applicable permits in accordance with the Florida Administrative Code (FAC). An Environmental Resource Permit (ERP) from the Northwest Florida Water Management District (NFWMD) per FAC 62-346 may be required for the proposed action. Applicable permitting requirements would be satisfied in accordance with 62-346 of the FAC and National Pollutant Discharge Elimination System (NPDES). Eglin AFB would submit a notice of intent to use the generic permit for storm water discharge under the NPDES program prior to project initiation according to Section 403.0885, Florida Statutes (FS). An Erosion, Sedimentation, and Pollution Control Plan would be required. This would serve to	Addresses the state’s policy concerning water resources.

	further ensure that erosion and the transport of sediment off the project site do not occur. Therefore, the proposed action would be consistent with Florida's statutes and regulations regarding the water resources of the state.	
Chapter 376 <i>Pollutant Discharge Prevention and Removal</i>	Any construction area larger than one acre would require a NPDES General Permit under 40 CFR 122.26(b) (14) (x). A storm water pollution prevention plan would also be required under the NPDES permit before beginning construction activities. Therefore, the proposed action would be consistent with Florida's statutes and regulations regarding the transfer, storage, or transportation of pollutants.	Regulates transfer, storage, and transportation of pollutants, and cleanup of pollutant discharges.
Chapter 377 <i>Energy Resources</i>	There would be no significant impacts to utilities from activities associated with the proposed action. Coordination with all utility providers would be required prior to any ground-disturbing activities in an effort to minimize potential conflicts between utility providers. Alignment and boring activities would be conducted in such a way as to identify and avoid potential disruptions in other utility services. To further minimize potential impacts, utilities in the vicinity of the project area have been sited and would be clearly marked during construction activities in order to avoid impacts to existing utilities. Therefore, the proposed action would not affect energy resources of the state.	Addresses regulation, planning, and development of oil and gas resources of the state.
Chapter 380 <i>Land and Water Management</i>	The purpose of the proposed action is to establish interconnectivity between municipal water systems and provide better quality potable water to Walton County residents living along SR 20. Interconnectivity is needed because municipal water systems need more than one source of water in times of emergency. If contamination or natural disaster, such as a hurricane, impacted one water supply, an interconnection with neighboring municipalities would allow affected residents access to potable water. State agencies will be provided the opportunity to review the Environmental Assessment. Therefore, the proposed action would not negatively affect development of	Establishes land and water management policies to guide and coordinate local decisions relating to growth and development.

	state lands with regional (i.e. more than one county) impacts.	
Chapter 381 <i>Public Health, General Provisions</i>	The proposed action would not affect the state's policy concerning the public health system.	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>	The City of Freeport would coordinate all applicable permits in accordance with the FAC. Air quality impacts from the proposed action would be minimal. Total project emissions generated within Walton County is well below the 100-ton-per-year <i>de minimis</i> and 10-percent regional federal conformity thresholds set forth in 40 CFR 51 Subpart W. Furthermore, emissions generated by construction projects are temporary in nature and would end when the project is complete. Additionally, the emissions from fugitive dust (PM₁₀ and PM_{2.5}) could be significantly lessened through the implementation of control measures in accordance with standard construction practices. The proponent would take reasonable precautions to minimize fugitive particulate (dust) emissions during any construction activities in accordance with FAC 62-296.320. Therefore, the proposed action would be consistent with Florida's statutes and regulations regarding water quality, air quality, pollution control, solid waste management, or other environmental control efforts.	Establishes public policy concerning environmental control in the state.
Chapter 582 <i>Soil and Water Conservation</i>	All applicable BMPs, such as erosion and sediment controls and storm water management measures would be implemented to minimize erosion and storm water run-off, and to regulate sediment control. Furthermore, an Erosion, Sedimentation, and Pollution Control Plan would be required. This would serve to ensure that erosion and the transport of sediment off the project site do not occur. Therefore, the proposed action would be consistent with Florida's statutes and regulations regarding soil and water conservation efforts.	Provides for the control and prevention of soil erosion.



Figure 1. Eglin AFB, Florida

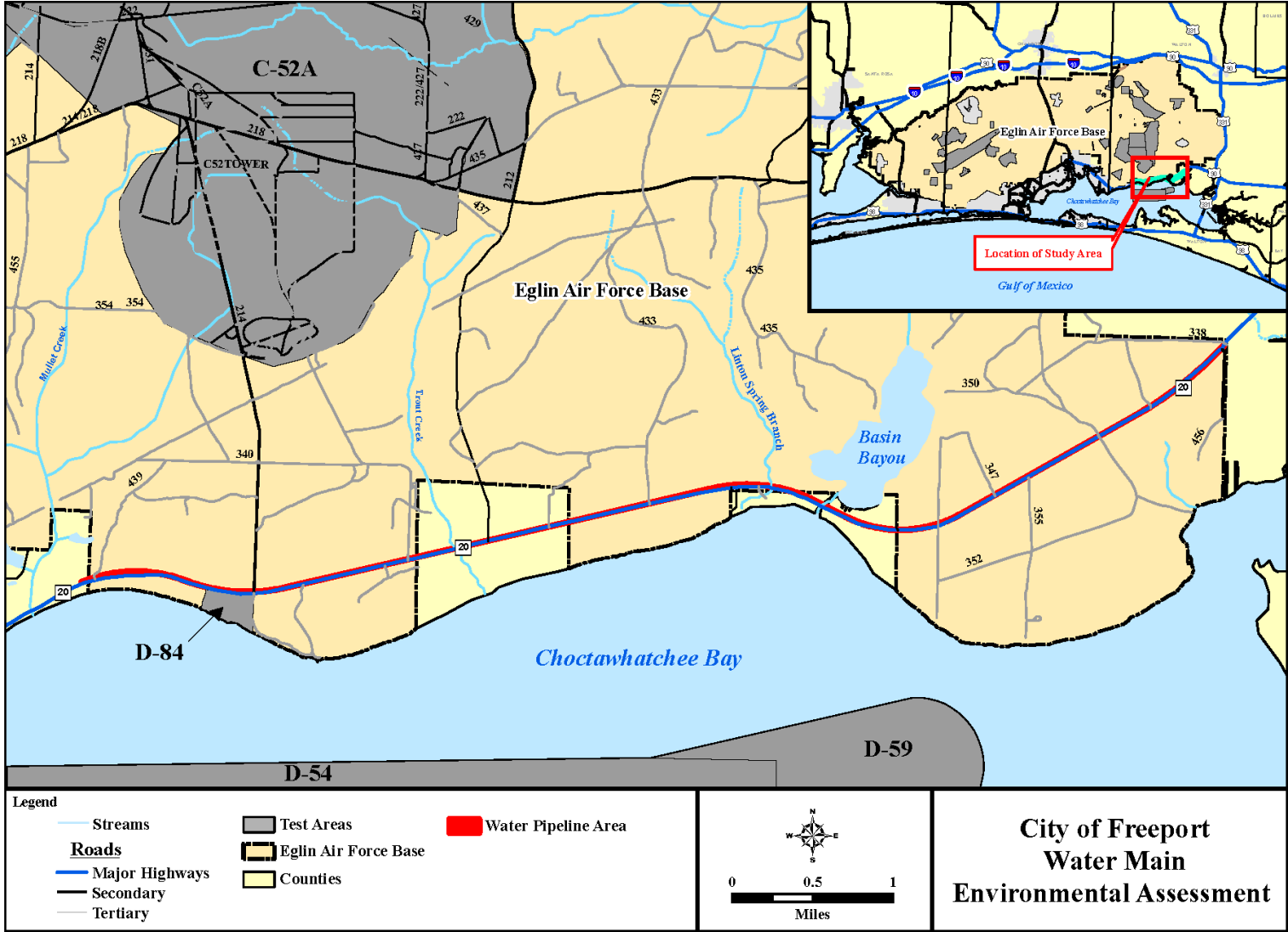


Figure 2. Location of Project Area on Eglin AFB

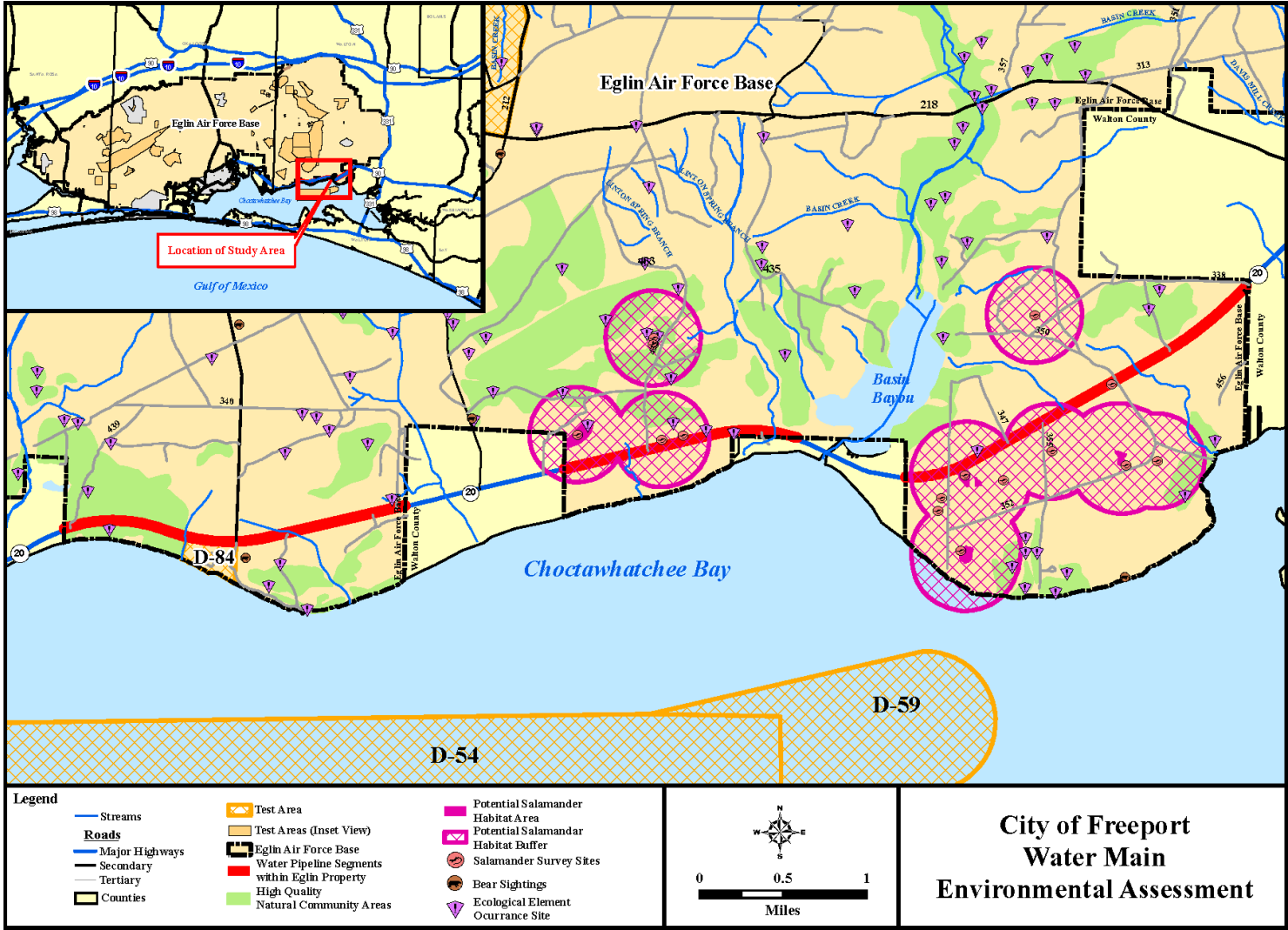


Figure 3. Sensitive Habitat and Species near Proposed Action

Attachment A-1. Florida State Clearinghouse Review and CZMA Concurrence



Florida Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Charlie Crist
Governor

Jeff Kestkamp
Lt. Governor

Michael W. Saff
Secretary

September 3, 2009

Mr. W. Jamie McKee, Project Manager
Science Applications International Corp.
1140 North Eglin Parkway
Shalimar, FL 32579

RE: Department of the Air Force - Draft Environmental Assessment - City of
Freeport State Road 20 Water Main Installation, Eglin Air Force Base -
Freeport, Walton County, Florida.
SAI # FL200907224871C

Dear Mr. McKee:

The Florida State Clearinghouse has coordinated a review of the draft environmental assessment (EA) under the following authorities: Presidential Executive Order 12372; Section 403.061(40), *Florida Statutes (F.S.)*; the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended; and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended.

The Florida Department of Environmental Protection (DEP) indicates that the proposed project will require a Potable Water permit. Please contact Mr. John Pope in DEP's Northwest District Office at (850) 595-8300, ext. 1145 for questions regarding Potable Water distribution system permitting. The DEP also advises that any anticipated wetland impacts resulting from the project will require an Environmental Resource Permit (ERP) in accordance with Rule 62-346, *Florida Administrative Code*. For additional ERP permitting information, please contact Mr. Larry O'Donnell at (850) 595-8300, ext. 1129.

The Florida Department of Transportation (FDOT), District Three advises that utility construction proposed within the SR 20 right-of-way will require permits from VMS. Please contact Mr. Charles Washington at (850) 678-2973 for further information on FDOT's permitting requirements.

The Florida Department of State (DOS) notes that a cultural resource assessment survey is being conducted for this project. Staff looks forward to reviewing and commenting on the survey report and to further consultation regarding effects to cultural resources identified within project boundaries. For any questions, please contact Ms. Samantha Earnest, Historic Preservationist, by phone at (850) 245-6333.

