ENVIRONMENTAL ASSESSMENT

MID-BAY BRIDGE CONNECTOR

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Prepared for:
DEPARTMENT OF THE AIR FORCE
Eglin Air Force Base

Okaloosa County, Florida

November 2008

Prepared by:

Mid-Bay Bridge Authority

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ACRONYMS AND ABBREVIATIONS

AAC	Air Armament Center
AADT	Annual Average Daily Traffic
AFI	Air Force Instruction
AFMC	Air Force Material Command
AICUZ	Air Installation Compatible Use Zone Program
AIRFA	American Indian Religious Freedom Act
ARPA	Archaeological Resources Protection Act
BA	Biological Assessment
BHPO	Base Historic Preservation Officer
BMP	Best Management Practice
BO	Biological Opinion
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEV	Civil Engineering
CFR	Code of Federal Regulations
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DoD	Department of Defense
EA	Environmental Assessment
EAFB	Eglin Air Force Base
EFH	Essential Fish Habitat
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
ERP	Environmental Restoration Program
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FAAQS	Florida Ambient Air Quality Standards
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FHWA	Federal Highway Administration
FIHS	Federal Interstate Highway System
FNAI	Florida Natural Areas Inventory
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
FR	Federal Register
FWC	Florida Fish and Wildlife Conservation Commission
HQ	Head Quarters
MBBA	Mid-Bay Bridge Authority
NAAQS	National Ambient Air Quality Standards

ACRONYMS AND ABBREVIATIONS
(Continued)

NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NRS	Natural Resources Section (Jackson Guard)
NSA	Noise Sensitive Area
NWFWMD	Northwest Florida Water Management District
NWI	National Wetland Inventory
OFW	Outstanding Florida Water
OSHA	Occupational Safety and Health Administration
PD&E	Project Development and Environmental
PER	Preliminary Engineering Report
RCRA	Resource Conservation and Recovery Act
RCW	Red-cockaded Woodpecker
SARA	Superfund Amendments and Reauthorization Act
SCH	State Clearinghouse (Florida)
SWPPP	Stormwater Pollution Prevention Plan
TIP	Transportation Improvement Program
USACE	United States Army Corps of Engineers
USAF	United States Air Force
USFWS	United States Fish and Wildlife Service
UXO	Unexploded Ordnance

CHAPTER 1

PURPOSE AND NEED

1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

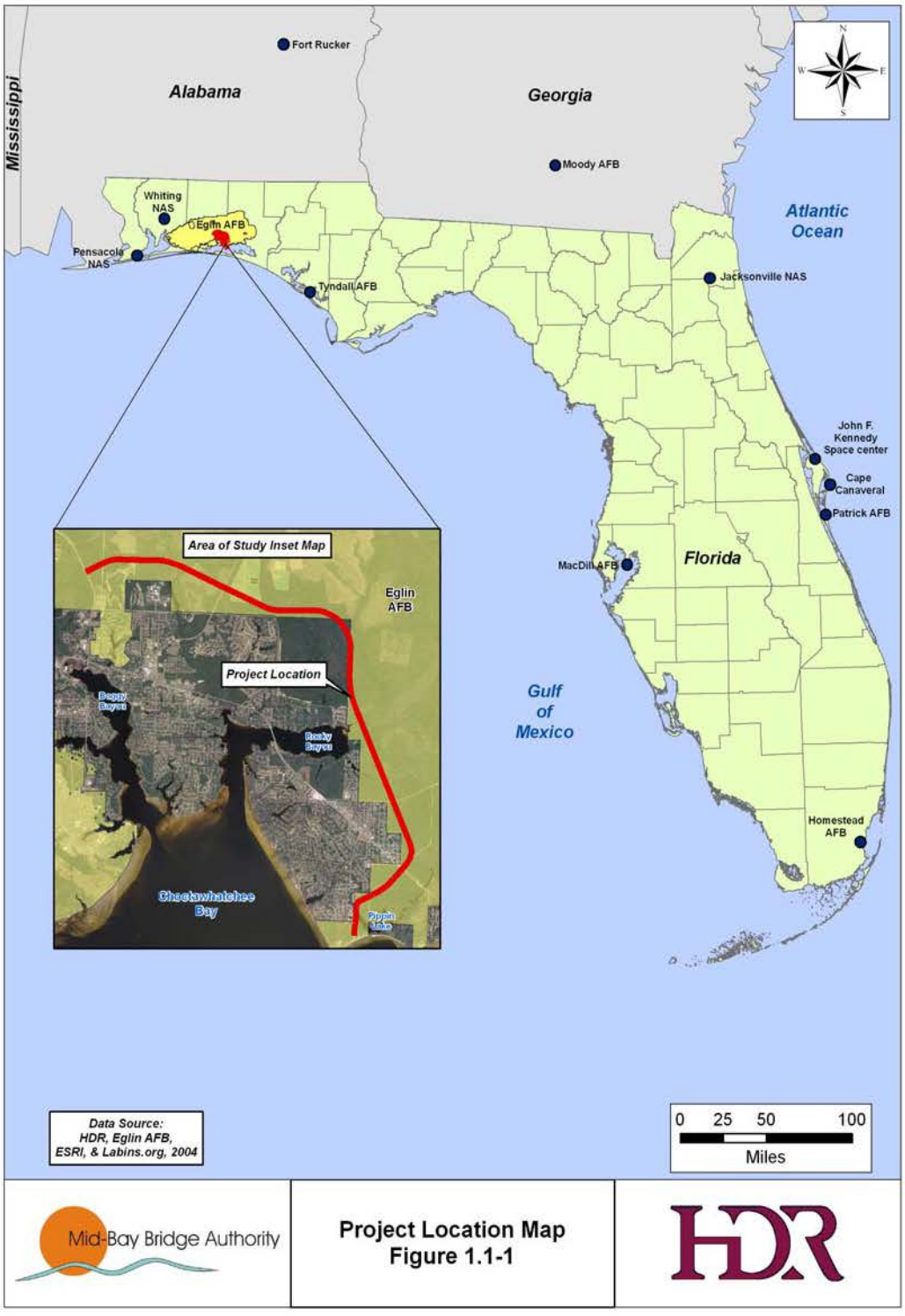
This Environmental Assessment (EA) examines the potential environmental impacts resulting from the construction of a proposed new road, the Mid-Bay Bridge Connector, which would cross part of Eglin Air Force Base (AFB) near Niceville, Florida (see **Figures 1.1-1 and 1.2-1**). The EA defines the Purpose and Need for the Mid-Bay Bridge Connector, describes the Proposed Action and alternatives, identifies the preferred alignment for the road, and evaluates the potential environmental impacts resulting from the Proposed Action and alternatives (to include the No Action alternative), as well as any applicable management actions, mitigation measures, and best management practices (BMPs) that would avoid or minimize environmental impacts. The Mid-Bay Bridge Authority (MBBA), through its contractor HDR, prepared this EA in accordance with the requirements of the *National Environmental Policy Act* (NEPA) of 1969 (42 United States Code [U.S.C.] 4321 et seq.), the Council on Environmental Quality (CEQ) regulations of 1978 (40 Code of Federal Regulations [CFR] 1500-1508), and the Air Force's Environmental Impact Analysis Process (EIAP) (32 CFR Part 989).

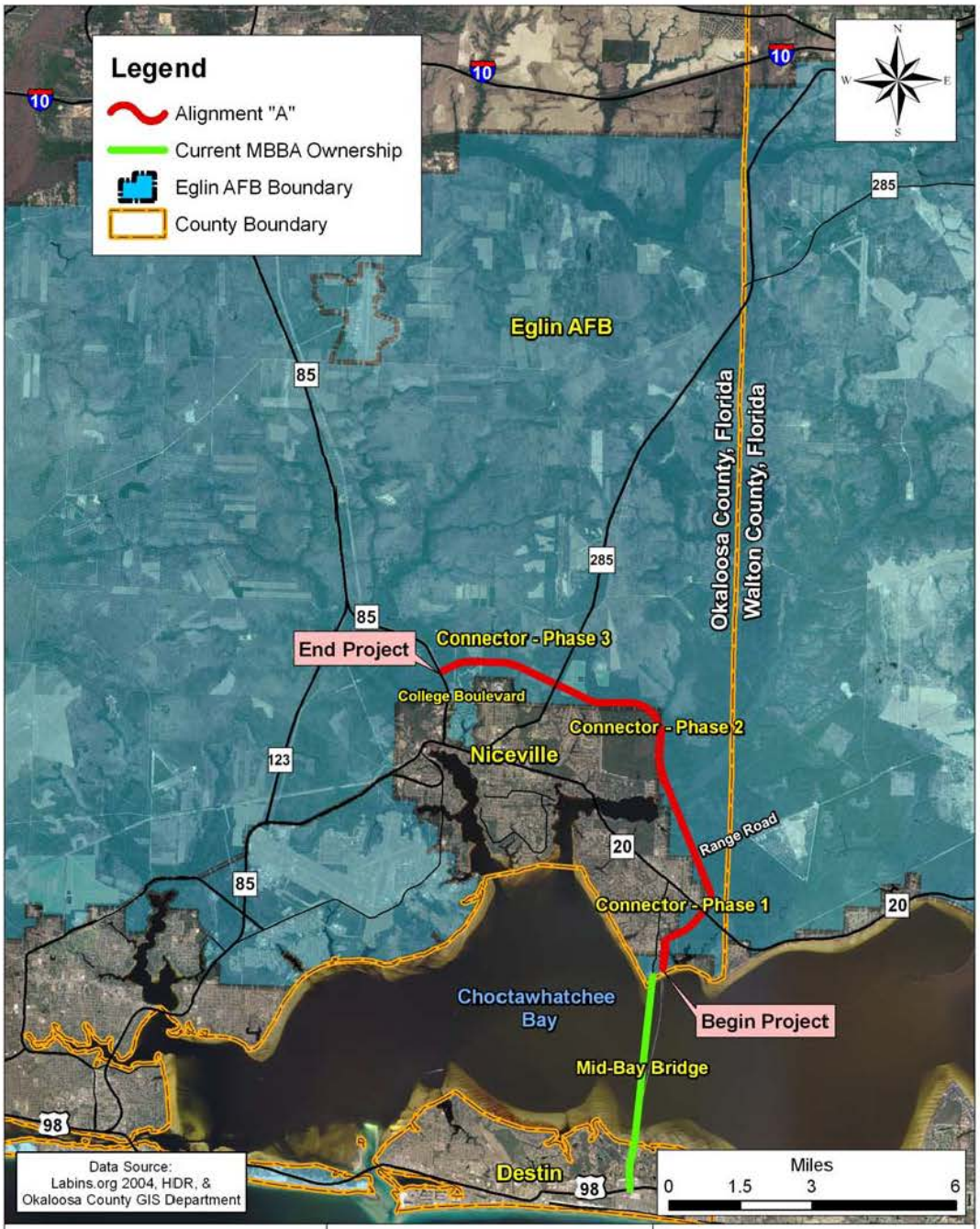
The new road is proposed by the MBBA in cooperation with the Mission Enhancement Committee (MEC) of Eglin AFB. (MEC is an entity of Eglin AFB responsible for ensuring that property encroachment in and around the base does not compromise Eglin's overall mission). The MEC granted conceptual approval on 26 December 2006, for a connector road between Mid-Bay Bridge and State Road (SR) 85 north of Northwest Florida State College (formally Okaloosa-Walton College) and the Eglin golf course. The preferred route will support a key objective of having the connector road serve as a definitive boundary for the Eglin Range. The MEC will have final approval regarding this project.

The MBBA was created by legislation to plan, build, and oversee the Mid-Bay Bridge along with the associated connecting roads (the facility). The Authority has five voting members appointed by the Governor for three-year terms and has a non-voting member who is the local District Three Secretary of the Florida Department of Transportation (FDOT). The facility is operated and maintained by FDOT through a Lease-Purchase Agreement and the day-to-day administration is managed by the MBBA Executive Director along with the Director's staff. The new road will be owned, operated, and maintained by MBBA and will be approximately 10 miles long. The new road will connect the north approach of the Mid-Bay Bridge to SR 85 north of Niceville. The environmental analysis contained within the EA will determine if there are significant impacts requiring preparation of an Environmental Impact Statement (EIS) or impacts are not significant resulting in a Finding of No Significant Impact (FONSI).

1.2 BACKGROUND

Since the opening of the Mid-Bay Bridge in June 1993, the bridge has served the region as part of a north-south connection between I-10, Niceville, and Destin (see **Figure 1.2-1**). The connection is part of the local transportation system serving local citizens commuting to and from work and school and traveling to and from shopping and recreational activities, and as a part of a hurricane evacuation route, serving southern Okaloosa County. During the year 2001, the annual average daily traffic (AADT) volume on the bridge was 12,400; this volume exceeded the initial projection of 9,000 AADT made in the early 1990's by about 38 percent. Since that time, volumes on the bridge have continued to increase to 20,900 in 2006. It is anticipated the bridge's AADT volume will continue to increase at a steady pace for the foreseeable future; it is forecast that the bridge's AADT volume will be at least 32,200 by the year 2030.


Fort Rucker
Alabama
Georgia
Mississippi
Moody AFB
Whiting NAS
Eglin AFB
Pensacola NAS
Tyndall AFB
Atlantic Ocean
Jacksonville NAS
John F. Kennedy Space center
Cape Canaveral
Patrick AFB
MacDill AFB
Florida
Gulf of Mexico
Homestead AFB
Area of Study Inset Map
Eglin AFB
Project Location
Boggy Bayou
Rocky Bayou
Choctawhatchee Bay
Pippin Lake
Data Source: HDR, Eglin AFB, ESRI, & Labins.org, 2004
0 25 50 100
Miles
Mid-Bay Bridge Authority
Project Location Map
Figure 1.1-1
HDR



Mid-Bay Bridge Authority

Regional Location Map
Figure 1.2-1

HDR

The segment of SR 293 from the Mid-Bay Bridge south to U.S. Highway 98 has recently been improved from two-lanes to four-lanes to handle the increased traffic demand. The existing two-lane segment of SR 293 (White Point Road) from the Mid-Bay Bridge north to SR 20 will be inadequate to handle future traffic demand as the level of service (LOS) is expected to decline to LOS F by the year 2020. Currently, this segment is operating at LOS C. Roadway LOS is a stratification of travelers' perceptions of the quality of service provided by a facility. Much like a student's report card, LOS is represented by the letters "A" through "F", with "A" generally representing the most favorable driving conditions and "F" representing the least favorable.

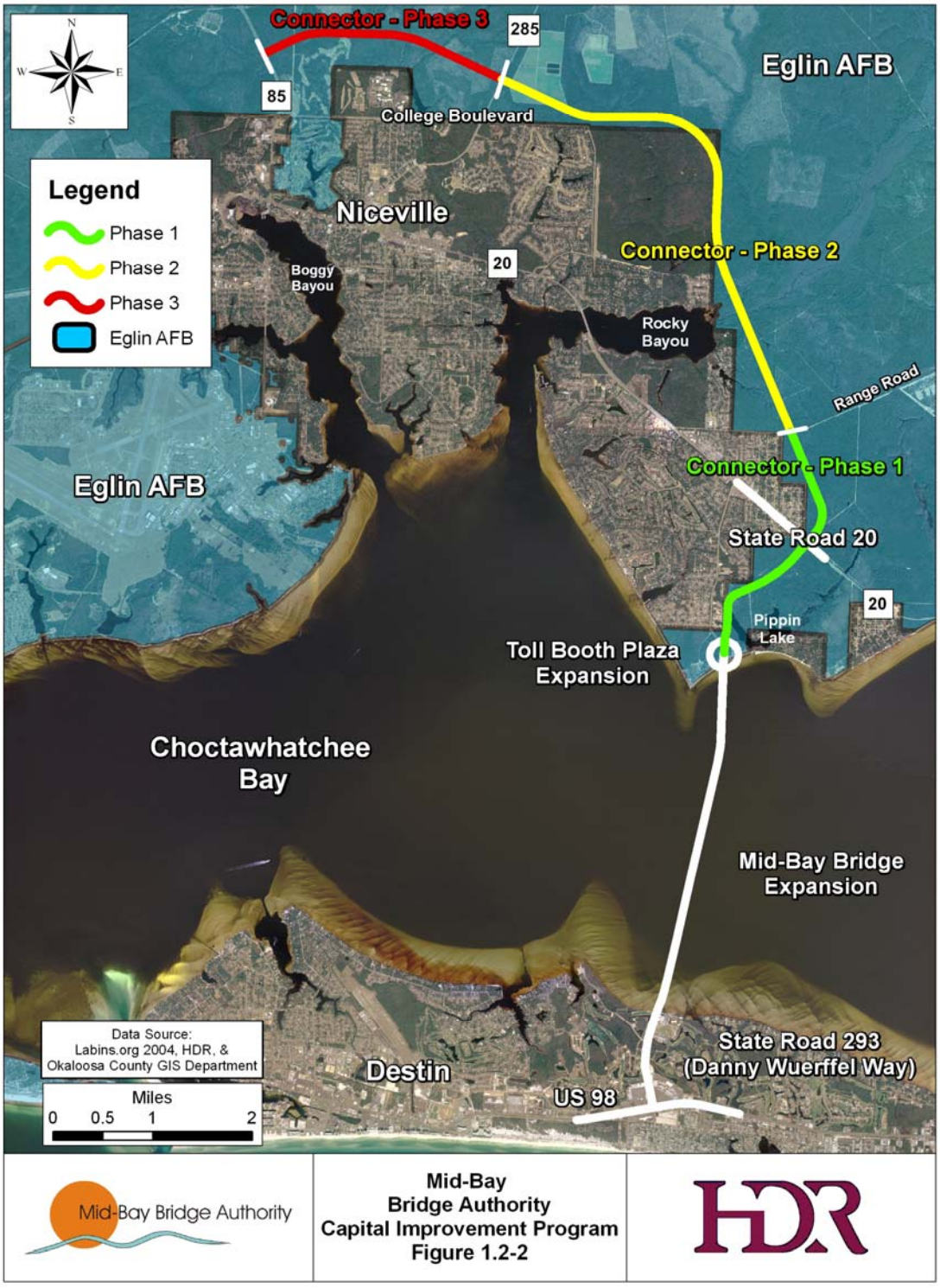
To meet the increasing regional traffic demands that are projected for the future, the MBBA developed a comprehensive Capital Improvement Program (CIP) to include new roads for the bridge along the north and south approaches and an additional bridge to parallel the existing bridge. The CIP identifies a Mid-Bay Bridge Connector (the subject of this EA) which will be completed in three phases shown on **Figure 1.2-2**.

- Phase 1: Mid-Bay Bridge to Range Road.
- Phase 2: Range Road to SR 285.
- Phase 3: SR 285 to SR 85.

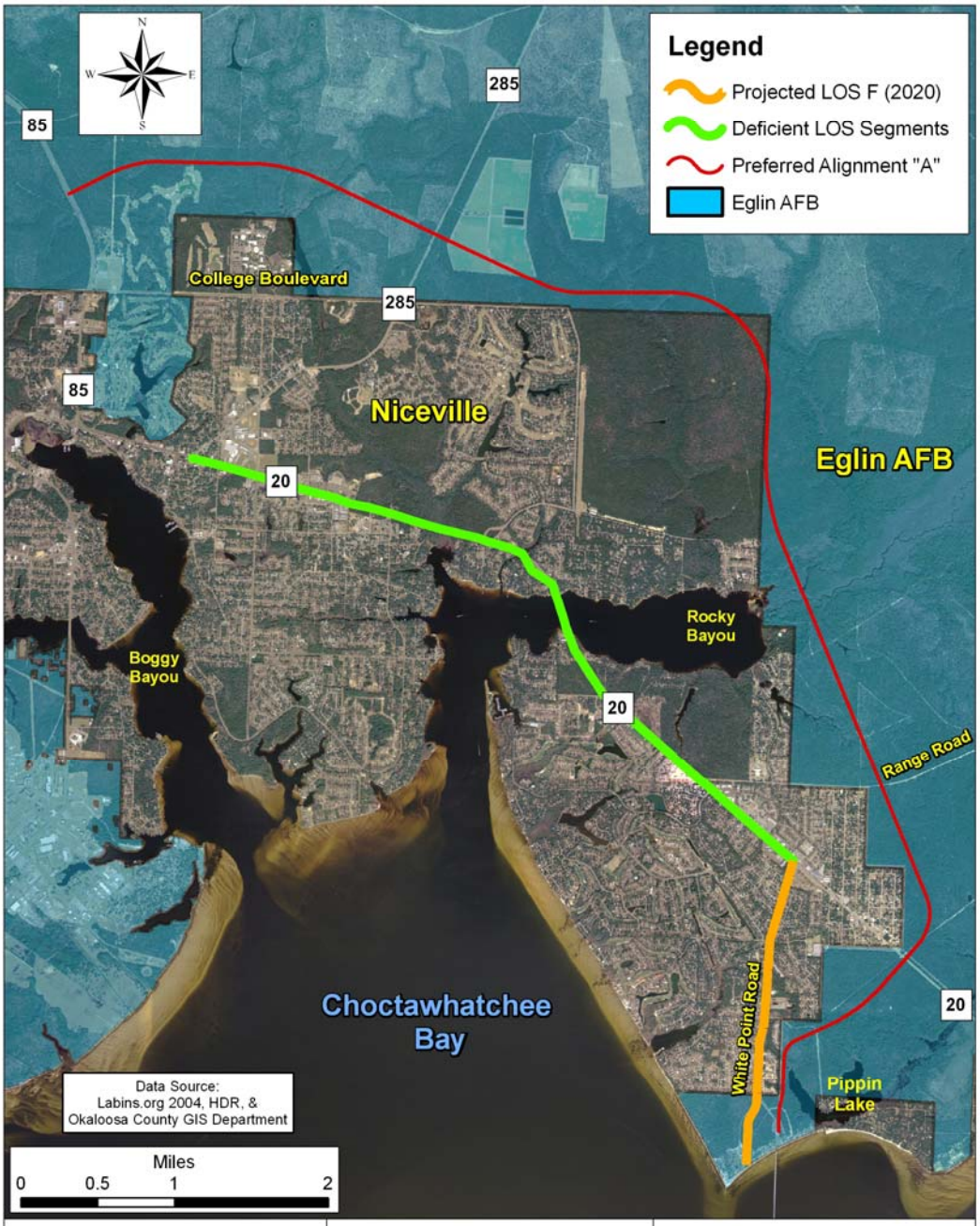
The need for and the location of the Mid-Bay Bridge Connector has been the subject of several previous studies and coordination between MBBA, FDOT, and Eglin AFB. In 1994, a Project Development and Environmental (PD&E) study was completed for the FDOT (Lochner, 1994). The study proposed a new multi-lane, limited access roadway, beginning at US 98 in Mary Esther and ending at SR 20 east of Niceville, **Figure 1.2-3**. During the FDOT's 1994 Ft. Walton - Niceville Bypass PD&E study; two basic alignments were studied within this corridor. The purpose of this study was to alleviate traffic congestion through the community of Niceville. It was documented during the 1994 PD&E study that the "No Action" alternative did not solve any of the existing corridor traffic problems. It was also identified that an alternative corridor was necessary to provide adequate traffic capacity (Quinn, 2007). Since the 1994 PD&E study, the MBBA has undertaken more studies to identify a transportation corridor that satisfies the objectives of Eglin AFB and its mission as well as the local and regional communities' transportation network.