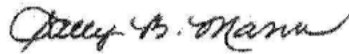
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Mr. W. Jamie McKee
September 3, 2009
Page 2 of 2

Based on the information contained in the draft EA and the enclosed state agency comments, the state has determined that, at this stage, the proposed activity is consistent with the Florida Coastal Management Program (FCMP). The concerns identified by our reviewing agencies must, however, be addressed prior to project implementation. The state's continued concurrence with the project will be based, in part, on the adequate resolution of issues identified during this and subsequent reviews. The state's final concurrence of the project's consistency with the FCMP will be determined during the environmental permitting stage.

Thank you for the opportunity to review the proposed project. Should you have any questions regarding this letter, please contact Ms. Lori E. Cox at (850) 245-2187.

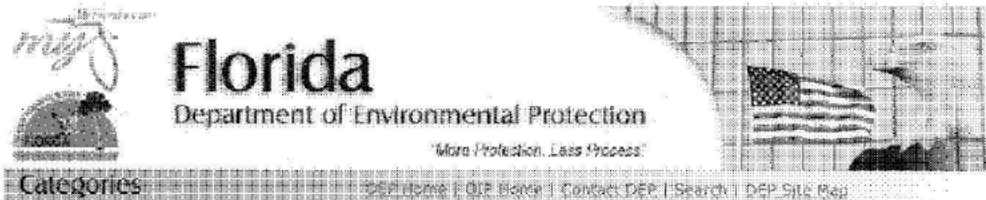
Yours sincerely,



Sally B. Mann, Director
Office of Intergovernmental Programs

SBM/lec
Enclosures

cc: Darryl Boudreau, DEP, Northwest District
Martin Markovich, FDOT
Laura Kammerer, DOS



PROJECT ID:	FL200907224871C
COMMITTEE:	08/21/2009
DATE:	09/03/2009
DESCRIPTION:	DEPARTMENT OF THE AIR FORCE - DRAFT ENVIRONMENTAL ASSESSMENT - CITY OF FREEPORT STATE ROAD 20 WATER MAIN INSTALLATION, EGLIN AIR FORCE BASE - FREEPORT, WALTON COUNTY, FLORIDA.
LOCATION:	USAF - DEA, CITY OF FREEPORT STATE ROAD 20 WATER MAIN, EGLIN AFB - WALTON CO.
DATE:	12.200
PROJECT TYPE:	
WEST FLORIDA RPC - WEST FLORIDA REGIONAL PLANNING COUNCIL	
No Comments - Generally consistent with the West Florida Strategic Regional Policy Plan.	
COMMUNITY AFFAIRS - FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS	
DCA has reviewed this application and found the project consistent with the Comprehensive Plan and has no concerns or comments.	
STATE - FLORIDA DEPARTMENT OF STATE	
The DOS notes that a cultural resource assessment survey is being conducted for this project. Staff looks forward to reviewing and commenting on the survey report and to further consultation regarding effects to cultural resources identified within project boundaries.	
TRANSPORTATION - FLORIDA DEPARTMENT OF TRANSPORTATION	
FDOT District Three notes that utility construction is proposed within the right-of-way of SR 20. A utility permit will be required from VMS. Please contact Mr. Charles Washington at (850) 678-2973 for further permitting information.	
ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION	
The DEP indicates that the proposed project will require a Potable Water permit. Please contact Mr. John Pope in DEP's Northwest District Office at (850) 595-8300, ext. 1145 for questions regarding Potable Water distribution system permitting. The DEP also advises that any anticipated wetland impacts resulting from the project will require an Environmental Resource Permit (ERP) in accordance with Rule 62-346, Florida Administrative Code. For additional ERP permitting information, please contact Mr. Larry O'Donnell at (850) 595-8300, ext. 1129.	
NORTHWEST FLORIDA WMD - NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT	
No Comments	

For more information or to submit comments, please contact the Clearinghouse Office at:

3900 COMMONWEALTH BOULEVARD, M.S. 47
TALLAHASSEE, FLORIDA 32399-3000
TELEPHONE: (850) 245-2161
FAX: (850) 245-2190

Visit the Clearinghouse Home Page to query other projects.

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FLORIDA DEPARTMENT OF STATE
Kurt S. Browning
 Secretary of State
 DIVISION OF HISTORICAL RESOURCES

Ms. Lauren Milligan
 Director, Florida State Clearinghouse
 3900 Commonwealth Boulevard, Mail Station 47
 Tallahassee, Florida 32399-3000

August 21, 2009

RE: DHR Project File No: 2009-4468 / Received by DHR: July 24, 2009
 SAI #: FL200907224871C
 Department of the Air Force – Draft Environmental Assessment
 City of Freeport State Road 20 Water Main Installation
 Eglin Air Force Base
 Freeport, Walton County

RECEIVED

AUG 26 2009

DEP Office of
 Intergovt Programs

Dear Ms. Milligan:

Our office reviewed the above referenced project for possible impact to historic properties listed, or eligible for listing, in the National Register of Historic Places, or otherwise of historical, architectural or archaeological value. The review was conducted in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, 36 C.F.R., Part 800: Protection of Historic Properties, Chapter 267, *Florida Statutes*, Florida's Coastal Zone Management Program, and implementing state regulations.

We note that a cultural resource assessment survey is being conducted for this project. We look forward to receipt of the survey report for review and comment, and to further consultation regarding effects to cultural resources identified within the project boundaries.

For any questions concerning our comments, please contact Samantha Earnest, Historic Preservationist, by phone at (850) 245-6333, or by electronic mail at swearnest@dos.state.fl.us. We appreciate your continued interest in protecting Florida's historic properties.

Sincerely,

Laura A. Kammerer

Laura A. Kammerer
 Deputy State Historic Preservation Officer
 For Review and Compliance

500 S. Bronough Street • Tallahassee, FL 32399-0250 • <http://www.flheritage.com>

☐ Director's Office
 (850) 245-6300 • FAX: 245-6436

☐ Archaeological Research
 (850) 245-6444 • FAX: 245-6452

☒ Historic Preservation
 (850) 245-6333 • FAX: 245-6437

APPENDIX B

BIOLOGICAL RESOURCES

BIOLOGICAL RESOURCES

ECOLOGICAL ASSOCIATIONS

Four broad matrix ecosystems exist on the Proposed Action sites: sandhills, flatwoods, and wetlands/riparian. The ecosystems are defined by floral, faunal, and geophysical similarities.

Sandhills Matrix

This system is the most extensive natural community type on the Eglin Range, accounting for approximately 78 percent or 362,000 acres of the base. Longleaf Pine Sandhills are characterized by an open, savanna-like structure with a moderate-to-tall canopy of longleaf pine, a sparse midstory of oaks and other hardwoods, and a diverse groundcover comprised mainly of grasses, forbs, and low-stature shrubs. Its structure and composition are maintained by frequent fires (every 3 to 5 years), which control hardwood, sand pine, and titi encroachment. Longleaf Pine Sandhills consist of a high diversity of species adapted to fire and the heterogeneous conditions that fires create. The dominant native grass species in Eglin sandhills is either wiregrass or bluestem, depending on location. Sandhills are often associated with and grade into scrub, upland pine forest, xeric hammock, or slope forests. This matrix is also known as longleaf pine-turkey oak, longleaf pine-xerophytic oak, longleaf pine-deciduous oak, or high pine (U.S. Air Force, 2007).

The functional significance of the Sandhills Matrix is to provide maintenance of regional biodiversity. As little as 5,000 acres of old growth longleaf pine forest remains globally, and Eglin's Sandhills contain more than any other forest in the world. The Eglin Range represents the largest and least-fragmented longleaf pine ownership in the world, and has the best remaining stand of old-growth longleaf pine (U.S. Air Force, 2007).

Flatwoods Matrix

Pine flatwoods occur on flat, moderately well-drained sandy soils with varying levels of organic matter, often underlain by a hard pan. While the canopy consists of slash pine and longleaf pine, the understory varies greatly from shrubby to an open diverse understory of grasses and herbs. The primary environmental factors controlling vegetation type are soil moisture (soil type and depth to groundwater) and fire history. The average fire frequency in flatwoods is one to eight years, with nearly all of the plants and animals inhabiting this community adapted to recurrent fires. Home to numerous rare and endangered plants and animals, the Flatwoods Matrix plays a significant role in maintaining regional biodiversity. Eglin's more than 300 acres of old growth flatwoods are among the last remaining of such high quality (U.S. Air Force, 2007).

Wetlands/Riparian Matrix

Wetlands are extraordinarily important contributors to the health and diversity of the Eglin landscape. Riparian areas are generally found along a water feature, such as a river, stream, or creek. Great diversity of invertebrate and fish species is found within the streams associated with these watersheds. At least 11 different plant community types are found within riparian

areas of the Eglin Range. Streams are perennial, originating in the sandy uplands of the installation and fed by groundwater recharge. Flood events only occur during extreme rain events (e.g., hurricanes); otherwise, flows are relatively consistent. Temperatures fluctuate during the year and each day, being more constant near the headwaters. These seepage streams are moderately acidic. The specific types of wetland matrices found on or adjacent to the Eglin Range are depression wetlands, seepage slopes, and floodplain wetlands (U.S. Air Force, 2007).

Flora and Fauna of Ecological Associations

Table B-1 provides a summary of some of the plant and animal species commonly found within the ecological associations described above. The list is not a comprehensive inventory of the species found within these ecological associations; the table provides a reference summary.

SENSITIVE HABITATS

High Quality Natural Communities

Eglin's contribution to southeastern conservation is evident in its extraordinary biodiversity and the exemplary quality of its many remnant natural communities. While the greater part of the installation is globally significant due to its biodiversity, specific areas have been designated "High Quality Natural Communities" due to their exceptional high quality or the presence of rare species. These areas were identified by the FNAI through a project funded by the Department of Defense (DoD) Legacy Resource Management Program. These areas are distinguished by the uniqueness of the community, ecological condition, species diversity, and/or presence of rare species. These high quality areas, totaling 75,266 acres and covering approximately 16 percent of the installation, are tangible examples of the successful restoration actions of Jackson Guard and the compatibility of these communities with most mission activities (U.S. Air Force, 2007).

Table B-1. Typical Plant and Animal Species of Eglin AFB by Ecological Association

Plants		Animals	
Common Name	Scientific Name	Common Name	Scientific Name
Sandhills Ecological Association			
Longleaf Pine	<i>Pinus palustris</i>	Red-cockaded Woodpecker	<i>Picoides borealis</i>
Turkey Oak	<i>Quercus laevis</i>	Bobwhite Quail	<i>Colinus virginianus</i>
Blackjack Oak	<i>Q. marilandica</i>	Great Horned Owl	<i>Bubo virginianus</i>
Bluejack Oak	<i>Q. incana</i>	Gopher Tortoise	<i>Gopherus polyphemus</i>
Wiregrass	<i>Aristida stricta</i>	Six-lined Racerunner	<i>Cnemidophorus sexlineatus</i>
Saw Palmetto	<i>Serona repens</i>	Diamondback Rattlesnake	<i>Crotalus adamanteus</i>
Bracken Fern	<i>Pteridium aquilinum</i>	Raccoon	<i>Procyon lotor</i>
Blueberry	<i>Vaccinium</i> spp.	Florida Black Bear	<i>Ursus americanus floridanus</i>
Yaupon	<i>Ilex vomitoria</i>	Fox Squirrel	<i>Sciurus niger</i>
Gallberry	<i>Ilex glabra</i>	Least Shrew	<i>Cryptotis parva</i>
Gopher Apple	<i>Licania michauxii</i>	Cottontail Rabbit	<i>Sylvilagus floridanus</i>
Sand Blackberry	<i>Rubus cuneifolius</i>	Pocket Gopher	<i>Geomys pinetus</i>
Pine-woods Bluestem	<i>Andropogon arctatus</i>	White-tailed Deer	<i>Castor canadensis</i>
Flatwoods Ecological Association			
Longleaf Pine	<i>Pinus palustris</i>	Wood Duck	<i>Aix sponsa</i>
Runner Oak	<i>Quercus pumila</i>	Red-winged Blackbird	<i>Agelaius phoeniceus</i>
Saw Palmetto	<i>Serona repens</i>	Cottonmouth	<i>Agkistrodon piscivorus</i>
Coastal Plain St. Johnswort	<i>Hypericum brachyphyllum</i>	Florida Black Bear	<i>Ursus americanus floridanus</i>
Slash Pine	<i>Pinus elliottii</i>	River Otter	<i>Lutra canadensis</i>
Black Titi	<i>Cliftonia monophylla</i>	Beaver	<i>Castor canadensis</i>
Pitcher Plant	<i>Sarracenia</i> spp.	Gray Fox	<i>Urocyon cinereoargenteus</i>
Wetland and Riparian Ecological Association			
Cattail	<i>Typha domingensis</i>	Florida Black Bear	<i>Ursus americanus floridanus</i>
Phragmites	<i>Phragmites australis</i>	American Alligator	<i>Alligator mississippiensis</i>
White Cedar	<i>Chamaecyparis thyoides</i>	Pine Barrens Tree Frog	<i>Hyla andersonii</i>
Swamp Tupelo	<i>Nyssa biflora</i>	Five-lined Skink	<i>Eumeces fasciatus</i>
Purple Pitcher Plant	<i>Sarracenia purpurea</i>	Green Anole	<i>Anolis carolinensis</i>
Swamp Titi	<i>Cyrilla racemiflora</i>	Garter Snake	<i>Thamnophis sirtalis</i>
Tulip Poplar	<i>Liriodendron tulipifera</i>	Raccoon	<i>Procyon lotor</i>
Sweetbay Magnolia	<i>Magnolia virginiana</i>	American Beaver	<i>Castor canadensis</i>
Redbay	<i>Persea borbonia</i>	Little Blue Heron	<i>Egretta caerulea</i>

SENSITIVE SPECIES

Table B-2 shows all of the Florida Natural Areas Inventory (FNAI)-tracked and state- and federally listed species present on or adjacent to Eglin Air Force Base (AFB). Most of these

species are found within the interstitial areas of Eglin AFB. Descriptions for species of particular concern at Eglin AFB are provided below. Additional information on the other species listed in Table B-2 is available in the *Eglin Military Complex Environmental Baseline Study Resource Appendices Volume 1--Eglin Land Test and Training Range* (U.S. Air Force, 2003b).