The MBBA, working cooperatively with Eglin AFB and FDOT, initiated a conceptual planning process (a PD&E study) in September 2001. This PD&E study was initiated as part of the CIP to determine the areas roadway deficiencies, to examine various locations and develop reasonable and affordable alternatives to increase the roadway capacity, to improve safety, and to provide an adequate traffic level of service in the future. The PD&E process is specified by the FDOT for new road development and meets all federal requirements for new road construction and environmental impacts pursuant to NEPA.

Traffic volumes along SR 20 west of White Point Road increased from 24,500 to 31,000 between 2001 and 2004 and are expected to reach 38,300 by 2030 if the Mid-Bay Bridge Connector is not constructed. The existing four-lanes along SR 20 will be inadequate to meet future traffic demands and will result in deficient LOS (**Figure 1.2-4**). If the Mid-Bay Bridge Connector is built between the bridge and SR 85, traffic volume reductions of 20% to 30% along SR 20 are anticipated (Quinn, 2007). The proposed improvements would accommodate the projected increases in traffic by providing an adequate LOS by reducing traffic delays and congestion, and improving safety. Without these improvements and with a projected significant increase in the AADT, the congestion in this region will continue to deteriorate the capacity of the Mid-Bay Bridge to an unacceptable LOS. The Mid-Bay Bridge Connector is proposed in order to relieve these problems.


Connector - Phase 3
285
85
College Boulevard
Eglin AFB
Legend
Phase 1
Phase 2
Phase 3
Eglin AFB
Niceville
Boggy Bayou
20
Connector - Phase 2
Rocky Bayou
Range Road
Connector - Phase 1
Eglin AFB
State Road 20
20
Pippin Lake
Toll Booth Plaza Expansion
Choctawhatchee Bay
Mid-Bay Bridge Expansion
Data Source:
Labins.org 2004, HDR, &
Okaloosa County GIS Department
Miles
0 0.5 1 2
Destin
US 98
State Road 293
(Danny Wuerffel Way)
Mid-Bay Bridge Authority
Mid-Bay
Bridge Authority
Capital Improvement Program
Figure 1.2-2
HDR

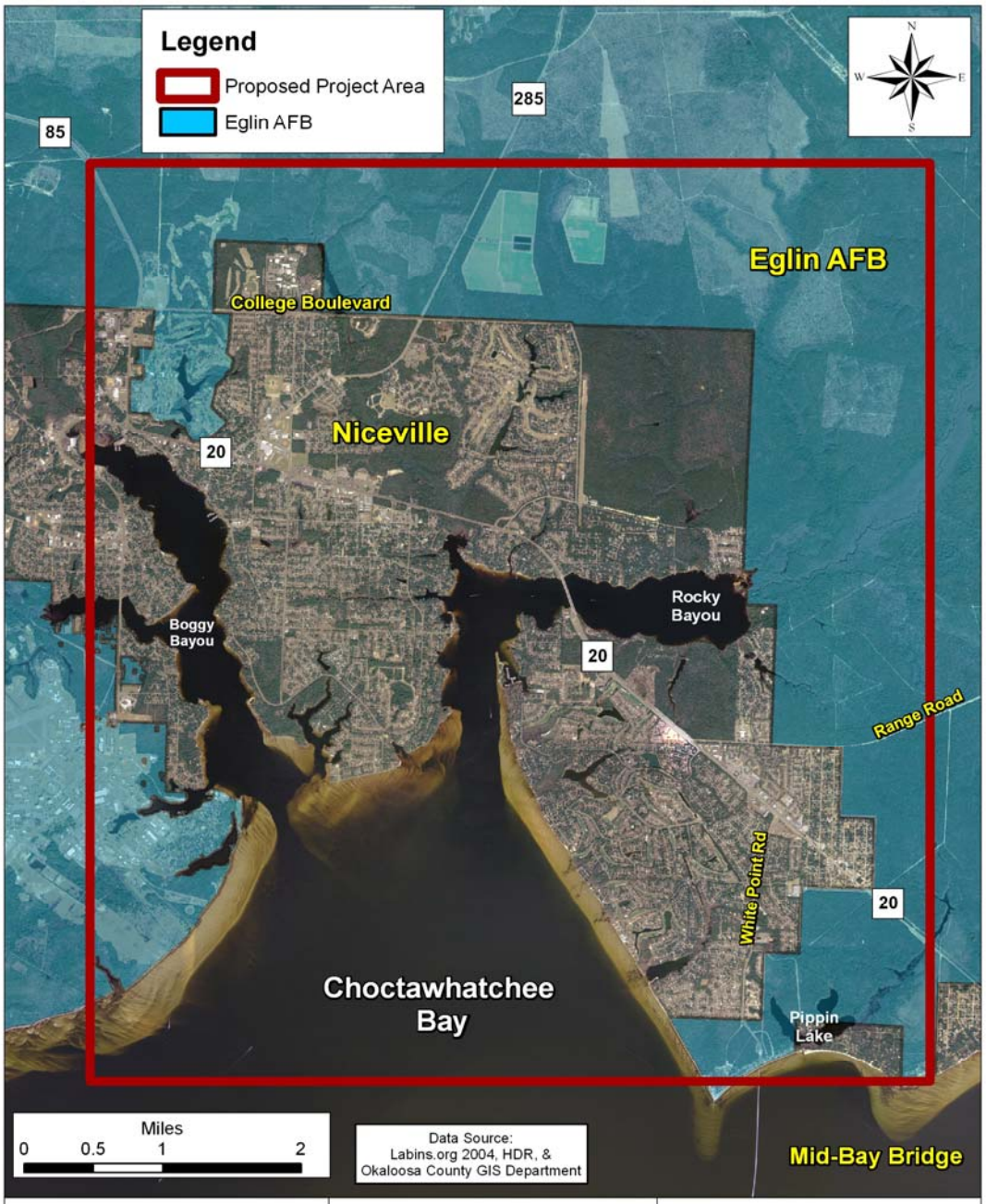
Legend
Approximate Study Area Boundary
County Boundary
Eglin AFB Boundary
Eglin AFB
Eglin AFB
Eglin Main Base
Niceville
Valparaiso
Bluewater Bay
Choctawhatchee Bay
Mid-Bay Bridge
Destin
Shalimar
Ft Walton Beach
Mary Esther
Wright
Hurlburt Field
85
285
20
Miles
0 1 2 4
Original PD&E Location Map (1994)
Figure 1.2-3
Mid-Bay Bridge Authority
HDR


Legend
Projected LOS F (2020)
Deficient LOS Segments
Preferred Alignment "A"
Eglin AFB
N
W
E
S
85
285
College Boulevard
285
85
Niceville
Eglin AFB
20
Rocky Bayou
Boggy Bayou
20
Range Road
Choctawhatchee Bay
White Point Road
20
Pippin Lake
Data Source:
Labins.org 2004, HDR, &
Okaloosa County GIS Department
Miles
0 0.5 1 2
Mid-Bay Bridge Authority
Deficient LOS Segments
Figure 1.2-4
HDR

1.3 LOCATION OF PROPOSED ACTION

Eglin AFB is located in Northwest Florida and comprises 724 square miles of land area and approximately 142,000 square miles of airspace overlying land and water ranges. Eglin's "Main Base" is located adjacent to Valparaiso, Florida, and about 10 miles east of Fort Walton Beach, Florida. Hurlburt Field is located within the south-southwest area of the base a few miles west of Fort Walton Beach, Florida.

The regional area for the Mid-Bay Bridge Connector was introduced in Section 1.2, and shown on **Figure 1.2-1**. **Figure 1.3-1** shows an aerial view of the Mid-Bay Bridge Connector area, with key streets and roads identified.



Mid-Bay Bridge Authority

Proposed Project Area Aerial
Figure 1.3-1

HDR

1.4 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.4.1 Purpose of the Proposed Action

The purpose for the Mid-Bay Bridge Connector is to provide an alternative corridor which will improve capacity, provide for linkage to I-10, enhance safety, and establish an alternative evacuation route in the event of emergencies.

As a result of the many previous studies, plans and reports, and public comments, the following objectives were important in the selection of an action to improve the transportation network in this region:

- Provide a solution to the traffic needs of the area by improving capacity as defined in the original PD&E study completed by the FDOT.
- Avoid major residential and commercial service impacts to areas all along White Point Road, north of SR 20, and along College Boulevard.
- Eliminate aggravated traffic conditions along White Point Road and College Boulevard.
- Be consistent with the public's overall comments.
- Create a regional transportation system that Eglin can utilize to optimize their mission needs with increased mobility to Eglin ranges north and east of Niceville.
- Establish a practicable alternative to I-10 during hurricane evacuations or other emergencies.
- Decrease response time for base personnel during mission activities and potential security threat situations.
- Improve and enhance the operation and safety of the regional transportation network.
- Support a key objective of having the connector road serve as a definitive boundary for the Eglin Range.