Table B-2. State-listed, Federally Listed, and FNAI-tracked Species, Eglin AFB

Scientific Name	Common Name	Status	
		State	Federal
Fish			
<i>Acipenser oxyrinchus desotoi</i>	Gulf Sturgeon	LS	LT
<i>Awaous banana</i>	River Goby	-	-
<i>Etheostoma okaloosae</i>	Okaloosa darter	LE	LE
<i>Pteronotropis welaka</i>	Bluenose Shiner	LS	-
Amphibians and Reptiles			
<i>Alligator mississippiensis</i>	American Alligator	LS	T (S/A)
<i>Ambystoma bishopi</i>	Reticulated Flatwoods Salamander	LS	LE (proposed)
<i>Amphiuma pholeter</i>	One-toed Amphiuma	-	-
<i>Caretta caretta</i>	Atlantic Loggerhead Turtle	LT	LT
<i>Chelonia mydas</i>	Atlantic Green Turtle	LE	LE
<i>Crotalus adamanteus</i>	Eastern Diamondback Rattlesnake	-	-
<i>Dermochelys coriacea</i>	Leatherback Turtle	LE	LE
<i>Drymarchon corais couperi</i>	Eastern Indigo Snake	LT	LT
<i>Eumeces anthracinus</i>	Coal Skink	-	-
<i>Gopherus polyphemus</i>	Gopher Tortoise	LT	-
<i>Graptemys ernsti</i>	Escambia Map Turtle	-	-
<i>Hemidactylum scutatum</i>	Four-toed Salamander	-	-
<i>Heterodon simus</i>	Southern Hognose Snake	-	-
<i>Hyla andersonii</i>	Pine Barrens Tree Frog	LS	-
<i>Macroclemys temmincki</i>	Alligator Snapping Turtle	LS	-
<i>Pituophis melanoleucus mugitus</i>	Florida Pine Snake	LS	-
<i>Rana capito</i>	Gopher Frog	LS	-
<i>Rana okaloosae</i>	Florida Bog Frog	LS	-
Birds			
<i>Accipiter cooperii</i>	Cooper’s Hawk	-	-
<i>Aimphila aestivalis</i>	Bachman’s Sparrow	-	-
<i>Ardea alba</i>	Great Egret	-	-
<i>Athene cunicularia floridana</i>	Florida Burrowing Owl	LS	-
<i>Charadrius alexandrinus</i>	Snowy Plover	LT	-
<i>Charadrius melodus</i>	Piping Plover	LT	LT
<i>Charadrius wilsonia</i>	Wilson’s Plover	-	-
<i>Egretta caerulea</i>	Little Blue Heron	LS	-
<i>Egretta thula</i>	Snowy Egret	LS	-
<i>Elanoides forficatus</i>	Swallow-tailed Kite	-	-
<i>Eudocimus albus</i>	White Ibis	LS	-
<i>Falco sparverius paulus</i>	Southeastern American Kestrel	LT	-
<i>Haematopus palliatus</i>	American Oystercatcher	LS	-
<i>Haliaeetus leucocephalus</i>	Bald Eagle	LT	-
<i>Pelecanus occidentalis</i>	Brown Pelican	LS	-

Table B-2. State-listed, Federally Listed, and ENAI-tracked Species, Eglin AFB Cont'd

Scientific Name	Common Name	Status	
		State	Federal
<i>Picoides borealis</i>	Red-cockaded Woodpecker	LS	LE
<i>Picoides villosus</i>	Hairy Woodpecker	-	-
<i>Rynchops niger</i>	Black Skimmer	LS	-
<i>Sterna antillarum</i>	Least Tern	LT	-
<i>Sterna caspia</i>	Caspian Tern	-	-
<i>Sterna maxima</i>	Royal Tern	-	-
<i>Sterna sandvicensis</i>	Sandwich Tern	-	-
Mammals			
<i>Peromyscus polionotus leucocephalus</i>	Santa Rosa Beach Mouse	-	-
<i>Trichechus manatus</i>	Manatee	LE	LE
<i>Ursus americanus floridanus</i>	Florida Black Bear	LT**	-
Invertebrates			
<i>Lampsilis australis</i>	Southern Sandshell	-	C
<i>Pleurobema strodeanum</i>	Fuzzy Pigtoe	-	C
<i>Ptychobranthus jonesi</i>	Southern Kidneyshell	-	C
<i>Villosa choctawensis</i>	Choctaw Bean	-	C
Plants			
<i>Andropogon arctatus</i>	Pine-Woods Bluestem	LT	-
<i>Asclepias viridula</i>	Southern Milkweed	LT	-
<i>Baptisia calycosa var villosa</i>	Pineland Wild Indigo	LT	-
<i>Calamintha dentata</i>	Toothed Savory	LT	-
<i>Calamovilfa curtissii</i>	Curtiss' Sand Grass	LT	-
<i>Calycanthus floridus var floridus</i>	Sweet Shrub	LE	-
<i>Carex baltzelli</i>	Baltzell's Sedge	LT	-
<i>Carex tenax</i>	Sandhill Sedge	-	-
<i>Chrysopsis godfreyi</i>	Godfrey's Golden Aster	LE	-
<i>Chrysopsis gossypina ssp cruiseana</i>	Cruise's Golden Aster	LE	-
<i>Cladium mariscoides</i>	Pond Rush	-	-
<i>Coelorachis tuberculosa</i>	Piedmont Jointgrass	LT	-
<i>Drosera intermedia</i>	Spoon-Leaved Sundew	LT	-
<i>Eleocharis rostellata</i>	Beaked Spikerush	LE	-
<i>Epigaea repens</i>	Trailing Arbutus	LE	-
<i>Hexastylis arifolia</i>	Heartleaf	LT	-
<i>Hymenocallis henryae</i>	Henry's Spider Lily	LE	-
<i>Ilex amelanchier</i>	Serviceberry Holly	LT	-
<i>Juncus gymnocarpus</i>	Coville's Rush	LE	-
<i>Kalmia latifolia</i>	Mountain Laurel	LT	-
<i>Lachnocaulon digynum</i>	Bogbuttons	LT	-
<i>Lilium catesbaei</i>	Pine Lily	LT	-
<i>Lilium iridollae</i>	Panhandle Lily	LE	-
<i>Lilium michauxii</i>	Carolina Lily	LE	-
<i>Lindera subcoriacea</i>	Bog Spice Bush	LE	-
<i>Linum westii</i>	West's Flax	LE	-
<i>Litsea aestivalis</i>	Pondspice	LE	-
<i>Lupinus westianus</i>	Gulfcoast Lupine	LT	-
<i>Macranthera flammea</i>	Hummingbird Flower	LE	-
<i>Magnolia ashei</i>	Ashe's Magnolia	LE	-

Table B-2. State-listed, Federally Listed, and FNAI-tracked Species, Eglin AFB Cont'd

Scientific Name	Common Name	Status	
		State	Federal
<i>Magnolia pyramidata</i>	Pyramidal Magnolia	LE	-
<i>Malaxis unifolia</i>	Green Adder's-Mouth	LE	-
<i>Matela alabamensis</i>	Alabama Spiney Pod	LE	-
<i>Medeola virginiana</i>	Indian Cucumber-Root	LE	-
<i>Monotropa hypopithys</i>	Pine Sap	LE	-
<i>Myriophyllum laxum</i>	Piedmont Water-Milfoil	-	-
<i>Nuphar luteum ssp ulvaceum</i>	West Florida Cow Lily	-	-
<i>Panicum nudicaule</i>	Naked-Stemmed Panic Grass	LT	-
<i>Pinguicula lutea</i>	Yellow Butterwort	LT	-
<i>Pinguicula planifolia</i>	Swamp Butterwort	LT	-
<i>Pinguicula primuliflora</i>	Primrose-Flowered Butterwort	LE	-
<i>Platanthera integra</i>	Southern Yellow Fringeless Orchid	LE	-
<i>Polygonella macrophylla</i>	Large-Leaved Jointweed	LT	-
<i>Quercus arkansana</i>	Arkansas Oak	LT	-
<i>Rhexia parviflora</i>	Small-Flowered Meadow Beauty	LE	-
<i>Rhexia salicifolia</i>	Panhandle Meadow Beauty	LT	-
<i>Rhododendron austrinum</i>	Orange Azalea	LE	-
<i>Rhynchospora crinipes</i>	Hairy-Peduncled Beakrush	LE	-
<i>Rhynchospora stenophylla</i>	Narrow-Leaved Beakrush	LT	-
<i>Sarracenia leucophylla</i>	White-Top Pitcherplant	LE	-
<i>Sarracenia rubra</i>	Sweet Pitcherplant	LT	-
<i>Sideroxylon thornei</i>	Thorne's Buckthorn	LE	-
<i>Stewartia malacodendron</i>	Silky Camellia	LE	-
<i>Tephrosia mohrii</i>	Pineland Hoary Pea	LT	-
<i>Xanthorhiza simplicissima</i>	Yellow-Root	LE	-
<i>Xyris longisepala</i>	Karst Pond Yellow-Eyed Grass	LE	-
<i>Xyris scabrifolia</i>	Harper's Yellow-Eyed Grass	LT	-
<i>Zigadenus leimanthoides</i>	Coastal Death Camas	LE	-
Lichens			
<i>Cladonia perforata</i>	Florida Perforate Cladonia	LE	LE

LE = Endangered: species in danger of extinction throughout all or a significant portion of its range

LT = Threatened: species likely to become endangered within the foreseeable future throughout all or a significant portion of its range

LS = Species of Special Concern: a species, subspecies, or isolated population that is facing a moderate risk of extinction in the future

C = Candidate: species that will soon be listed as threatened or endangered

T(S/A) = Similarity of Appearance (Threatened). Threatened due to similarity of appearance to a species that is federally listed such that enforcement personnel have difficulty differentiating between the listed and unlisted species

- = Not currently listed, but tracked by FNAI due to rarity

* = Flatwoods salamander is undergoing final rule to have the species on Eglin re-designated as *Ambystoma bishopi*. This species will be listed as federally endangered.

** = State listed as LT but not applicable in Baker and Columbia Counties or the Apalachicola National Forest

FEDERALLY LISTED SPECIES

Reticulated Flatwoods Salamander

The reticulated flatwoods salamander is proposed for listing as federally endangered and is a state species of special concern. Based on molecular and morphological analyses, Pauly et al. (2007) proposed the separation of the flatwoods salamander into two species. The division lies along the Apalachicola and Flint Rivers with reticulated flatwoods salamanders (*Ambystoma bishopi*) inhabiting areas to the west and frosted flatwoods salamanders (*A. cingulatum*) ranging to the east of the rivers. Optimal habitat for this small mole salamander is open, mesic (moderately wet) woodlands of longleaf or slash pine flatwoods maintained by frequent fires and that contain shallow, ephemeral wetland ponds. Males and females migrate to these ephemeral ponds during the cool, rainy months of October through December. The females lay their eggs in vegetation at the edges of the ponds. Flatwoods salamanders may disperse long distances from breeding sites to upland sites where they live as adults (U.S. Air Force, 2006b).

There are 18 known breeding ponds for the flatwoods salamander on the Eglin Range. Additionally, the Eglin Range supports approximately 17,000 acres of potential salamander habitat in mesic flatwoods. There is potential for critical habitat to be designated on Eglin AFB.

The primary threat to the flatwoods salamander is loss of mesic habitat through the filling in of wetlands and other alterations to the landscape hydrology. Flatwoods salamander habitat is also threatened by the introduction of invasive, nonnative species (INS). Flatwoods salamanders and their active breeding wetlands both appear to have declined in number since the original Eglin surveys in 1993 and 1994. This is possibly due in part to several years of drought in the late 1990s and early 2000s. Breeding wetlands may not have remained wet long enough for larvae to complete metamorphosis if rainfall amounts were not sufficient. This has resulted in little population recruitment over the last decade at Eglin's wetlands (U.S. Air Force, 2006b).

The USFWS guidelines in the *Federal Register*, dated 01 April 1999, establish a 450-meter (1,476-foot) buffer area from the wetland edge of confirmed breeding ponds. Within the buffer area, the guidelines restrict ground-disturbing activities in order to minimize the potential for direct impacts to salamanders, the introduction and spread of invasive nonnative plant species, and alterations to hydrology and water quality.

Gulf Sturgeon

The Gulf sturgeon (*Acipenser oxyrinchus desotoi*) is a federally listed threatened species and a state-listed species of special concern. This large fish occurs predominately in the northeastern Gulf of Mexico, feeding in offshore areas and inland bays during the winter months and moving into freshwater rivers during the spring to spawn. Migration into fresh water generally occurs from March to May, while migration into salt water occurs from October through November (U.S. Air Force, 2006b).

The USFWS designated Gulf sturgeon critical habitat in 2003 in multiple Gulf of Mexico rivers, bays, and the Gulf itself. Federally designated critical habitat is defined as specific areas that

contain physical or biological features essential to the species' conservation and that may require special management considerations or protection. As it pertains to the Eglin Range, Choctawhatchee Bay (including the main body of Choctawhatchee Bay, Hogtown Bayou, Jolly Bay, Bunker Cove, and Grassy Cove; and excluding all other bayous, creeks, and rivers at their mouths/entrances), Santa Rosa Sound, Yellow River, Shoal River, Blackwater Bay, East Bay, and the Gulf of Mexico out to 1 nautical mile offshore of Santa Rosa Island have been designated as critical habitat. The lower rivers provide summer resting and migration habitat, and the bays, sound, and Gulf contain winter feeding and migration habitat (U.S. Air Force, 2006b).

The major mission-related issues for Gulf sturgeon in freshwater and estuarine areas are erosion from test areas and Range roads and potential impacts to river and bay bottoms and banks from boats and amphibious vehicles (U.S. Air Force, 2006b).

Eastern Indigo Snake

The eastern indigo snake (*Drymarchon corais couperi*) is listed as a federal and state threatened species that is the largest nonvenomous snake in North America. The primary reason for its listing is population decline resulting from habitat loss and fragmentation. Movement along travel corridors between seasonal habitats exposes the snake to danger from increased contact with humans. Eastern indigo snakes frequently utilize gopher tortoise burrows and the burrows of others species for over-wintering. The snake frequents flatwoods, hammocks, stream bottoms, riparian thickets, and high ground with well-drained, sandy soils. The eastern indigo snake could occur anywhere on the Eglin Range because it uses such a wide variety of habitats (U.S. Air Force, 2006).

The species is extremely uncommon on the Eglin Range, with the sighting of only 29 eastern indigo snakes throughout the Eglin Range from 1956 to 1999, and no sightings reported since 1999 (Gault, 2006). Most of these snakes were seen crossing roads or after being killed by vehicles. It is difficult to determine a precise number or even estimate of the number of these snakes due to the secretive nature of this species (U.S. Air Force, 2006).

Freshwater Mussels

The southern sandshell (*Lampsilis australis*), fuzzy pigtoe (*Pleurobema strodeanum*), southern kidneyshell (*Ptychobranhus jonesi*), and Choctaw bean (*Villosa choctawensis*) are federal candidates for listing as threatened or endangered species. These freshwater mussels are found only in the Yellow, Escambia, and Choctawhatchee river drainages in Florida and Alabama. From the 1990s to 2004, surveys have documented declines in the number of these candidate mussel species (Pilarczyk et al., 2006). Furthermore, these surveys have been unable to capture many of these mussel species at sites where they were known to occur. These local extirpations and reductions in numbers are attributed to habitat alteration from various sources.

The greatest threat to these freshwater mussels is runoff associated with poor land use practices, such as poorly conducted agricultural or silvicultural practices, construction, and mining activities. Because of their limited motility, mussels are extremely vulnerable to acute, localized

impacts (i.e., impoundment, runoff from adjacent unvegetated land). Mussels filter fine particulate organic matter from the water, so excess sedimentation may interfere with feeding. Sedimentation may also cause direct mortality by deposition and suffocation, and turbidity may reduce or eliminate juvenile recruitment. Pesticides and other water quality issues also threaten the health of these filter feeders. Preferred habitats are creeks and rivers with slow to moderate currents and sandy substrates.

STATE-LISTED AND RARE SPECIES

Eglin AFB provides habitat for many state-listed and rare species in addition to the federally listed species described in the previous sections. Air Force Instruction (AFI) 32-7064 calls for the protection and conservation of state-listed species when not in direct conflict with the military mission. The conservation of state-listed species and other rare but unlisted species is encouraged and in some cases is critical to ensuring continued mission flexibility. Management actions conducted by Eglin for many of the federally listed species provide direct and indirect benefits to many state-listed and rare species. There are 67 state-listed threatened and endangered species found on Eglin. Most (55) of the 67 state-listed species are plants. An additional 17 animal species are not listed by the FWC or the USFWS, but are tracked by the FNAI due to their rarity and/or declining population trends. Below are descriptions of some of the state-listed and rare animal species of particular concern at Eglin AFB.

Florida Black Bear

The Florida black bear (*Ursus americanus floridanus*) is currently listed as a state threatened species, except in Baker and Columbia Counties and in Apalachicola National Forest. Florida black bear populations are currently found in Florida and Georgia, and there is also a small population in Alabama. Eglin AFB is considered to be the smallest population, with an estimated 60 to 100 individuals; however, Eglin's black bear population has shown signs of increase since the early 1990s. Reasons for population declines include loss of habitat due to urban development and direct mortality due to collisions with vehicles. Black bear in Florida breed in June to July, and young are born in January to February. Most black bears within the Eglin Range utilize the large swamps and floodplain forests in the southwest and northern portions of the Eglin Range, where they feed on fruits, acorns, beetles, and yellow jackets. Black bear sightings have occurred at numerous locations throughout the Eglin Range, the majority of which have been within the interstitial areas (U.S. Air Force, 2006).

Bald Eagle

The bald eagle (*Haliaeetus leucocephalus*) is listed as a state threatened species. Eagles are territorial and exhibit a strong affinity for a nest site once a nest has been established. It is common for a breeding pair to rebuild damaged or lost nests in the same tree or in an adjacent tree. Individual pairs return to the same territory year after year and territories are often inherited by subsequent generations. The nesting period in the southeast United States extends from 01 October to 15 May, with most nests completed by the end of November (U.S. Air Force, 2006). Most eagles migrate north during the hot summer season. Bald eagles nest at one location on Eglin Main Base, between Cobbs Overrun and TA A-22, and on Santa Rosa Island

near Test Site A-12. The pair of eagles at the Main Base site has fledged one to two birds per year in most years, but in some years no young were fledged (U.S. Air Force, 2006).

Eglin AFB follows the USFWS *National Bald Eagle Management Guidelines* for the bald eagle in the Southeast Region (USFWS, 2007). The guidelines limit certain types of activities near nests during breeding season. Aircraft activity should not take place within 1,000 feet of the nest during breeding season. If visible from the nest, foot traffic should remain at least 330 feet from the nest. Boat traffic should maintain a buffer of 330 feet when possible, but small motorized boats may pass within 330 feet of the nest if the boats minimize trips and avoid stopping in the area.

Gopher Tortoise

The gopher tortoise (*Gopherus polyphemus*) is a state threatened species. It also may become a federal “candidate” species in the near future. The tortoise is found primarily within the Sandhills and Open Grassland ecological associations on the Eglin Range, where it excavates a tunnel-like burrow for shelter from climatic extremes and refuge from predators. The primary features of good tortoise habitat are sandy soils, open canopy with plenty of sunlight, and abundant food plants (forbs and grasses). Prescribed fire is often employed to maintain these conditions. Gopher tortoise burrows serve as important habitat for many species, including the federally listed eastern indigo snake (U.S. Air Force, 2006). A Candidate Conservation Agreement (CCA) for the gopher tortoise has been developed as a cooperative effort among state, federal, nongovernmental, and private organizations. The purpose of this agreement is to collectively implement proactive gopher tortoise conservation measures across its eastern range. This agreement will be made final by the end of 2008.

Florida Bog Frog

The Florida bog frog (*Rana okaloosae*), a species of special concern by the state, can only be found within Walton, Okaloosa, and Santa Rosa Counties. Most of the habitat for the frog lies on Eglin AFB property, with all known locations of the frog in small tributary streams of the Yellow, Shoal, and East Bay rivers. There are 65 documented bog frog locations on the Eglin Range, but only 58 of those have been verified.

Southeastern American Kestrel

The southeastern American kestrel (*Falco sparverius paulus*), a state threatened species, is a common permanent resident of Eglin. This small raptor typically preys on small rodents, reptiles, and insects in clearings or woodland edges. The species can be found within the Sandhills and Open Grassland/Shrubland ecological associations, and may occur on or near any of the test areas at Eglin.

Florida Pine Snake

The Florida pine snake (*Pituophis melanoleucus mugitus*), a state species of concern, inhabits dry areas such as the longleaf pine, oak woodlands, and sand pine scrub communities found within the Sandhills ecological association. The species is physically adapted for digging into

loosely packed sand. It also enters into rodent burrows and occasionally into gopher tortoise burrows.

Gopher Frog

Gopher frogs (*Rana capito*), a state species of concern, are associated with gopher tortoise habitat, as they use gopher tortoise burrows for cover, but are also known to flourish where the tortoises no longer occur. They also use old field mouse burrows, hollow stumps, and other holes for cover. The species requires nearby seasonally flooded grassy ponds, depression marshes, or sandhills upland lakes that lack fish populations, found within the Sandhills ecological association, for breeding. They have been found in the longleaf pine, turkey oak, pine flatwood, sand pine scrub, and xeric hammock open or forested communities of the Sandhills and Open Grassland/Shrubland ecological associations up to 2 kilometers from the breeding ponds. Eglin supports the largest known concentration of reproductive sites of the gopher frog subspecies anywhere within its range (FNAI, 1993).

Pine Barrens Tree Frog

The pine barrens tree frog (*Hyla andersonii*), a state species of concern, is a small (approximately 1.5-inch) lime-green frog with a maroon/brown stripe on its sides and a white belly. It is typically found in herbaceous and shrubby bogs of the Wetland/Riparian ecological association, near clear, shallow water along the Blackwater and Yellow rivers and Choctawhatchee Bay. Breeding, initiated by a repeating call resembling a nasal “quonk,” occurs between March and September, with tadpoles emerging between May and August. Stream and water quality degradation and hardwood forest encroachment are the main threats to this species (FNAI, 2001).

Migratory Birds

Migratory birds pass through the ROI, but neither Eglin nor Hurlburt is considered an important stopover area or concentration site for neotropical migratory birds in the spring or fall (Tucker et al., 1996). Breeding neotropical migrants at Eglin and Hurlburt are primarily found in riparian, hammock, and barrier island habitats. These areas can serve as temporary habitat for neotropical birds migrating to and from the Caribbean and South and Central America. Neotropical migrants are more common within the ROI during fall migration than spring migration (Tucker et al., 1996).

INVASIVE NONNATIVE SPECIES

Invasive nonnative species (INS) include plants, animals, insects, diseases, and other organisms that are becoming established and spreading at an alarming rate throughout the world. An invasive species can be defined as a species that is nonnative to an ecosystem and whose intentional or accidental introduction causes or is likely to cause environmental or economic damage or harm to human health.

The Eglin AFB INS Management Program focuses on invasive nonnative plant and animal species that cause or may cause negative environmental impacts to Eglin ecosystems (U.S. Air Force, 2006). Some of the main invasive nonnative species of concern are Chinese tallow, cogon grass, Japanese climbing fern, Chinese privet, torpedo grass, feral pigs, and feral cats. The program's purpose is to protect the integrity of Eglin's natural ecosystems by reducing and controlling the spread of INS. The plan includes a recommendation to limit foot traffic and vehicle traffic in areas where INS are present to prevent the spread of the invasive and exotic species. Equipment moving through these areas needs to be washed so that all seedlings are removed before the equipment is transferred to a noncontaminated area. Standard operating procedures dictate that all vehicles are cleaned prior to use, which would lessen or eliminate the potential for the spread of INS.

APPENDIX C

AIR QUALITY CALCULATIONS

AIR QUALITY CALCULATIONS

This Appendix presents relevant emission factors and calculations used to determine the air emissions of criteria pollutants from construction activities associated with the Proposed Action.

Emission Factors

Tables C-1 and C-2 provide the emission factors associated with non-road heavy construction equipment and on-road passenger and delivery vehicles, respectively.

Table C-1. Construction Equipment Emission Factors

Construction Equipment	Emission Factors (lbs/hour)					
	VOC	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}
Front-end loader	0.173	0.5552	1.382	0.0012	0.0776	0.069
Directional borer	0.1816	0.5977	1.4225	0.0013	0.0776	0.069
Dozer	0.3789	1.695	3.4143	0.0025	0.1474	0.1312
Backhoe	0.1307	0.4142	0.8303	0.0008	0.0639	0.0569
Generator	0.113	0.3549	0.7249	0.0007	0.0446	0.0397

1. Emission factors are from the SCAQMD off-road emission factor tables for the year 2007, <http://www.aqmd.gov/ceqa/handbook/offroad/offroad.html> (SCAQMD, 2008)
2. Assumed composition emission factors for each equipment type.
3. PM_{2.5} emission factors were calculated following the SCAQMD Particulate Matter (PM) 2.5 Significance and Calculation Methodology (SCAQMD, 2006).

Table C-2. Vehicle Emission Factors

Vehicle Type	Emission Factors (lbs/mile)					
	VOC	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}
Passenger car	0.001383	0.01282	0.001361	0.000009	0.00008	0.000074
Delivery truck	0.002608	0.017455	0.024978	0.000033	0.00044	0.000424
Pickup	0.001383	0.01282	0.001361	0.000009	0.00008	0.000074

1. Emission factors are from the SCAQMD onroad emission factor tables for the year 2007, <http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html> (SCAQMD, 2008)
2. PM_{2.5} emission factors were calculated following the SCAQMD Particulate Matter (PM) 2.5 Significance and Calculation Methodology (SCAQMD, 2006).