1.4.2 Need for the Proposed Action

The need for the Mid-Bay Bridge Connector is to provide a solution to the traffic congestion in the area. The need has previously been defined in other project studies completed by the FDOT and the MBBA, with extensive coordination with Eglin AFB, to include the evaluation of alternative corridors.

According to the 1992 Fort Walton Beach Urbanized Area Transportation Improvement Program (TIP) several major facilities in this region were operating at LOS F (HDR, 2005). Among those LOS F roadways were SR 20 Rocky Bayou Drive to White Point Road and Government Boulevard (SR 85 South) to SR 285. An alternative corridor was studied and recommended for construction that improved capacity along the failed corridors. In addition, the alternative corridor developed an efficient Federal Interstate Highway System (FIHS) linkage to I-10, and also enhanced safety including evacuations for hurricanes or other regional emergencies. The need for this alternative corridor has been recognized for many years and has been included in many of the Okaloosa-Walton Transportation Planning Organization (TPO) and Okaloosa County management plans dating back from 1987-2004. The Mid-Bay Bridge Connector is included in the Okaloosa-Walton, Long Range Transportation Plan (LRTP) "*Cost Feasible Plan*" as a new four-lane toll facility from the Mid-Bay Bridge to SR 85. The LRTP was approved on May 7, 2007 (Quinn, 2007).

In addition, in 2005 the Base Realignment and Closure (BRAC) Commission chose to expand Eglin AFB's mission which is predicted to increase the population of Okaloosa County by 12,000 (7,000 Eglin family members and 5,000 government and contract employees) by Fiscal Year (FY) 10 and FY11 (Eglin, 2006). As a result of BRAC 2005, Eglin AFB will house the Initial Joint Strike Fighter Integrated Training Complex and be the new home of the U.S. Army's 7th Special Forces Group and the Defense Threat Reduction Agency. Appropriately, in May 2006, Eglin AFB introduced its growth management plan, *Vision 2015*. The plan outlines several initiatives which are designed to enhance the quality of life in the area. *Vision 2015* has identified the top challenge for Eglin AFB's and the region's impending growth as improved transportation. Therefore, Eglin has initiated collaboration with the neighboring communities and transportation agencies and authorities to ensure compatible growth. As a result of BRAC 2005 and *Vision 2015*, Eglin with support from the MEC and MBBA, have agreed to study a 400-foot-wide corridor that will accommodate Eglin and its mission as well as the surrounding communities' transportation needs.

1.5 SCOPING AND CONSULTATION

Scoping letters requesting comments on possible issues of concern related to the Proposed Action were sent to the Florida State Clearinghouse (SCH) and forwarded to the agencies with pertinent environmental resource responsibilities. Appendix A contains the Coastal Zone Management Act (CZMA) determination. Responses to agency comments are presented in Appendix G and discussed in the relevant sections of Chapter 3 and Chapter 4. Consultations with the permitting and other regulatory agencies were conducted to ensure early project input and to establish a working dialogue with Eglin AFB and the MBBA.

1.6 RELEVANT ENVIRONMENTAL ISSUES

As a result of the scoping process for the Mid-Bay Bridge Connector, relevant environmental issues that are addressed in this document include potential effects in the areas of the natural environment (air, geology, water, biology, wetlands, noise, and cultural resources), hazardous materials and wastes, and the local community (socioeconomics and environmental justice, land use and aesthetics, transportation, and utilities). In addition, the EA examines the cumulative effects of the Mid-Bay Bridge Connector when considered with other projects.

A sliding-scale approach is the basis for the analysis of potential environmental and socioeconomic effects in this EA. That is, certain aspects of the Proposed Action have a greater potential for creating environmental effects than others; therefore, they are discussed in greater detail in this EA than those aspects of the action that have little potential for effect. For example, implementation of the Proposed Action could affect transportation, noise, water resources, biological resources, cultural resources, and wetlands in the area. This EA, therefore, presents in-depth descriptive information on these resources to the fullest extent necessary for effects analysis. On the other hand, implementation of the Proposed Action would cause only a minor effect on socioeconomics. Thus, a minimal description of socioeconomics is presented.

1.7 ORGANIZATION OF THIS ENVIRONMENTAL ASSESSMENT

This EA evaluates the Proposed Action, alternatives to the Proposed Action, and the No Action alternative. The alternatives are identified and described in Chapter 2. Chapter 3, Affected Environment, describes the environment on and around Eglin AFB that can be affected by the Proposed Action or reasonable alternatives. Chapter 4, Environmental Consequences, addresses potential impacts of the Proposed Action and alternatives to the physical, biological, and human environments, as well as potential cumulative impacts. Chapter 5 provides the Plans, Permits, and management Actions, Chapter 6 provides a list of agencies and individuals contacted during development and preparation of this EA. Chapter 7 is the list of preparers, and Chapter 8 lists all the reference material utilized to prepare the EA. Appendix A provides information concerning the agency coordination activities conducted for the Proposed Action. Appendix B includes the Biological Assessment (BA) and Biological Opinion (BO) from the Section 7 Consultation with US Fish and Wildlife Service (USFWS). Appendix C contains supporting noise data that was collected and analyzed during development and preparation of the EA. Appendix D contains the Air Force 813 Form which is part of the EIAP (32 CFR Part 989). Appendix E includes the Cultural Resource-Section 106 Consultation documentation. Appendix F summarizes the technical reports that were used in the development of this EA. Appendix G contains comments and responses received during the public review process. Appendix H provides the early coordination with Eglin's MEC.

1.8 PERMITTING REQUIREMENTS

If one or more acres of land are disturbed by construction, the construction contractor must meet Florida Department of Environmental Protection (FDEP) requirements for a stormwater general construction permit and submit a National Pollutant Discharge Elimination System (NPDES) Notice of Intent (NOI) and a Notice of Termination (NOT) to meet stormwater requirements. A Stormwater Pollution Prevention Plan (SWPPP) would need to be developed to comply with the NPDES Permit. Two permits would be required prior to filling federal/state jurisdictional wetlands: a Section 404 Permit under the Clean Water Act (CWA) from the United States Army Corps of Engineers (USACE) and an Environmental Resource Permit from the Northwest Florida Water Management District (NWFWMD)/FDEP. A joint permit application form would be completed and submitted to the regulatory agencies. If required, an Archaeological Resource Protection Act (ARPA) Permit will be obtained to excavate and remove any archaeological resource from federal lands. Regarding federally listed species, there may also be the potential for an "Incidental Take" statement from the USFWS and for state listed species, including the Gopher tortoise and Okaloosa darter, the Florida Fish and Wildlife Conservation Commission (FWC). A formal Section 7 Consultation with USFWS was completed and the BA and BO are included in Appendix B. Coordination will occur to determine if permits are required from FDOT and all applicable utility companies as a result of construction activities in existing right-of-way (ROW).

1.9 LAWS AND REGULATIONS

A brief summary of federal and state laws and regulations that may be applicable to the proposed action is provided in the following paragraphs and in **Table 1.9.2-1**.

1.9.1 Environmental Policy

NEPA establishes a national environmental policy with goals for the protection, maintenance, and enhancement of the environment, and provides a process for implementing these goals within federal agencies. This policy recognizes humankind's impact on the biosphere and the importance of restoring and maintaining the overall quality of our natural environment. NEPA essentially encompasses sound planning practices designed to minimize damage to the environment. It provides federal agencies with a systematic, interdisciplinary approach to

planning, thereby ensuring the "widest range of beneficial uses of the environment without degradation, risk to health and safety, or other undesirable and unintended consequences."

NEPA requires federal agencies to consider, as part of planning and decision-making processes, the impact(s) of their actions on the environment. NEPA's purpose is not to generate paperwork, but to foster agency action through informed decision-making. NEPA established the CEQ, which is charged with the development of implementing regulations and ensuring federal agency compliance with NEPA. In 1978, the CEQ promulgated guidelines to implement NEPA, and in November 1979 these guidelines became regulations (40 CFR Parts 1500-1508) referred to in this document as the "CEQ regulations," which are applicable to all federal agencies. The CEQ regulations mandate that all federal agencies use a systematic interdisciplinary approach to environmental planning and the evaluation of actions that may affect the environment. The CEQ regulations are intended to assist federal agency officials in decision-making based on an understanding of the potential environmental consequences, and to take actions that protect, restore, and enhance the environment. The level of analysis required to meet NEPA requirements depends on the scope and severity of the environmental impacts threatened by the proposed action.

Air Force Policy Directive 32-70, *Environmental Quality*, 20 July 1994, states "the Air Force will conduct its activities according to national environmental policy," and all personnel are accountable for the environmental consequences of their actions. The Air Force, in its mission to achieve and maintain environmental quality, is committed to conserving natural and cultural resources through effective planning and integrating, into all levels of decision-making, the environmental consequences of proposed actions and alternative.

The Air Force developed its own rules implementing the CEQ regulations. The Air Force regulation, 32 CFR Part 989, EIAP, also incorporated by referenced in Air Force Instruction (AFI) 32-7061, outlines the steps for the analysis of environmental impacts on installations in the United States and abroad. The policies and procedures set forth in the instruction and regulation are designed to ensure Air Force compliance with NEPA and the CEQ regulations.

Executive Order (EO) 11514, *Protection and Enhancement of Environmental Quality*, as amended by EO 11991, sets the policy for directing the federal government in providing leadership in protecting and enhancing the quality of the nation's environment.

EO 12372, *Intergovernmental Review of Federal Programs*, provides for opportunities for consultation by state and local governments on proposed federal developments. AFI 32-7060, *Interagency and Intergovernmental Coordination for Environmental Planning*, provides an outline of interagency cooperation as well as the legal requirements under the *Intergovernmental Coordination Act* of 1968.

1.9.2 Integration of Other Environmental Statutes and Regulations

To comply with NEPA, the planning and decision-making process for actions proposed by federal agencies involves a study of other relevant environmental statutes and regulations. The NEPA process, however, does not replace procedural or substantive requirements of other environmental statutes and regulations. It addresses them collectively in the form of an EA, EIS, or Categorical Exclusion (CATEX) which enables the decision-maker to have a comprehensive view of major environmental issues and requirements associated with the proposed action. According to CEQ regulations, the requirements of NEPA must be integrated "with other planning and environmental review procedures required by law or by agency so that all such procedures run concurrently rather than consecutively". **Table 1.9.2-1** below summarizes the other statutes and regulations.