Calculations

Project emissions were determined by calculating the emissions of individual criteria pollutants for each vehicle/equipment type using the emission factors above and the estimated time required to complete the construction of the pipeline. The emissions for all sources are then summed for each criteria pollutant to find the total project emissions. These totals are then compared to the significance criteria determined in Section 3.2 to evaluate whether the impacts of the Proposed Action present a significant environmental impact to air quality within the region of influence.

The general equation for emissions estimation is:

$$E = N \times A \times EF$$

where:

E = emissions;

N = number of vehicles or pieces of equipment

A = activity rate (hours per day or miles per trip);

EF = emission factor.

Table C-3. Freeport Water Pipeline Construction Emissions

Construction Equipment Emissions														
			Emission Factors (lbs/hour)						Emissions (lbs/day)					
Construction Equipment	Quantity	Hours per Day	VOC	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}	VOC	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}
Front-end loader	1	8	0.173	0.5552	1.382	0.0012	0.0776	0.069	1.38	4.44	11.06	0.01	0.62	0.55
Directional Borer	1	4	0.1816	0.5977	1.4225	0.0013	0.0776	0.069	0.73	2.39	5.69	0.01	0.31	0.28
Dozer	1	8	0.3789	1.695	3.4143	0.0025	0.1474	0.1312	3.03	13.56	27.31	0.02	1.18	1.05
Backhoe	2	8	0.1307	0.4142	0.8303	0.0008	0.0639	0.0569	2.09	6.63	13.28	0.01	1.02	0.91
Generator	1	10	0.113	0.3549	0.7249	0.0007	0.0446	0.0397	1.13	3.55	7.25	0.01	0.45	0.40
Daily Totals									7.23	27.02	57.35	0.05	3.13	2.79
Proposed Action Construction Total									289.31	1080.78	2293.81	1.90	125.31	111.52
Vehicle Emissions														
			Emission Factors (lbs/mile)						Emissions (lbs/day)					
Vehicle Type	Quantity	Miles per Day	VOC	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}	VOC	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}
Delivery truck	2	30	0.002608	0.017455	0.024978	0.000033	0.00044	0.000424	0.16	1.05	1.50	0.00	0.03	0.03
Passenger car	3	30	0.001383	0.01282	0.001361	0.000009	0.00008	0.000074	0.12	1.15	0.12	0.00	0.01	0.01
Pickup	3	30	0.001383	0.01282	0.001361	0.000009	0.00008	0.000074	0.12	1.15	0.12	0.00	0.01	0.01
Daily Totals									0.41	3.35	1.74	0.00	0.04	0.04
Proposed Action Vehicle Total									16.22	134.20	69.75	0.14	1.63	1.55
Proposed Action TOTAL (lbs)									305.53	1214.98	2363.55	2.05	126.94	113.07
Proposed Action TOTAL (tons)									0.15	0.61	1.18	0.00	0.06	0.06

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APPENDIX D

CULTURAL RESOURCES DOCUMENTATION

Letter to SHPO from USAF regarding Pipeline Corridor and Concurrence from SHPO.









FLORIDA DEPARTMENT OF STATE

Dawn K. Roberts

Interim Secretary of State

DIVISION OF HISTORICAL RESOURCES

Mr. Mark E. Stanley
Cultural Resources Section
96 CEG/CEVH
501 DeLeon St., Suite 101
Eglin AFB, FL 32542-5105

June 17, 2010

Re: DHR Project File No.: 2010-02806 / Received by DHR: May 11, 2010
Re: North Bay Water System Extension (NBWSE) – Cultural Resources within the
Freeport Waterline Right-of-Way

Dear Mr. Stanley:

Our office received and reviewed the above referenced undertaking in accordance with Sections 106 and 110 of the *National Historic Preservation Act of 1966* (Public Law 89-665), as amended in 1992; *36 C.F.R., Part 800: Protection of Historic Properties*; and Chapter 267, *Florida Statutes*, for assessment of possible adverse impact to cultural resources (any prehistoric or historic district, site, building, structure, or object) listed, or eligible for listing, in the *National Register of Historic Places (NRHP)*.

Between April and September 2009, Panamerican Consultants, Inc. (PCI) conducted an archaeological and historical Phase I cultural resources survey of the proposed North Bay Water System pipeline corridor on behalf of Science Applications International Corporation and the City of Freeport. In February 2010, PCI also conducted Phase II site assessments of two of the sites recorded during the Phase I investigation, 8WL2444 and 8WL2445. Subsequently, Prentice Thomas and Associates, Inc. (PTA) conducted additional archaeological and historical survey, delineation of Sites 8WL41 and 8WL68, recording of 8WL2447 and 8WL2448, and evaluation of Sites 8WL1752 and 8WL1932 on behalf of the U.S. Air Force.

Based on the information from these investigations, eight archaeological sites that have been determined either NRHP-eligible, potentially eligible, or potentially significant pending further investigation (8WL41, 8WL68, 8WL1752, 8WL1932, 8WL2444, 8WL2445, 8WL2447, and 8WL2448) were identified within the project corridor. Intact portions of Site 8WL41 were encountered within the project area. The proposed pipeline will be installed via directional boring so that Site 8WL41 will not be adversely impacted by the proposed undertaking. This activity will also be monitored by professional archaeologists.

500 S. Bronough Street • Tallahassee, FL 32399-0250 • <http://www.flheritage.com>

☐ Director's Office

850.245.6300 • FAX: 245.6436

☐ Archaeological Research

850.245.6444 • FAX: 245.6452

☒ Historic Preservation

850.245.6333 • FAX: 245.6437

Mr. Stanley
June 17, 2010
Page 2

The pipeline will be placed between the north edge of the road and the south edge of the drainage ditch in the vicinity of 8WL2445 so that significant portions of the site will be avoided. Additionally, professional archaeologists will monitor ground disturbance in this area to prevent unidentified intact deposits from being disturbed.

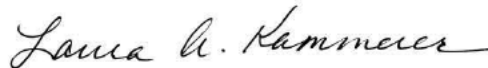
No significant portions of Sites 8WL68, 8WL1752, 8WL1932, 8WL2444, 8WL2445, 8WL2447, or 8WL2448 were found within the area of potential effect. Ground disturbing investigations be monitored in the vicinity of these sites so that adverse effect to any unexpected intact cultural deposits can be prevented.

Contingent upon successful implementation of this avoidance strategy, the U.S. Air Force has determined that the proposed undertaking will have no adverse effect on historic properties. Based on the information provided, our office concurs with these determinations.

We look forward to the receipt of the final reports for the surveys conducted in support of the NBWSE project.

If you have any questions concerning our comments, please contact Rudy Westerman, Historic Preservationist, by phone at 850.245.6333, or by electronic mail at rjwesterman@dos.state.fl.us. Your continued interest in protecting Florida's historic properties is appreciated.

Sincerely,



Laura A. Kammerer
Deputy State Historic Preservation Officer
For Review and Compliance

Xc: Prentice Thomas and Associates, Inc.
Panamerican Consultants, Inc.

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APPENDIX E

U.S. FISH AND WILDLIFE SERVICE INFORMAL CONSULTATION AND NO EFFECT CONCURRENCE

Eglin Air Force Base (AFB) Natural Resources consulted informally with the U.S. Fish and Wildlife Service (USFWS) to communicate the Air Force assessment of the proposed action's potential effects on the flatwoods salamander. Eglin AFB's letter to the USFWS with their signature of concurrence is included here as Attachment E.1.



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 96TH AIR BASE WING (AFMC)
EGLIN AIR FORCE BASE FLORIDA

RECEIVED

JUL 14 2009

Mr. Stephen M. Seiber
Chief, Natural Resources Section
96 CEG/CEVSN
501 De Leon Street, Suite 101
Eglin AFB FL 32542-5133

JUL 10 2009

Ms. Gail Carmody
U.S. Fish and Wildlife Service
1601 Balboa Avenue
Panama City FL 32405

U.S. Fish and Wildlife Service
1601 Balboa Avenue
Panama City, Florida 32405

FWS Log No. 4410-1007-1-0253



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

Dear Ms. Carmody:

Gail A. Carmody, Field Supervisor

Gail A. Carmody, Field Supervisor

7-16-09
Date

The following information is being submitted to fulfill requirements under Section 7 of the Endangered Species Act (ESA). This biological assessment addresses potential impacts to the reticulated flatwoods salamander and eastern indigo snake associated with installation of a transmission water main connecting the City of Freeport and Portland which would cross through Eglin Air Force Base (AFB), Florida (Figures 1 and 2). Additionally the Florida black bear and gopher tortoise are considered.

Description of the Proposed Action

The approximately 7.5-mile line segment transmission water main would run along the northern side of SR 20 within the confines of the Florida Department of Transportation (FDOT) right-of-way from Eastern Street in Choctaw Beach to Alaquia Drive in Portland. This segment would bisect the boundaries of Eglin AFB in three separate locations amounting to a total of approximately 6 miles on base. The Proposed Action is to lay the pipe along the north side of SR 20 in the configuration shown in Figure 2. The water main would measure 12 inches in diameter and would be an extension to an existing 12-inch diameter main located at Eastern Street in Choctaw Beach and eventually join to an existing 10-inch diameter main located at Alaquia Drive. Installing the water main within the existing SR 20 right-of-way intentionally minimizes the potential environmental impacts as the right-of-way constitutes a previously disturbed area. Impacts to wetlands along the right-of-way would be prevented by directionally boring underneath them.

The pipe would be connected at either end of the project area to existing hydrants. There are no plans to install other components such as pumps within the proposed pipeline route. The shoulder of SR 20 provides sufficient space to accommodate all equipment for the Proposed Action. There would be no lane closures of SR 20. The

proponent would place highly visible signs near the study area to caution drivers of the activity and to protect workers operating equipment near SR 20.

The water main pipe would be laid using standard trenching equipment, including up to two backhoes, a bulldozer, front end loader, and a directional bore machine for certain situations. Two backhoes may be used at the same time, one to dig and one to backfill. The proponent would employ directional boring to place the pipe under paved roads, culverts and wetland areas without causing disturbance to those features. Directional boring may also be used to bore under potential reticulated flatwoods salamander habitat.

The expected timeframe for construction of the pipeline project is three to six months. The ideal rate of progress could be as much as 2,000 feet per day for surface trenching and laying the waterlines. However in locations that require directional boring, progress would slow to 500 feet of waterline laid per day. Construction activity would only occur during daylight hours.

Biological Information

Reticulated Flatwoods Salamander

The reticulated flatwoods salamander (*Ambystoma bishopi*) is federally listed as an endangered species. Based on molecular and morphological analyses, Pauly et al. (2007) proposed the separation of the flatwoods salamander into two species. The division lies along the Apalachicola-Flint Rivers with reticulated flatwoods salamanders, *Ambystoma bishopi*, inhabiting areas to the west and frosted flatwoods salamanders, *Ambystoma cingulatum*, ranging to the east of the Rivers (Pauly et al. 2007). As these findings are new, little work has been done to separate the ecology of these two species (FWC 2008). Optimal flatwoods salamander habitat is open, mesic longleaf and slash pine flatwoods with an herbaceous ground cover typically dominated by wiregrass (Palis 1996, Ripley and Printiss 2005). Flatwoods salamanders are fossorial, digging burrows or expanding crayfish burrows (Neill 1952, Ashton 1992) but also burying in pine duff (Ashton and Ashton 2005). During the winter breeding season, adults become more active and migrate to breeding ponds, typically from October through January, during rain events associated with the passing of a cold front (Means et al. 1996, Palis 1997).

Eastern Indigo Snake

The eastern indigo snake (*Drymarchon corais couperi*) is listed as a federal and state threatened species and is the largest nonvenomous snake in North America. The primary reason for its listing is population decline resulting from habitat loss and fragmentation. Movement along travel corridors between seasonal habitats exposes the snake to danger from increased contact with humans. Indigo snakes frequently utilize gopher tortoise burrows and the burrows of others species for overwintering. The snake frequents flatwoods, hammocks, stream bottoms, riparian thickets, and high ground with well-drained, sandy soils. The indigo snake could occur anywhere on Eglin AFB because it uses such a wide variety of habitats (U.S. Air Force, 2006).

The species is extremely uncommon on Eglin AFB with the sighting of only twenty-nine indigo snakes throughout Eglin AFB from 1956 to 1999. No confirmed indigo snake sightings have been recorded since 1999 (Gault, 2009). Most of these snakes were seen crossing roads or after being killed by vehicles. It is difficult to determine a precise number or even estimate the numbers of these snakes due to the secretive nature of this species (U.S. Air Force, 2006).

Other Species Considered

Florida Black Bear

The Florida black bear (*Ursus americanus floridanus*) is currently listed as a state threatened species except in Baker and Columbia counties and Apalachicola National Forest. Florida black bear populations are currently found in Florida and Georgia, as well as a small population in Alabama. Reasons for population declines throughout Florida and Georgia include loss of habitat due to urban development and direct mortality due to collisions with vehicles. Eglin AFB is considered to be the smallest population, with an estimated sixty to one-hundred individuals; however, Eglin's black bear population has shown signs of increase since the early 1990s. Black bear in Florida breed in June/July, and young are born in January/February. Most black bears within Eglin AFB utilize the large swamps and floodplain forests in the southwest and northern portions of Eglin AFB, where they feed on fruits, acorns, beetles, and yellow jackets. Black bear sightings have occurred at numerous locations throughout Eglin AFB, the majority of which have been within the interstitial areas (U.S. Air Force, 2006).