Table 1.9.2-1: Federal and State Statutes and Regulations	
Regulation	**Part Number**
Air Quality	
Clean Air Act	42 USC 7401 et seq., as amended
Florida Air and Pollution Control Act	F.S. 403.011 et seq.
Federal Compliance with Pollution Control Standards	EO 12088
Environmental Quality	AFI 32-70
Air Quality Compliance	AFI 32-7040
Noise	
Noise Control Act of 1972	42 USC 4901 et. seq., Public Law 92-574
Air Installation Compatible Use Zone Program	AFI 32-7063
Water Quality, Wetlands, Floodplains and Coastal Areas	
Clean Water Act	33 USC 1251 et seq., as amended
Coastal Zone Management Act	42 USC 1451 et seq. and F.S. 380.20 et. seq.
Florida Environmental Land and Water Management Act	F.S. 380.012 et. seq.
Protection of Wetlands	EO 11990
Floodplain Management	EO 11988
Water Quality Compliance	AFI 32-7041
Florida Air and Water Pollution Control Act	F.S. 403.011 et. seq.
State Surface Water Regulations	Chapter 62-346 F.AC
Biological Resources	
Endangered Species Act of 1973	16 USC 1531-1543
Migratory Bird Treaty Act of 1918	16 USC 703-712
Integrated Natural Resource Management	AFI 32-7064
Land Use and Aesthetic Resources	
NEPA	42 USC 4321 et seq.
Cultural Resources	
National Historic Preservation Act of 1966	16 USC 470 et seq., as amended
Archaeological Resources Protection Act	16 USC 470a-11, as amended
American Indian Religious Freedom Act of 1978	
The Native American Graves Protection and Repatriation Act of 1990	Public Law 101-601; 25 USC 3001-3013
Cultural Resource Management	AFI 32-7605
Hazardous Materials and Waste Management	
Resource Conservation and Recovery Act of 1976	42 USC 6901, as amended
Florida Solid and Hazardous Waste Management Act	F.S. 403.702 et seq.
Solid and Hazardous Waste Compliance	AFI 32-7042
Environmental Restoration Program	AFI 32-7020
Defense Environmental Restoration Program	10 USC 2701 et seq.
Environmental Justice	
Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations	EO 12989
Transportation	
Hazardous Material Transportation Act of 1975	49 USC 1761

CHAPTER 2

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

As required by federal regulations, this EA addresses the possible environmental impacts of the Proposed Action and other reasonable alternatives, as well as a No Action alternative. Chapter 2 contains six parts:

- Description of Alternatives
- Selection Criteria for Alternatives
- Alternatives Considered but Eliminated from Further Study
- Selection of Alternatives to Carry Forward for Further Analysis
- Reasonably Foreseeable Cumulative Actions
- Comparison of Alternatives

As discussed in Chapter 1, the need for the Mid-Bay Bridge Connector was established in the original 1994 PD&E study that was drafted by the FDOT (Lochner, 1994). The traffic conditions for the Niceville area are continuing to worsen and will continue to deteriorate unless additional roadway capacity is constructed. Impacts of performing no action include unsafe traffic conditions, an aggravation of noise, air, and water quality issues, and potential impacts to Eglin AFB and its mission. Residents, businesses, and Eglin AFB will not be able to properly function on a routine basis with a system that causes unacceptable delays.

Under the approval of the local TPO, a conceptual corridor Alternatives Analysis/Scoping Report was initiated by the MBBA to determine a potential highway corridor that would provide the necessary roadway capacity for the region while minimizing any adverse impacts (HDR, 2005). Since any of the corridors through the Niceville area will have potential impacts to Eglin, federal environmental guidelines were used for the alternatives analysis. The Mid-Bay Bridge Connector Scoping and Alternative Analysis phases were conducted in accordance with 40 CFR 1501.7 and 40 CFR 1502.14 of the regulations for implementing NEPA. NEPA also has a very strong component of public involvement to ensure the concerns of the entire community are recognized and documented.

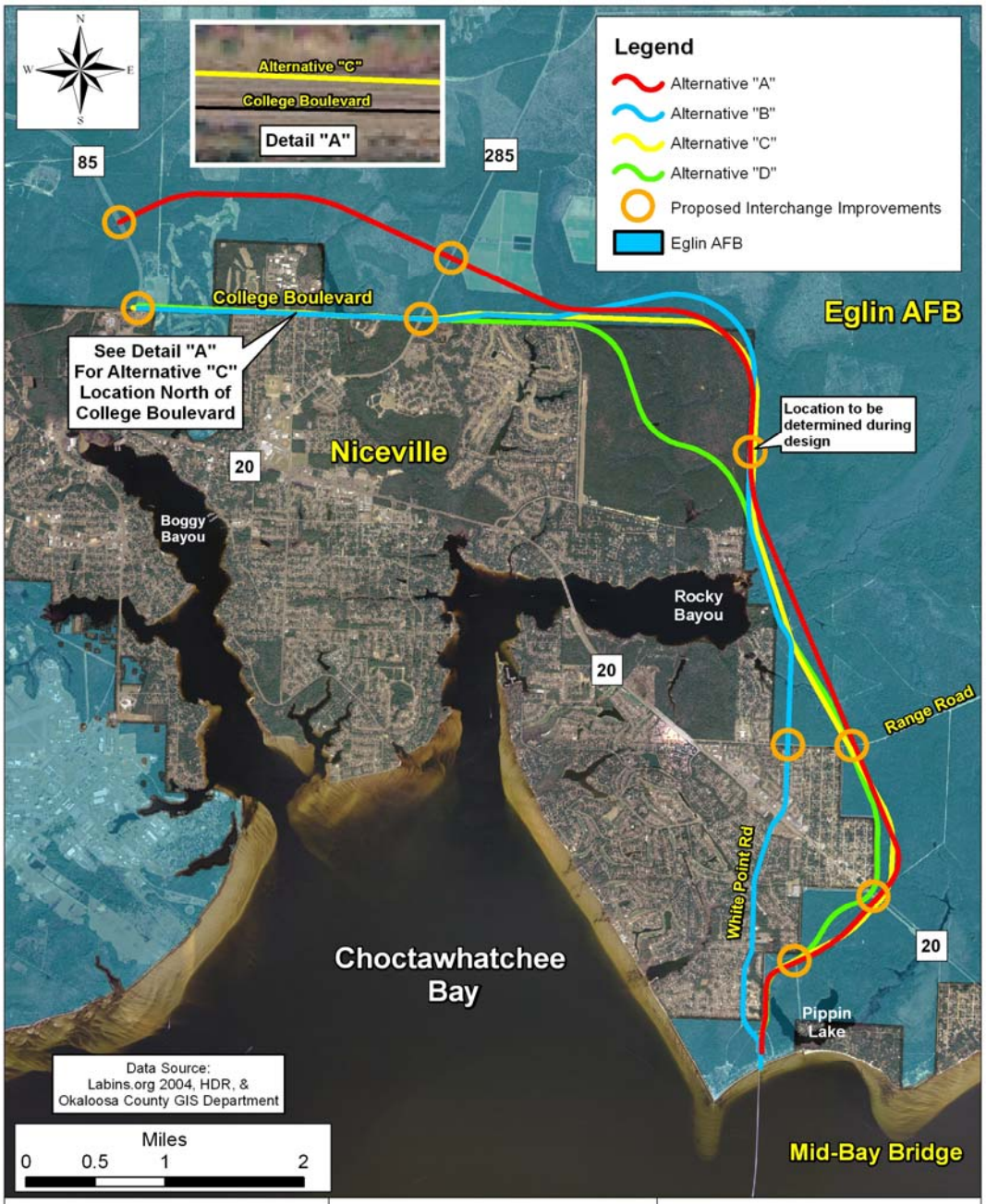
2.2 DESCRIPTION OF ALTERNATIVES

The Mid-Bay Bridge Connector involves construction of an alternative bypass route around the eastern and northern sides of the communities of Niceville, Seminole and Bluewater Bay in Okaloosa County, Florida. The existing route between the Mid-Bay Bridge and SR 85 north of College Boulevard includes traveling on congested portions of White Point Road (two-lanes) north, SR 20 (four-lanes) west, and SR 85 (four-lanes) north through the middle of the above communities. The new 10-mile route consists of a four-lane divided facility with urban (curb and gutter) and rural cross sections and proposed structures over Rocky Creek and several smaller streams that drain to Choctawhatchee Bay. Alternatives were developed that utilized portions of existing north-south (White Point Road) and east-west roadways (College Blvd) in developed areas or alternatives that avoided these areas completely and required construction of new alignments on Eglin Reservation lands which surround the communities. For this EA, the four action alternatives as well as three alternatives that would not involve construction (namely, Transportation Demand Management [TDM], Transportation Systems Management [TSM], and

the No Action alternative) were reviewed against the defined Purpose and Need and the potential impacts were compared to each other.

Figure 2.2-1 shows the four alternative alignments. As a result of the studies carried out through the years, four build alternatives were developed. The primary differences between these alternatives were the alignment options on the southern, middle and northern portions of the study area. On the southern end, routes were considered along existing White Point Road or new alignments that bypassed Bluewater Bay and Seminole to the east on Eglin AFB property. North of Rocky Creek, new alignments were considered through the undeveloped Ruckel property or to the east on Eglin AFB property. As the corridor curved to the west, routes were considered along existing College Boulevard or new alignments that bypassed the Northwest Florida State College and golf course to the north on Eglin property.

The first criterion of the review was to ensure that the needs of the Mid-Bay Bridge Connector were being met and the additional roadway capacity alleviated traffic flows. Other considerations included minimizing the loss of usable property by choosing the most efficient route located along a property boundary while maintaining the overall mission (See Section 3.2) of Eglin AFB, avoiding and/or minimizing to the greatest extent practicable, the impacts associated with the human environment, and paying special attention to the public comments presented during many public meetings. The public had the option to present comments at any monthly MBBA meeting during the previous alternatives studies, formally submit comments on the MBBA webpage, or at the formal Alternatives Public Meeting held March 15, 2005 in the Niceville Community Center.


Alternative "C"
College Boulevard
Detail "A"
Legend
Alternative "A"
Alternative "B"
Alternative "C"
Alternative "D"
Proposed Interchange Improvements
Eglin AFB
85
285
College Boulevard
Eglin AFB
See Detail "A" For Alternative "C" Location North of College Boulevard
Location to be determined during design
Niceville
20
Boggy Bayou
Rocky Bayou
20
Range Road
White Point Rd
20
Choctawhatchee Bay
Pippin Lake
Data Source: Labins.org 2004, HDR, & Okaloosa County GIS Department
Miles
0 0.5 1 2
Mid-Bay Bridge
Mid-Bay Bridge Authority
Four Action Alternatives
Figure 2.2-1
HDR

Description of the four action alternatives and the No Action Alternative are as follows:

2.2.1 Alternative A

Alternative A (**Figure 2.2-1A**) would extend from the north approach of the Mid-Bay Bridge, diverge eastward away from the existing White Point Road corridor onto undeveloped land on the Eglin reservation, avoid the communities of Bluewater Bay and Seminole and extend to the north along the eastern edge of the Niceville/Eglin border. At the northern limits of the Niceville/Eglin border, the corridor turns westward, extends across SR 285, and continues north of the Northwest Florida State College and Eglin golf course to its terminus at SR 85.

2.2.2 Alternative B

This alternative is one of the corridors evaluated in the original 1994 PD&E study that was developed by the FDOT.

Alternative B (**Figure 2.2-1B**) would follow the existing roadway alignment from the north bridge approach along White Point Road. As the corridor crosses SR 20, it continues through the commercial and residential neighborhoods north of SR 20, and ties back into the same corridor defined in Alternative A just south of Rocky Creek. On the north end the alignment diverges from Alternative A again and follows the existing route of College Blvd. westward to SR 85.

2.2.3 Alternative C

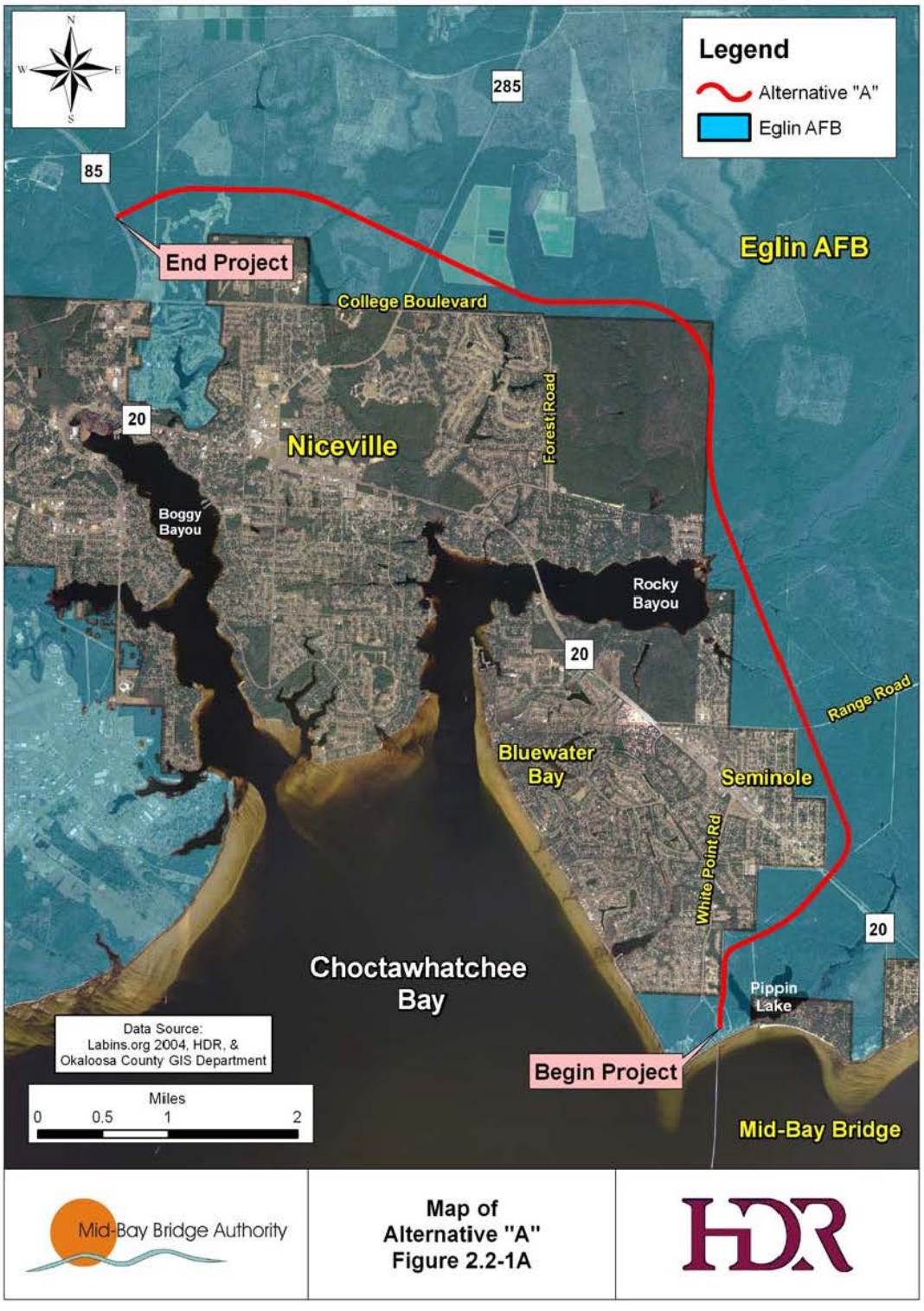
Alternative C (**Figure 2.2-1C**) would essentially follow the same corridor as Alternative A from the north bridge approach, east of the communities of Bluewater Bay and Seminole, and extending to the north along the eastern edge of the Niceville / Eglin border. However, after the corridor turns westward, beyond Forest Road, it continues along the north side of College Boulevard as a Limited Access Facility to SR 85.

2.2.4 Alternative D

Alternative D (**Figure 2.2-1D**) would follow essentially the same corridors as Alternatives A and C from the north approach, east of the communities of Bluewater Bay and Seminole, but would shift closer to existing development. Immediately north of Rocky Creek, the corridor diverges to the northwest across East Turkey Creek where it diagonally bisects the vacant Ruckel property. On the north end the alignment curves to the west and follows the existing route of College Blvd westward to SR 85. This alignment significantly impacts East Turkey Creek based on its geometry at the crossing.

2.2.5 No Action Alternative

The No Action alternative was studied to ensure an objective evaluation and to provide a basis from which to measure the performance, costs, and impacts of all alternatives. The No Action alternative assumes that the transportation network would remain exactly as it is, i.e., there would be no capacity improvements to the existing White Point Road facility. Continued and perhaps increased maintenance of the existing roadway would remain a factor in its use and expense of operation. The existing SR 20 and White Point Road intersection has declined to LOS F during evening peak traffic since 2004, and traffic congestion will continue to worsen during off-peak hours. Furthermore, as the volume of traffic increases, the crash rate may be expected to increase if capacity and other improvements are not made.


Legend
Alternative "A"
Eglin AFB
285
85
End Project
Eglin AFB
College Boulevard
20
Niceville
Forest Road
Boggy Bayou
Rocky Bayou
20
Range Road
Bluewater Bay
Seminole
White Point Rd
20
Choctawhatchee Bay
Pippin Lake
Data Source:
Labins.org 2004, HDR, &
Okaloosa County GIS Department
Begin Project
Miles
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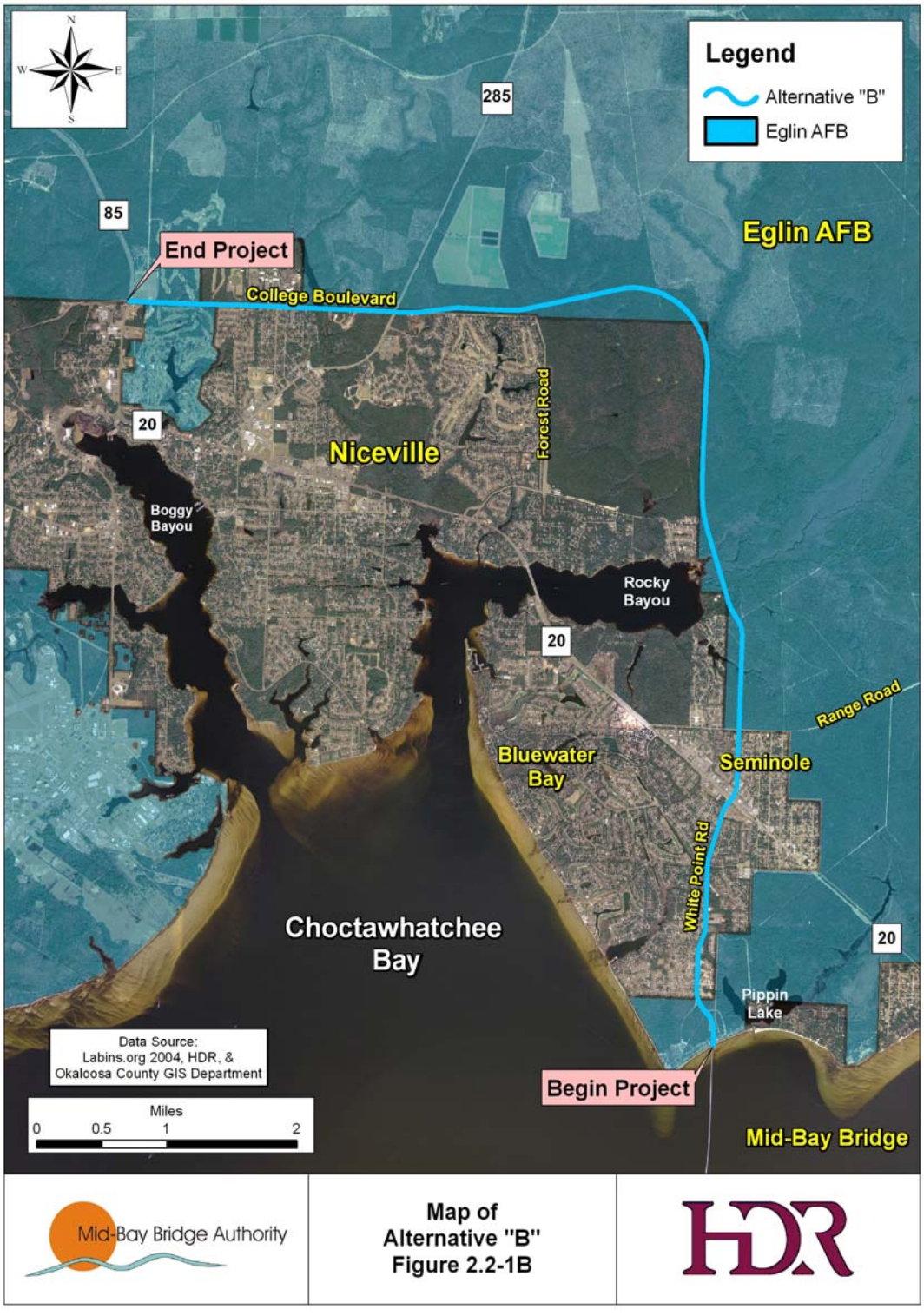
Mid-Bay Bridge
Mid-Bay Bridge Authority
Map of
Alternative "A"
Figure 2.2-1A
HDR