Gopher Tortoise

The gopher tortoise (*Gopherus polyphemus*), a state-threatened species, is found primarily within the Sandhills and Open Grassland ecological associations on Eglin, where it excavates a tunnel-like burrow for shelter from climatic extremes and refuge from predators. The primary features of good tortoise habitat are sandy soils, open canopy with plenty of sunlight, and abundant food plants (forbs and grasses). Prescribed fire is often employed to maintain these conditions. Nesting occurs during May and June and hatching occurs from August through September. Gopher tortoise burrows are important habitat for many species, including the federally-listed indigo snake (U.S. Air Force, 2006).

Determination of Impacts

Reticulated Flatwoods Salamander

The Proposed Action would traverse potential reticulated flatwoods salamander habitat 1500 foot pond buffers (Figure 3). The reticulated flatwoods salamander is thought to be sensitive to soil and groundcover disturbing activities within its terrestrial habitat, especially when that disturbance creates an impediment to or alteration of the

ephemeral wetlands they use to breed. Soil and vegetation disturbance results in changes to the natural flow and deposition of water which in turn affects the length of time a pond may hold water and the extent to which ponds are filled. Soil disturbance can also result in potential sedimentation and erosion affecting nearby wetlands habitat. However, the limited disturbance that would be required from the installation of the water main is not expected to directly affect breeding habitat or create changes to the natural flow and deposition of water.

The construction area primarily consists of previously disturbed land within the existing SR 20 right-of-way, which is mainly grass and free of dense vegetation. Most of the existing vegetation located within the project area would be maintained; brush and tree clearing would only occur on an "as needed" basis. Directional boring would be utilized to avoid direct impacts to wetlands and potential flatwoods salamander pond buffer area. Direct impacts to species habitat would not be significant due to the minimal amount of vegetation clearing and the use of directional boring.

Erosion from trenching activities is expected to be minimal, as best management practices (BMPs) would be implemented throughout the work corridor. Areas that will be trenched would be backfilled as soon as the pipe is laid. During trenching operations, BMPs, including the use of temporary silt fences and staked turbidity and hay bale barriers would be used to control fugitive soil movements and to control any excessive rutting or sedimentation.

Due to minimal potential for sediment runoff from the construction areas and directional boring, as well as the limited amount of reticulated flatwoods salamander potential habitat 1500 foot pond buffer affected, Eglin NRS has determined that the Proposed Action would have **no effect** on the reticulated flatwoods salamander if the following avoidance and minimization measures are followed:

- Wetland areas would be avoided by implementing subterranean directional boring.
- Construction methods would include BMPs such as temporary silt fences, hay bales, and staked turbidity barriers.

Eastern Indigo Snake

The potential impact to the eastern indigo snake would be from direct physical impacts associated with trenching equipment. The construction area primarily consists of previously disturbed land within the existing SR 20 right-of-way, which is mainly grass and free of dense vegetation. Most of the existing vegetation located within the project area would be maintained; brush and tree clearing would only occur on an "as needed" basis. Incidental contact with personnel and equipment could result in trampling of an individual species. However, this occurrence is considered highly unlikely, as the snake would most likely move away from the area if it sensed a general disturbance in its vicinity. Should an indigo snake be sighted during construction activities, personnel would cease activities until the snake has moved away from the area before resuming

work. Eglin NRS has determined that the Proposed Action would have **no effect** on the eastern indigo snake if the following avoidance and minimization measures are followed:

- Construction personnel would be provided a description of the eastern indigo snake and its protection under Federal Law. Indigo snake signs would be provided by Eglin Natural Resources and posted at construction site. Personnel would be given instructions not to harass injure, harm, or kill this species.
- Should an indigo snake be sighted, construction personnel would be directed to cease any activities and allow the eastern indigo snake sufficient time to move away from the site on its own before resuming such activities. Personnel would contact Eglin Natural Resources Section immediately.

Other Species Considered:

Florida Black Bear

Any potential impact to Florida black bear would be from incidental contact with the animal, or disruption of its behavioral habits. In the unlikely event that construction personnel come into contact with a black bear, all activities would cease until the bear has moved away from the area. Therefore Eglin NRS has determined that the Proposed Action would have no impact on the Florida black bear.

Gopher Tortoise

The potential to impact the gopher tortoise is from direct physical impacts associated with construction activities. Incidental contact with personnel and equipment could result in trampling or crushing of individuals or their burrow. Eglin NRS would conduct a gopher tortoise survey prior to construction activities. If a gopher tortoise burrow is identified within the proposed path of construction, Natural Resource personnel would investigate the burrow and relocate any gopher tortoise or commensals that may be occupying the burrow. All gopher tortoise or commensal relocation would be performed in accordance with the Florida Fish and Wildlife Conservation Commission (FWC) protocols. In the unlikely event that construction personnel come into contact with a gopher tortoise, all activities would cease until the tortoise has moved away from the area. Eglin NRS has determined that the Proposed Action would have minimal to no impact on the gopher tortoise if the following avoidance and minimization measures are followed:

- Prior to project initiation a gopher tortoise survey is required.
- If a gopher tortoise burrow cannot be avoided, then the tortoise would be relocated in accordance with the FWC protocols.
- Should a gopher tortoise burrow be identified within the proposed path of construction by construction personnel, work would cease until Natural Resources personnel have investigated the burrow and relocated any gopher tortoise or commensals to a suitable location.

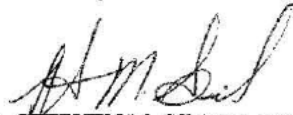
personnel have investigated the burrow and relocated any gopher tortoise or commensals to a suitable location.

Conclusion

Eglin NRS has determined that the Proposed Action would have **no effect** on the reticulated flatwoods salamander and eastern indigo snake provided that the avoidance and minimization measures listed in this biological assessment are followed. Eglin AFB would notify the USFWS immediately if it modifies any of the actions considered in this Proposed Action or if additional information on listed species becomes available, as the USFWS may require a reinitiation of consultation. If an impact to a listed species occurs beyond what Eglin has considered in this assessment, all operations would cease and Eglin would notify the USFWS. Prior to commencement of activities, Eglin would implement any modifications or conditions resulting from consultation with the USFWS. Eglin NRS believes this fulfills all requirements of the ESA, and no further action is necessary.

If you have any questions regarding this letter or any of the proposed activities, please do not hesitate to contact either Mr. Bob Miller (850) 883-1153 or myself at (850) 882-8391.

Sincerely,



STEPHEN M. SEIBER, YF-02
Chief, Natural Resources Section

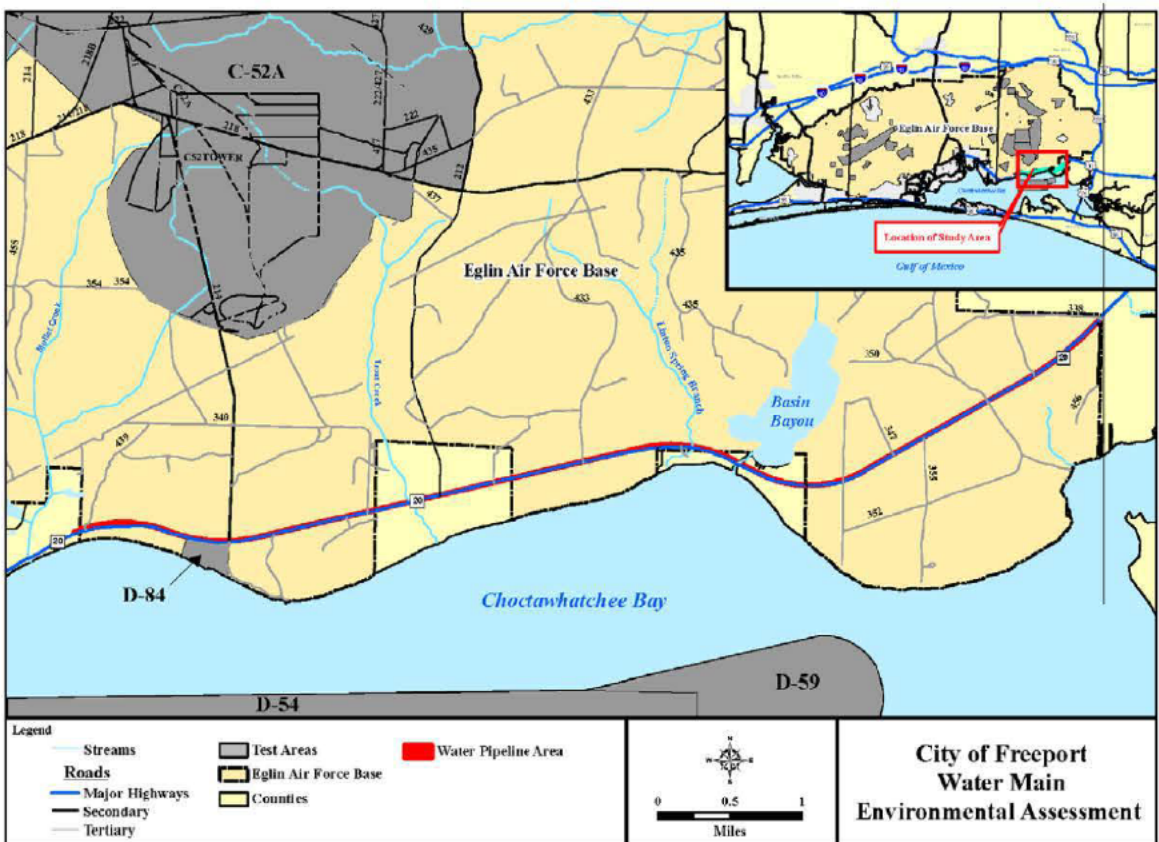
Attachments:
Figures 1-3

REFERENCES:

- Ashton, R. E., Jr. 1992. Flatwoods salamander: *Ambystoma cingulatum* Cope. Pages 39-43 in P. E. Moler, editor. Rare and endangered biota of Florida: volume III amphibians and reptiles. University Press of Florida, Gainesville, Florida, USA.
- Ashton, R. E., Jr., and P. S. Ashton. 2005. Natural history and status of the flatwoods salamander in Florida. Pages 62-73 in W. E. Meshaka, Jr. and K. J. Babbitt, editors. Amphibians and reptiles: status and conservation in Florida. Krieger, Malabar, Florida, USA.
- Florida Fish and Wildlife Conservation Commission (FWC). 2008. Management Strategies for Florida's Ephemeral Ponds and Pond- Breeding Amphibians. 108 pp.
- Gault, K. 2009. Personal communication via email between Kathy Gault, Eglin Natural Resources Section, Wildlife, and Kelly Knight, SAIC. June 2009.
- Means, D. B., J. G. Palis, and M. Baggett. 1996. Effects of slash pine silviculture on a Florida population of flatwoods salamander. *Conservation Biology* 10(2): 426-437.
- Neill, W. T. 1952. Burrowing habits of *Hyla gratiosa*. *Copeia* 1952(3): 196.
- Palis, J. G. 1996. Flatwoods Salamanders (*Ambystoma cingulatum* Cope). *Natural Areas Journal* 16(1): 49-54.
- Palis, J. G. 1997. Distribution, habitat, and status of the flatwoods salamander (*Ambystoma cingulatum*) in Florida, USA. *Herpetological Natural History* 5(1): 53-65.
- Pauly, G. B., O. Piskurek, and H. B. Shaffer. 2007. Phylogeographic concordance in the southeastern United States: the flatwoods salamander, *Ambystoma cingulatum*, as a test case. *Molecular Ecology* 16: 415-429.
- Ripley, R., and D. Printiss. 2005. Management plan for flatwoods salamander populations on National Forests in Florida. The Nature Conservancy Northwest Florida Program, Bristol, Florida, USA.
- U.S. Air Force, 2006. Threatened and Endangered Species Component Plan for Eglin AFB, FL. 96 CEG/CEVSN.