Legend
Alternative "B"
Eglin AFB
285
85
End Project
College Boulevard
Eglin AFB
20
Niceville
Forest Road
Boggy Bayou
Rocky Bayou
20
Range Road
Bluewater Bay
Seminole
White Point Rd
Choctawhatchee Bay
20
Pippin Lake
Data Source:
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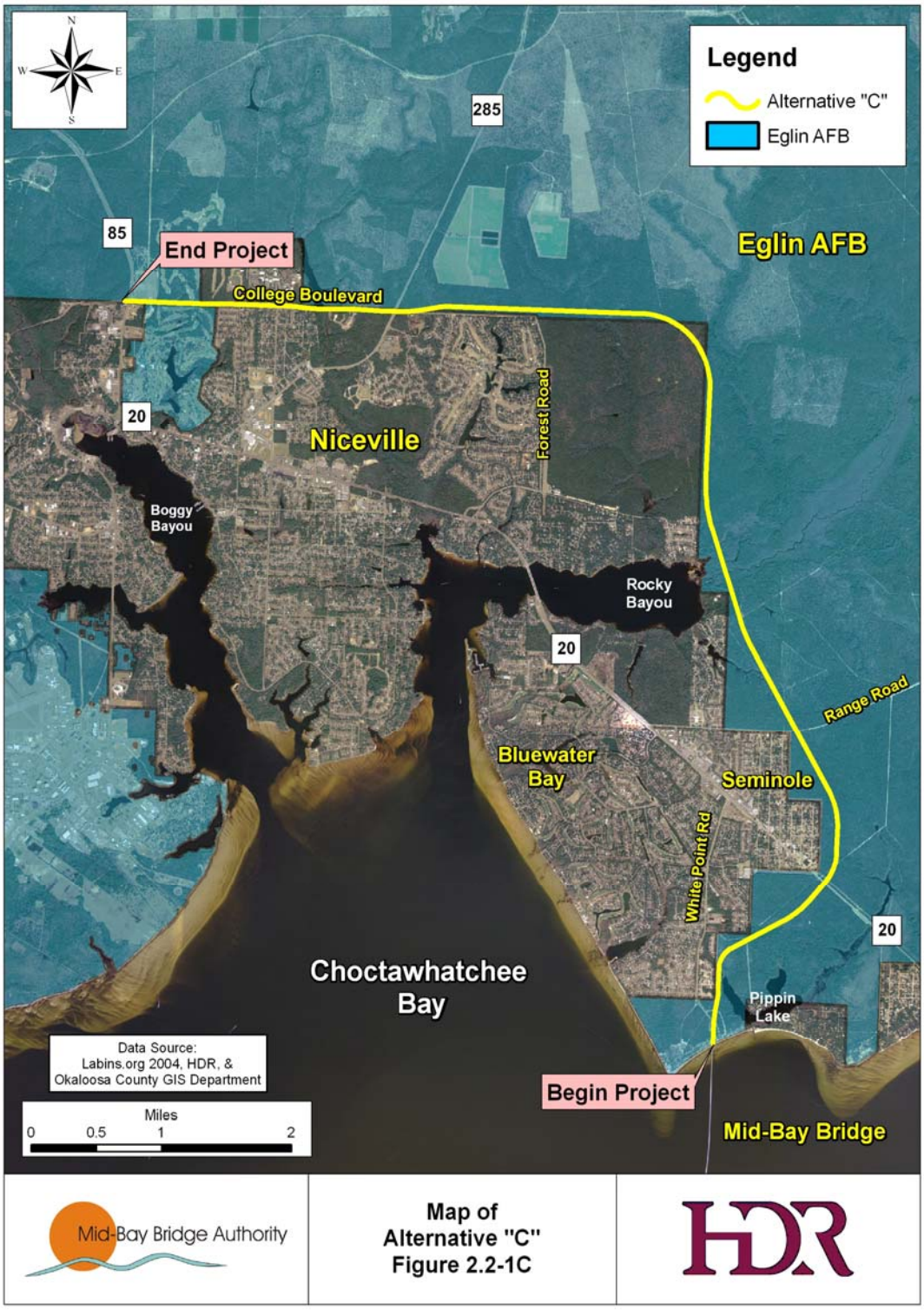
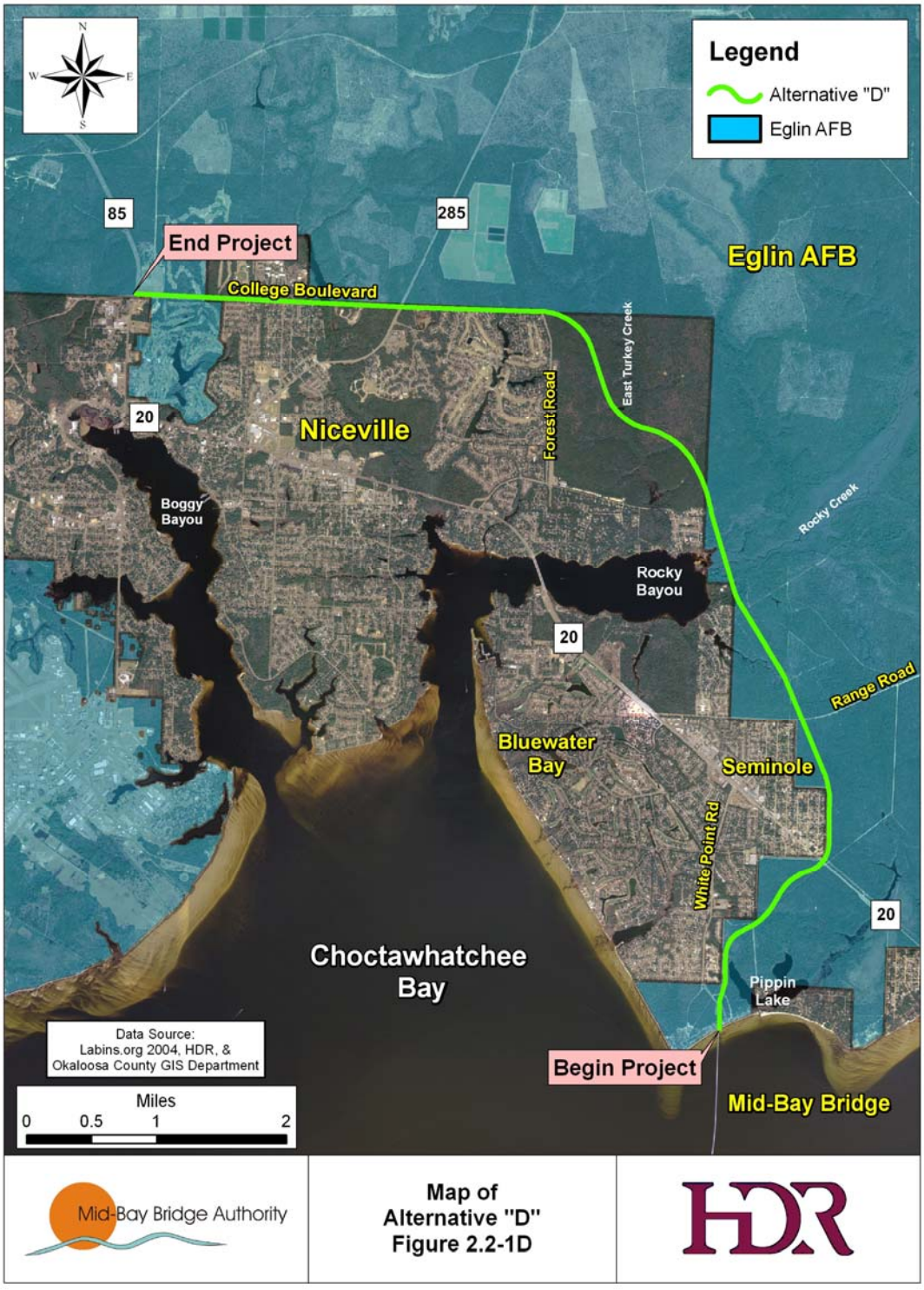
Begin Project
Mid-Bay Bridge
Mid-Bay Bridge Authority
Map of
Alternative "B"
Figure 2.2-1B
HDR


Legend
Alternative "C"
Eglin AFB
285
85
End Project
College Boulevard
Eglin AFB
20
Niceville
Forest Road
Boggy Bayou
Rocky Bayou
20
Range Road
Bluewater Bay
Seminole
White Point Rd
20
Choctawhatchee Bay
Pippin Lake
Data Source:
Labins.org 2004, HDR, &
Okaloosa County GIS Department
Begin Project
Miles
0 0.5 1 2
Mid-Bay Bridge
Mid-Bay Bridge Authority
Map of
Alternative "C"
Figure 2.2-1C
HDR


Legend
Alternative "D"
Eglin AFB
85
285
End Project
College Boulevard
Eglin AFB
East Turkey Creek
Forest Road
20
Niceville
Boggy Bayou
Rocky Creek
Rocky Bayou
20
Range Road
Bluewater Bay
Seminole
White Point Rd
20
Choctawhatchee Bay
Pippin Lake
Data Source:
Labins.org 2004, HDR, &
Okaloosa County GIS Department
Begin Project
Mid-Bay Bridge
Miles
0 0.5 1 2
Mid-Bay Bridge Authority
Map of
Alternative "D"
Figure 2.2-1D
HDR

2.3 SELECTION CRITERIA FOR ALTERNATIVES

Selection criteria used to evaluate the Proposed Action and alternatives are described and summarized in **Table 2.3-1**, below.

- Consistency with Eglin mission:

  The Proposed Action and alternatives must not conflict with Eglin's mission and must therefore be located in an area that minimizes impacts to Eglin's usable property while minimizing environmental impacts.

- Improvement to the regional transportation network :

  The Proposed Action and alternatives must provide a solution to traffic congestion by increasing capacity, the LOS, and safety of the areas roadways.

- Consistency with the public's overall comments:

  During the many studies conducted over the years (Section 1.2 and 1.4), the public has been a part of the decision making process associated with alternatives corridor analysis. As with any major transportation project, the public is invited to information workshops to discuss their concerns. The public's comments are consistent with the need of the Mid-Bay Bridge Connector which is to provide a solution to the traffic congestion in the area.

- Avoid residential and commercial impacts:

  As with many major transportation projects the impacts to residences and businesses can be considered substantial. Therefore, the Proposed Action and alternatives must avoid and/or minimize these potential relocation related impacts.

- Provide a streamline evacuation route to I-10:

  The Proposed Action and alternatives must provide a streamline connection to I-10 for hurricane and other emergencies.