Figure 1. Eglin Air Force Base, Florida



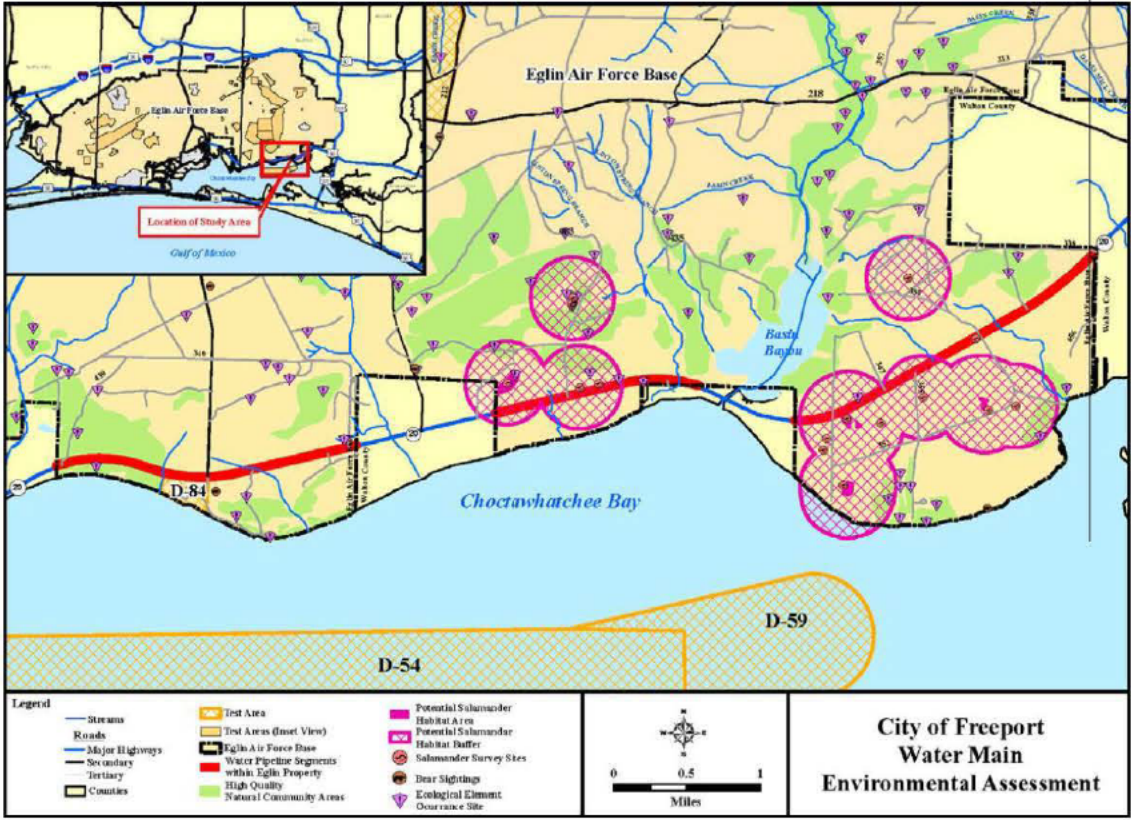
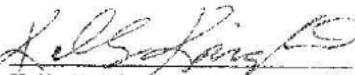


Figure 3. Sensitive Habitat and Species near Proposed Action

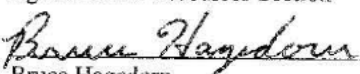
NO EFFECT LETTER REGARDING

IMPACTS TO FEDERALLY LISTED SPECIES RESULTING FROM
THE INSTALLATION OF A TRANSMISSION WATER MAIN
EGLIN AIR FORCE BASE, FLORIDA

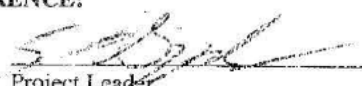
Prepared by:


Kelly Knight
Environmental Scientist, SAIC
Eglin Natural Resources Section6/30/09
Date

Reviewed by:


Bob Miller
Endangered Species Biologist
Eglin Natural Resources Section6/30/09
Date
Bruce Hagedorn
Chief, Wildlife Element
Eglin Natural Resources Section7-2-09
Date
Stephen M. Seiber
Chief, Eglin Natural Resources Section7/4/09
Date

USFWS CONCURRENCE:


Project Leader
U.S. Fish and Wildlife Service
Panama City, FL7/7/09
Date

FWS Log No.

4810-2009-JI-0023

APPENDIX F
PUBLIC REVIEW

F-1. INTRODUCTION

The following documents are provided in this appendix:

- A public notice was published in the Northwest Florida Daily News on July 18, 2009, inviting the public to review and comment on the Environmental Assessment. The public notification, as it appeared in the Northwest Florida Daily News, is provided as Attachment F-1.
- One comment was received during the public review period, which ended August 19, 2009, and is provided as Attachment F-2.
- SAIC's response to the comment is provided in the comment matrix provided as Attachment F-3.

Attachment F-1. Public Notice for the City of Freeport Water Main Installation EA

Public Notification

In compliance with the National Environmental Policy Act, the City of Freeport announces the availability for public review the following Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact/Finding of No Practicable Alternative (FONSI/FONPA) State Road 20 Water Main Installation.

The City of Freeport proposes to install a water main between the communities of Portland and Choctaw Beach. The water main would be located within the existing right-of-way on the north shoulder of SR 20 and crosses through county and Eglin Air Force base property. The proposed water main would allow interconnectivity between municipal water systems and provide residents with higher quality potable water. Interconnectivity is needed because municipal water systems need more than one source of water in times of emergency. This project is also needed because well-water drawdowns from coastal aquifers exceed the natural recharge rate.

Your comments on this Draft EA are requested. Letters and other written or oral comments provided may be published in the EA. As required by law, comments will be addressed in the Final EA and made available to the public. Any personal information provided, including private addresses, will be used only to identify your desire to make a statement during the public comment period or to compile a mailing list to fulfill requests for copies of the Final EA or associated documents. However, only the names and respective comments of respondent individuals will be disclosed; personal home addresses and phone numbers will not be published in the Final EA.

Copies of the Draft EA and Draft FONSI/FONPA may be reviewed at the Freeport Branch Library, 76 Highway 20 West, Freeport, Fla., and the Niceville Public Library, 206 North Partin Drive, Niceville, Fla. Copies will be available for review from July 17 through August 17, 2009. Comments must be received by August 19, 2009.

For more information or to comment on these proposed actions, contact Jamie McKee, Science Applications International Corporation at (850) 609-3418, or email at mckeew@saic.com.

200913

Attachment F-2. Public Comments

August 13, 2009

[REDACTED]
Freeport, Florida 32439

Jamie McKee
Science Applications International Corporation
1140 Eglin Parkway
Shalimar, Florida 32578

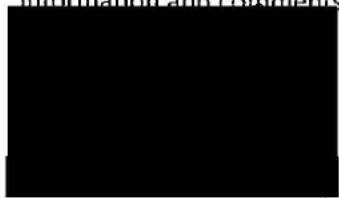
Public Notification of Draft Environmental Assessment and Draft Finding of No Significant Impact/Finding of No Practical Alternative State Road 20 Water Main Installation.

In accordance with your request for comments, on the above subject: Public Notification Notice of a Draft Findings, as were submitted; herewith, is the following comprehensive reply document. It is provided in the hope that the shared project information, history, and details will help you in deciding what course of actions are to be taken, in consideration as to the value received by this unwise and costly project that may cause unrelated problems, and in reality does actual or perceived harm to the Choctaw Beach community, and to the environment with little or no benefit to gain for either public water supply well systems (Choctaw Beach/Portland) for the proposed project connectivity approach as planned for.

Please give this document the proper consideration as it deserves, and let us plan together, for the long-range future sustainability of potable water usage as the natural resource in abundance is available in Walton County. Ground water taken from the aquifer will last us so long so spend our tax monies wisely on the better choices. Hopefully, we have presented some of them to you.

Respectively,
[REDACTED]

We are property owners in Choctaw Beach and residents. We concur with the information and comments as provided.



Niceville, Florida 32578

August 11, 2009

PUBLIC NOTIFICATION

PUBLIC COMMENTS From:



Freeport, FL 32439

TO WHOM IT MAY CONCERN: Point of contact Mr. Jamie McKee, Science Applications International Corporation (email at mckeew@saic.com)

In regards to compliance with the National Environmental Policy Act and the city of Freeport, Florida announcement for the availability for public review of the following Draft Environmental Assessment and Draft Finding of No Significant Impact/Finding of No Practicable Alternative for State Road 20 Water Main Installation. The following comments and history accompanying this request is deemed appropriate and compelling since the project is an actual split-a-way from an existing system, which was a selling point that the water system only provide for Choctaw Beach and Villa Tasso as a Stand Alone Water System for the 1,900 permanent residents within the unincorporated rural community of Choctaw Beach located on the shoreline of the Choctawhatchee Bay within Walton county

HISTORY:

In the beginning, the city of Freeport was on the agenda for the requested approval before the Walton County Board of County Commissioners (BCC), scheduled for July 23, 2002 meeting, to request approval of new well in Choctaw Beach, an unincorporated rural area within Walton County. The well, if approved, will serve the Choctaw Beach and Villa Tasso communities. The city had recently purchased the existing limited and older small 4 inch pipe well system. Freeport Mayor publicly stated that the well is needed to expand and improve service. Freeport has an option to purchase three lots on Hudson Drive in a residential Choctaw Beach neighborhood adjacent to the Eglin reservation. The three lots together will not be enough room for a 200-foot undeveloped radius around the well, so Freeport asked for and received permission from the Florida Department of Environmental Protection (DEP) to reduce the minimum distance from the wellhead to 100 feet (verses 200 feet).

The DEP based its decision on a letter from the Northwest Florida Water Management District indicating the presence of a layer of clay, a "competent confining unit," located from a depth of 60 to 170 feet below the ground. I question this due to my area in Choctaw Beach whereas there is a hard pan at about 15 to 20 feet below the surface and the water table existing at approximately 22 feet. The hard pan cited as clay existing from 60 to 170 feet is doubtful as the profile of the area shows a thinning of the "confining clay" barrier to be much less in this area

of Walton County. However, it was DEP's belief that will provide adequate wellhead protection to prevent contamination from area septic tanks. State rules allow an increase or decrease in the setback distance based on the absence or presence of natural barriers. However, the land on which my house is located to the North of the Choctawhatchee Bay is in an area where a cavern exists. Vibrations from Highway 20 shake the foundation as heavy equipment travels along the roadbed. Private homestead water wells are restricted to end at the 385 foot level for deep wells within the location area. The city had an opportunity to purchase more adjacent lots from the same seller but declined to do so. The Public Water System was suppose to have been drilled to a 600 foot depth, but was said to have been only 440 feet before reaching the cavern ceiling and punching through, and that would be consistent with the greater elevation differences of the land.

The State's standard requires wellhead setback at least 400 feet or as much as 600 feet for "wellhead protection area" for public water supplies, yet the proposed wellhead setback in Choctaw Beach at 100 foot is proposed using the reasoning that the four old existing wells that serve the community are "located within 50 feet of septic tanks and are more hazardous than the planned new well."

I'll have more to add about the Northwest Florida Water Management District's actions. The council on Dec. 28, 2000 heard a summary report from City Attorney Clayton Adkinson on the planned January 12, 2001 closing for the city's purchase of the North-bay Water Company. North Bay had no deposits from customers to pass on to the city. A consulting package was submitted to the USDA to further explain the environmental difficulties with the well location and approval granted for the site location bordering the Vast Eglin Reservation, air and suspected ground contamination from the chemical Agent Orange spread in the immediate area to Eglin's boundary and into the flowing creek, known by the name, "Mullet Creek in the approximate of 0.3 of a mile of the proposed wellhead and recharge protection zone. Mullet Creek was (is) a known toxic cleanup site per a paper provided by Eglin's own admission and notice of the EPA as a designated toxic cleanup site location. A copy of the report can be found on the internet showing that within three miles of the proposed wellhead concentrations of Agent Orange were 18,000 times higher than used in the Viet Nam war.

Some Choctaw Beach residents shared concerns about the site. The Walton County Comprehensive Plan specifies a 200 foot setback, and they want to be sure that the new well will be both safe and legal and up to the same standards the county has set for other public water wells. Choctaw Beach resident, Wayland Davis told the Breeze that Mayor Marse could have purchased additional lots, but chose not to. This was confirmed by a telephone call made to the out of town owner of the property. The project engineer allegedly also the city engineer, of Freeport stated that he has not yet decided which state permits he will be obtaining for this site on behalf of the city of Freeport. Mayor Marse, on the other hand, told the Breeze that according to Mr. Jack Arthur, growth management director, Mayor Marse doesn't need 200 feet, only 100 feet, and that he thought the opposition was being selfish. He stated: I'll buy another \$18,000 lot if I have to, he said. He couldn't find any other place, he continued, and needed a site away from the Bay because of potential storm surges. However, wasn't

maintaining the 200 foot wellhead protection zone as important? For example, residents have reservations about apparent inconsistencies in the information Freeport has given them. Mayor Marse it was said had told them that some time ago that the DEP had approved the reduced setback, but the letter from DEP was not dated until August 2, 2002, after the July 23, 2002 BCC meeting. When asked on August 1, 2002 for the letter, Mayor Marse said he "will produce that letter August 13, 2002 and personally explain."

Another resident expressed concern that Marse might decide, at some point in the future, to sell water south of the bay, perhaps by attaching lines to the bridge crossing the bay on U.S 331 in Walton County, which he has already done as Freeport now supplies water to many more areas than this one in Choctaw Beach. To that question: he stated; "the system would stand alone and would only have an emergency hook-up with a neighboring county that of Okaloosa County. He now says that to sell the additional piping between Choctaw Beach wellhead and Portland wellhead, a connection of both systems are needed. What happened to the stand alone provision he spoke of and was approved by the USDA that helped to fund our system in Choctaw Beach? Say something, wait awhile, and let the dust settle, then go back in and ask for more public funding to link up with a combined system that could potentially take water from the Choctaw Beach wellhead and transport it east through connectivity with a joining system in Freeport directed southward to South Walton or Freeport areas, which leaves no reserves when over 150 or more customers tap on to the Choctaw Beach well.

The existing Lake Sharon water supplier at some point and time will be overextended and seek to tap the reserves of the well located on Hudson Drive. Any redevelopment of Choctaw Beach and Villa Tasso will be needing capacity and as usual some new development has taken place since circa 2002. There is more to come and without water reserves development is stifled when water is taken out of the system and sent to the outlying areas to the east. The cone of depression will continue to become a greater problem for all of us as saltwater intrusion contaminates even the homesteader's deep well. Future needs in Choctaw Beach for that well water will arise because presently 10 to 15% of the local users are not connected (plus there are vacant lots). Remove water from Choctaw Beach? It is likely, since the only major industry in Walton County is tourism, that water will be diverted to land south of the Bay. Diverting too much water could destroy the natural resource that we all depend upon for our and our children's habitat.

The current water system was presented to Choctaw Beach residents as a stand-alone system, contrary to this move to expand the system to supply outlying areas. Obtaining public approval with illusory promises, then changing the agreement by ignoring those promises, is deceptive at best and does not serve the constituents.

Sell' em all they need and fool local residents that thing are just fine, will remain so and done for their own good. Reading above it isn't hard to imagine allegedly any of this for the sleight of hand and words spoken go in another direction and take on a different meaning from public officials looking out for our best interest.

The approval for estimated cost of the system would be \$3.30 million. Included are the well, elevated tank, 17.4 miles of water lines for distribution, and 60 fire hydrants. The design initiated for a 300,000 gallon elevated tank and a 500 gallon per minute pump for this project. The city of Freeport will ask the United States Department of Agriculture Rural Development Program for funding assistance. Bonding may also been used. The project came nearly to a standstill as one piping stretch of about 500 to 600 feet was on Eglin Air Force Base property without their prior permission and work stopped on that portion of the contract. It was later approved.

It was stated that there was nearly \$100,000 in funds left over from this public funded contract. It took the personal time of a resident calling public officials twice to have people come back to reseed and refill low spots after completion. The Independent Fire District of Choctaw Beach and Villa Tasso assisted the contractor in providing public land on which to serve as onsite storage and work area while the piping and excavation tasks of that contract proceeded. Compensation for this usage was never divulged to the public. No one has ever questioned the use of the excess monies of approximately \$100 thousand retained by the city for other purposes or allegedly the city engineer, the same Mr. Charles Peters acting as Peters Municipal Associates, Inc, Post Office Box 6523, Dothan Alabama 36302, allegedly maybe was the only source of project plans for perspective contractors wanting to receive packages of the bidding plans. A legal notice: Leg. 1473, Nov. 18, 25, Dec.2, 9, 2004: states that Thompson Well Drilling, Inc. hereby gives notice of completion of a contract with the city of Freeport for construction of North-bay Water System Expansion Contract 11-Well No. 1. A companion Legal Notice: 1509 concluded the notice that Caldwell Tanks, Inc. 4000 Tower Road, Louisville, Ky 40219 has completed all work on the city of Freeport, Freeport Florida 300,000 gallon elevated water storage tank. Leg. 1509 Nov. 29, Dec. 6, 13, 20, 2004 Daily News is a local paper.

The Choctaw Beach water system has now been in use for several years. Periodically; public notices are placed in the local newspaper to inform us that some of the required samples had not been taken. Otherwise, the water sometimes smells of heavy chlorination but the volume and pressure are maintained. There have been no water outages or downtime for maintenance. This self-contained water system should remain as we were promised a standalone water system with an emergency connection to Okaloosa County. What is wrong that we would have to depend on the city of Freeport for other than what we bought as taxpayers in the county? They have already added the cost of fire hydrant maintenance to our water bill. Shouldn't we be having the county employees doing the maintenance and the Fire Departments doing the flow pressure and labeling testing? Think about this: shouldn't the county provide water service for county residents? Not the separate seven (7) private water providers.

Other than water we receive from the city owned water system we receive no additional benefit from any of these for profit companies located within Walton County. If the money went to the county then the profits could go towards paying ourselves instead to a city or a corporation that does not provide value of members ownership, nor the political advantage to

address issues, and having a say in the adoption of Ordinances—taxation without representation.

We pay for water service to a city that is located nearly 15 miles away; this additional new water main project proposal, adds water lines between these two different systems for connectivity purposes only. The two well sites are both located within the same 15 mile distances from Freeport, Florida. Choctaw Beach and Portland are the two major communities, which now have operational independent systems but each are separated by nearly 7.5 miles of State Highway 20, but these areas are mostly uninhabited miles that will make connectivity between Choctaw Beach and the village of Portland. In the Portland project area, originally they located the well and storage tank in an area, which the land could not support the load bearing footings of the base of the elevated water storage tank. They then sold that property and relocated to a different site that could. Was there no core sampling done?

The C-6 radar site also is where the chemical Agent Orange was sprayed and used to fill sprayers. Both water systems are situated within a zone where chemicals can and do wash over the recharge precautionary zone built supposedly to prevent contamination.

We face a pending environmental problem exacerbated by the disregard for a long-term solution as we stick our heads into the mud that experts says separates the water from the defining clay barrier and keeps saltwater intrusion out. Feeding outlying areas from our wells will increase groundwater depletion in the Choctaw Beach area and exacerbate saltwater intrusion into our local groundwater system.

There is no connection to Management as used in the term to describe the organization: Northwest Florida Water Management District, a Walton County funded taxing authority, for it should be in their best interest to protect our natural resources and conserve them to last as long as possible. Of particular concern is the amount of water taken daily.

I called them a few years back and spoke to a responsible employee about concerns with the city of Freeport suspected of taking more water than authorized, and wanted to know currently what that amount at approved levels was. He refused to tell me. I suspect that they were well over their daily allocations and he knew it but didn't want to acknowledge the facts, but I read later that (NFWMD) they had made the city complete a new modeling of the water levels to determine sufficiency. Dealing with an agency that withholds information and could allegedly hide other things that are just as important from the taxpayers they serve.

I've never read where suppliers have ignored reasonable usage limits based on the assumption that the aquifer can meet all new demands, which we know is untrue.

CONCLUSIONS:

The burden is upon the city of Freeport and the N.W.F. Water Management District to be absolutely sure that interconnectivity does no harm, as neither rural village (Portland or Choctaw Beach) are not municipal city entities and the city of Freeport is allowed to extend their own Municipal boundary harvesting element rights (water) another 15 miles to the west to capture other's water beneath their homestead property; enact Ordinances, which apply within other rural parts of unincorporated Walton County other than the exception made of 5 miles from the cities limits according to Florida Statues , therefore; we do not derive any compensation, taxes, or other benefits from the city of Freeport nor representation at the City Council , and the explanation for delivery of higher quality potable water to residents is at best laughable. Were we told an untruth that the Choctaw Beach system was to be connected to the Okaloosa County system and a valve separated one from the other? Now it is said that a selling point that interconnectivity is needed because municipal water systems need more than one source of water in times of emergency. In that statement, I smell a rat. What brings in water can also take out water. Water that water barons require to fulfill their contracts and allocations are for water exceeding their own capacity even with the 7th well coming online.

The individual systems as they stand are independent withdrawal and delivery systems and stand alone system works much better than attached ones since they are sized to the needs and extra reserves for development and expansion. Especially where it is stated publicly by the city engineer that the extended size new 8 inch piping was required; if added on to an existing 6 inch main line system, (it) will require bleeders to discharge stagnated water as slower discharge will promote bacteria growth within the lines of a 7.5 additional miles to the already stated original 17.5 miles of existing feeder mains attached to the Choctaw Beach storage tank, a capacity of 300,000 gallons of treated potable water, that services nearly a 1000 customers. The refill ranges from about a seven hour usage period then while refilling the storage tank, a drop in pressure of the aquifer is effected as the well-water drawdown from coastal aquifers exceed the natural recharge rate. That cone of depression really exists in most of Choctaw Beach and beyond. Our private deep wells can show the difference when using water from them.

I'm concerned that with the extra added extended range of 7.5 miles that the static line pressure will be reduce beyond that needed for the fire departments to attach to hydrants and have the pressure to create the 45 pounds per square inch

at the hydrants necessary to fight fires. Anything less than 30 pounds per square inch or lower would be a problem. Each area may have a different pressure reading and lower flow rates as more miles are added to a self-sustaining system not designed for any additional linkage having line resistance and volume flow from gravity. We cannot and should not provide potable water to every household in the county and the laying of pipe along a desolate stretch of 3.7 miles of Eglin AFB Reservation is not practical or cost effective. Soon our rates will rise to compensate for such foolishness, resulting in urban sprawl of single family housing as is the case with this expansion project to provide water for a few new potential customers in the area.

Nearly one half of the 7.5 mile proposed distance for construction; whereas, the Eglin range borders the entire span of a proposed new Portland connection, it also includes just over 3.7 miles of nothing but an uninhabited forested area of the government bombing and test ranges. Why do this? If it is to furnish water to the Trout Creek Industrial Park then say so and back feed it from the Portland well site only, and leave the Choctaw Beach well as it now stands. Less damage is done, less cost incurred, and less disturbance of the soil of the Agent Orange test fields and in streams on Eglin Air Force Base. Scientist know it is there and have written about the dangers of it getting airborne as dirt will be disturbed and become airborne with the intense and steady excavation for the 7.5 additional miles to bury the main distribution lines.

Double exploitation of a natural resource such as water reserves is used excessively by allowing a wrongheaded attempt to hasten the saline contamination of the remaining potable ground water along the shores of the Choctawhatchee Bay shoreline villages. The canary is the coastal wells that are capped and no longer producing any drinkable water. Those selling that water for profit are not concerned with salt water intrusion, or its effects.

The Choctaw Beach well has one other private water system within the community. It is Lake Sharon and this private entity provides water to over fifty single-housing units that depend on a stable and cheap source of potable water. There may come a time when the Lake Sharon system is forced to connect to the Choctaw Beach system, requiring water supply for an additional 100 or less customers. The water quality gradually degrades as daily millions more gallons are extracted by mechanical pumping of the resource is treated and used. The stain of the iron it contains can be seen on the sideboards of houses and fencing.

The dark red layers are getting darker, signs that the city is taking more than nature can sustain as the aquifer is moving water in greater volumes from the cone of depression, which is getting larger and disturbed by the constant pumping actions within the larger areas extending from Fort Walton Beach to eastward of the city of Freeport. It is a known fact and soon our water will also be capped and closed to human and animal consumption.

Do we allow this interconnectivity to happen under reservation or use our better judgment, long term approaches to provide for a continued source of natural flowing surface water, dependable and available for the taking? Spend a reasonable sum on that instead of wasting it on questionable short term objectives? The city of Freeport could care less as the money for the cost is borne by others they service. Walton County elected officials should step in and take over the private enterprises and preserve the areas remaining underground drinkable water resources. We would all benefit from this arrangement and the money would flow into the Budget as revenue. It will become a more equitable method of planning when each individual provider is at their final asset limitations and the quality of water is no longer drinkable. Our search for a replacement of potable water will divert attentions to distant source already within Walton County. Why spend another \$800,000 of taxpayer monies on this lame idea for connectivity as the water to sustain further withdraws all coincide with availability.

Some may say there is no problem but I'll quote: Freeport's Council member Jean Arrant's comments are shared when she was first elected when the city of Freeport had only one well, not the 7th well now coming on-line and pumping out water. She recalled the First American Farms and their almost draining of the local aquifer with the daily steady pumping of water that nearly made area wells to go dry. They (American farms) lowered the water table so that drafting pipes on the private wells or the one city well had to be lengthened to reach the new water table levels. Some say water was near to the top of the soil in places before that activities started-- none since. Ironical isn't it to think that the cities seven (7) wells pumping millions of gallons ceaselessly may be doing the same things to us as the wells to irrigate the farmlands did in past years. As far as I know, the management of the resource is lacking a stark reality the when it's gone—its' gone and salt water seepage replaces it.

There is a better solution and time to implement it as the money spent to produce drinkable water continues under the guise and with approval of the Northwest Florida Water Management District commissioners who allow more and millions of gallons to be brought to surface and sold as revenue for the city of Freeport. The people of Walton County are the real losers when the water is contaminated and undrinkable from heavy and continuous pumping. There is a remedy and in the long term will cost less to maintain and produce a quantity that will sustain the County for many years in the future. If they act upon this advice and spend the money to bring Morrison Spring's water to the North, South, East, and West, some of the mains are already in-place and can serve as existing conduits as aqueducts supplying the entire county. It must be our goal. It is said there is a 250 foot diameter spring pool that produces an estimated 48 million gallons of crystal clear water each day and has been recorded to produce up to 70 million gallons a day three cavities allow frigid waters to surface from the underground aquifer, the deepest is at approximately 300 feet and terminates in an underground chamber of unknown dimensions. Let us stop emptying the local groundwater until it turns salty and necessarily is capped, and realize today that this God given resource is going to waste as it flows off downstream and not being used for human consumption.

What we don't need is a million dollar park-- what we do need is for reality to overcome wasteful expenditure of limited funds to provide leisure in our sustained and hopeful drinking water resources area that is for the taking. A day's delay means another 48 million flows down the streams and river. What a terrible waste of the substance of life. Let us make use of this remarkable product and not build diving docks, boat ramps, handicap parking, boardwalks, and picnic tables. O' we have already done those things, and with the million dollars taxpayers paid for the effort. What would it have made in-progress on bringing the water to the residents of Walton County as a county supplier, and the future of coastal areas assured of having a steady and reliable water resource for continued tourism and to develop our future economy. Now here we go again, \$500,000 in funds to renovate the Park instead of water production facilities is from a Northwest Florida Water Management District grant in other words money from a taxing authority, which purpose is to manage and prepare for our future water needs. However, the sign look especially nice. Thanks for my children and grandchildren, the gulf, creeks and pools are just as nice let us see what the next use of taxpayer's monies can promote official recognition. I prefer

sustainable job opportunity, cut the waste, and plan for the future. We seem not to be doing much of that lately. Is there no sufficient impact on the lives or environment—ask yourself that question and see if you are like me...we are behind the curve on many things of importance and need to act accordingly.

Responsibility to others—service to all.



Choctaw Beach Resident

Attachment F-3. Public Response Matrix

Comment Response Matrix for Preliminary Draft

**CITY OF FREEPORT, FLORIDA
STATE ROAD 20 WATER MAIN INSTALLATION**

Comment #	Document Page Number	Chapter Page Number Line Number	Name	Comment	Comment Response	Notes
1	General	General	With-held	Comment in regards to the Long Range future sustainability of potable water usage	Thank you for your comment	Provided as Attachment F-4

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