Table 2.3-1: Selection Criteria for Proposed Alternatives (Summary)

ALTERNATIVE	CONSISTENT WITH EGLIN'S MISSION NEEDS	IMPROVES REGIONAL TRANSPORTATION NETWORK * Includes capacity, LOS, safety		CONSISTENT WITH PUBLIC'S OVERALL COMMENTS	AVOIDS RESIDENTIAL AND COMMERCIAL IMPACTS	PROVIDES A STREAMLINE ALTERNATIVE ROUTE TO I-10 FOR HURRICANE EVACUATIONS AND OTHER EMERGENCIES
		ALONG WHITE POINT ROAD	ALONG COLLEGE BOULEVARD			
A (Proposed Action)	Yes	Yes	Yes	Yes	Yes	Yes
B	No	No	No	No	No	No
C	Yes	Yes	No	No	No	Yes
D	No	Yes	No	No	No	No
No Action	No	No	No	No	Yes	No

2.4 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER ANALYSIS

2.4.1 Alternatives B & D

Alternatives B and D were initially considered, but will not be analyzed in the EA. As studied in the original 1994 PD&E discussed in Section 1.2, Alternatives B and D propose to tie into College Boulevard at the east end where it intersects with Forest Road. Since the Mid-Bay Bridge Connector is proposed to be a limited access, toll facility it cannot use existing local or state roadways. Furthermore, as seen in **Table 2.3-1**, Alternatives B and D do not meet the Mid-Bay Bridge Connector Purpose and Need in most of the categories. In addition, as summarized in **Table 2.3-1,** Alternatives B and D will have substantial residential and commercial service impacts as well as substantial noise impacts associated with the local communities specifically located along White Point Road, along the east side of the community of Seminole and Rocky Bayou, and College Boulevard. *Therefore, these alternatives were eliminated from further analysis.*

2.4.2 Transportation System Management (TSM)

TSM typically incorporates relatively low-cost, low-impact changes to the transportation system, such as intersection improvements and traffic signal coordination. Although TSM would help traffic flow and possibly reduce accidents, it would not improve route continuity and regional connectivity. *Therefore, this alternative was eliminated from further analysis.*

2.4.3 Travel Demand Management (TDM)

TDM pertains to the potential to reduce the number of vehicles on the existing road network by expanding vehicle occupancy rates and/or public transit service. TDM is not likely to improve safety and would not improve connectivity and route continuity. *Therefore, this alternative was eliminated from further analysis.* The TSM and TDM alternatives were eliminated from further analysis because minor improvements would not fully satisfy the Mid-Bay Bridge Connector need, which is to improve the capacity of the current transportation network in order to improve the LOS and reduce delays to motorists. Because the TSM and TDM alternatives are designed to maximize the utilization and efficiency of the present system, it will be utilized as a component of the Proposed Action.

2.5 SELECTION OF ALTERNATIVES TO CARRY FORWARD FOR ANALYSIS

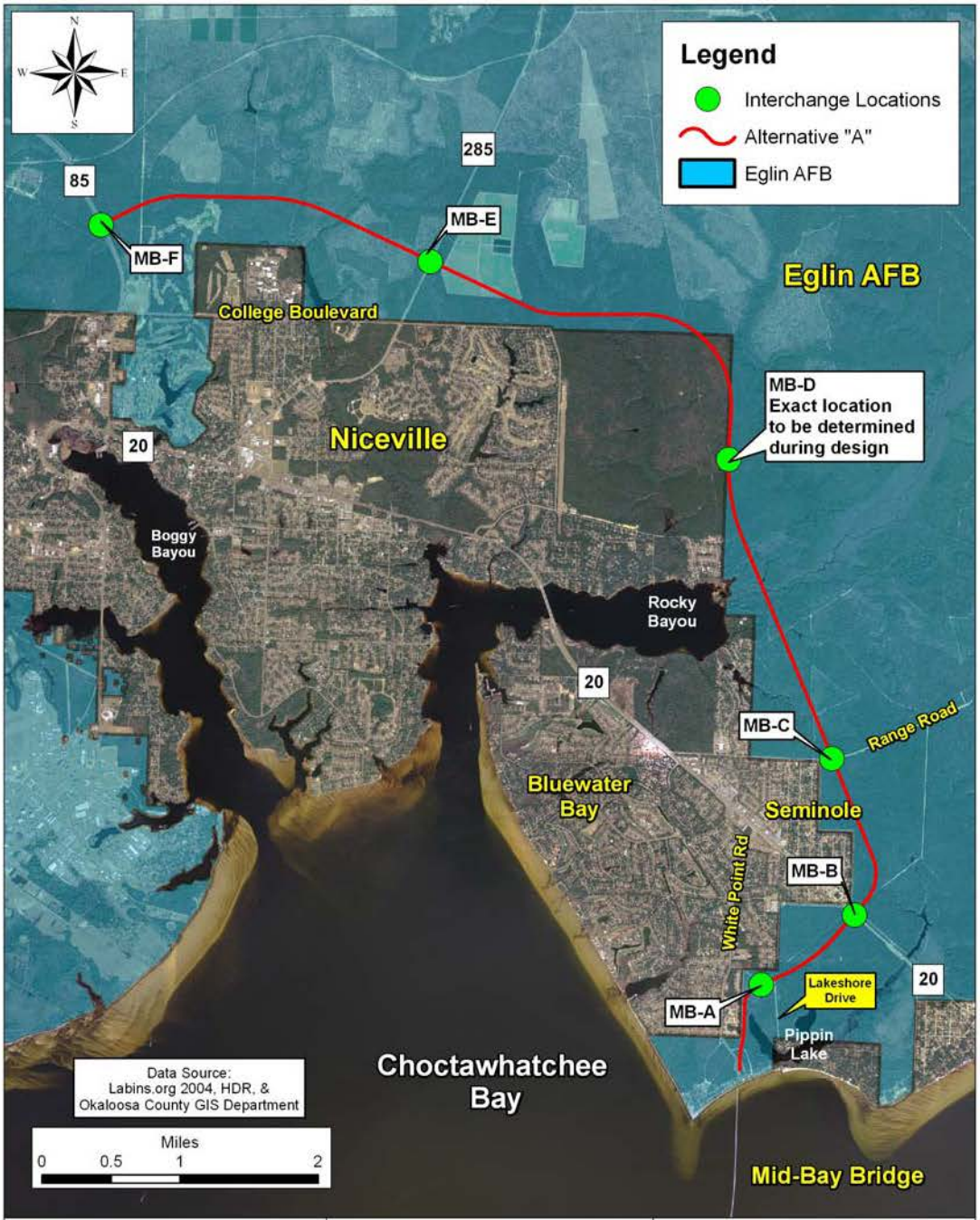
As seen in the summary **Table 2.3-1**, the Alternative A is the only alternative that fully meets the Mid-Bay Bridge Connector Purpose and Need for all the categories and has therefore been selected as the Proposed Action. The Other Action alternatives (Alternatives B, C, D, and the No Action) are not consistent with Eglin's mission. Alternatives B, C, and D would initially (temporarily) improve the regional transportation network. However, they would not improve the transportation network along College Boulevard. Only Alternatives C and D would improve transportation along White Point Road, they would not avoid residential/commercial impacts, would not be consistent with the public's overall comments, and would not provide a streamline alternative route to I-10 for hurricane evacuations or other emergencies. Alternatives B, C, D, and the No Action do not fully satisfy the Mid-Bay Bridge Connector Purpose and Need in many of the categories, however, of these Other Action alternatives, only Alternative C will be carried forward for further analysis because it proposes to use a new corridor immediately north of and parallel to College Boulevard and not the existing local or state roads. In addition to the Proposed Action and Alternative C, the No Action alternative will also be carried forward for analysis as required by NEPA to provide a detailed comparison.

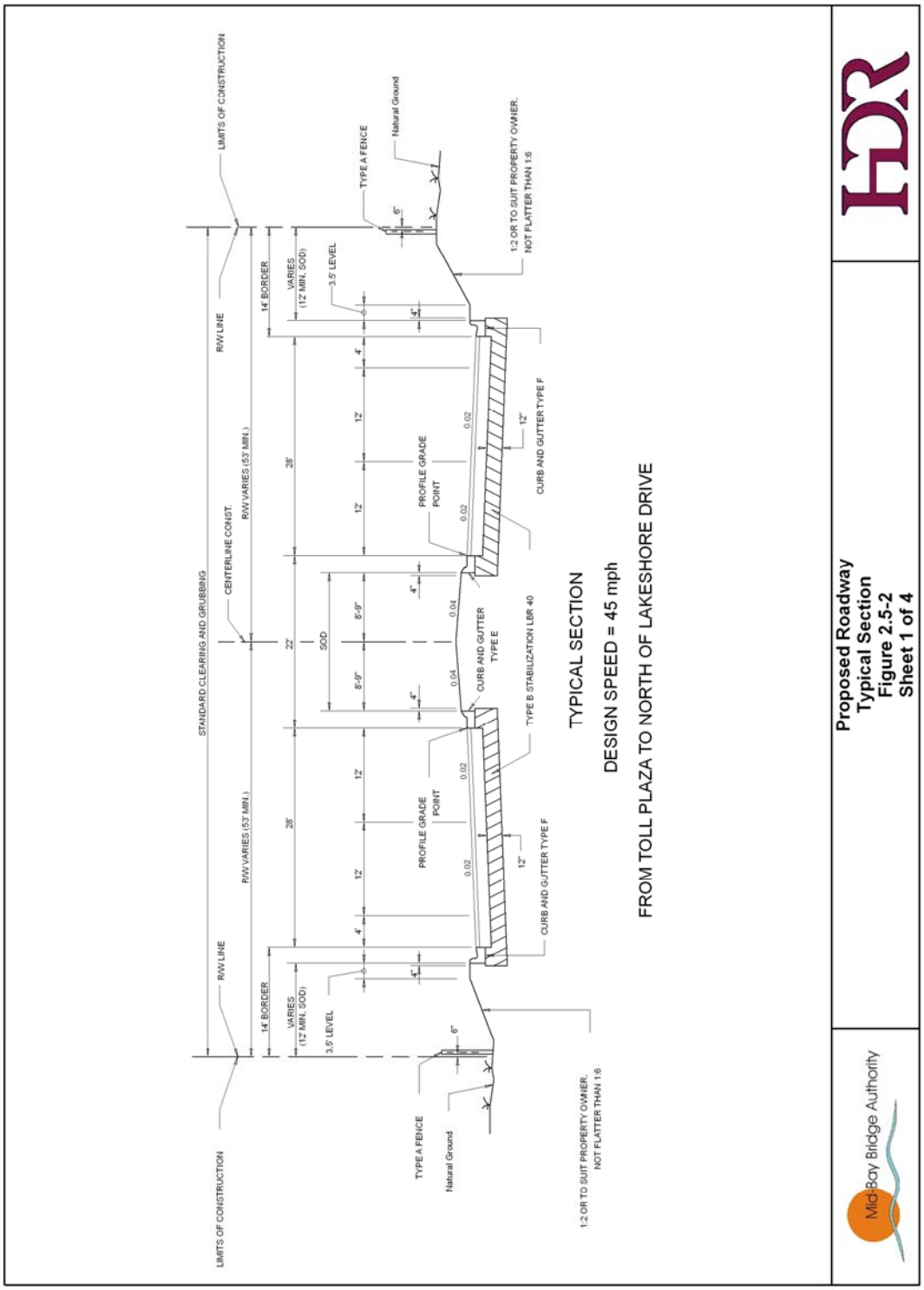
2.5.1 Alternative A (Proposed Action)

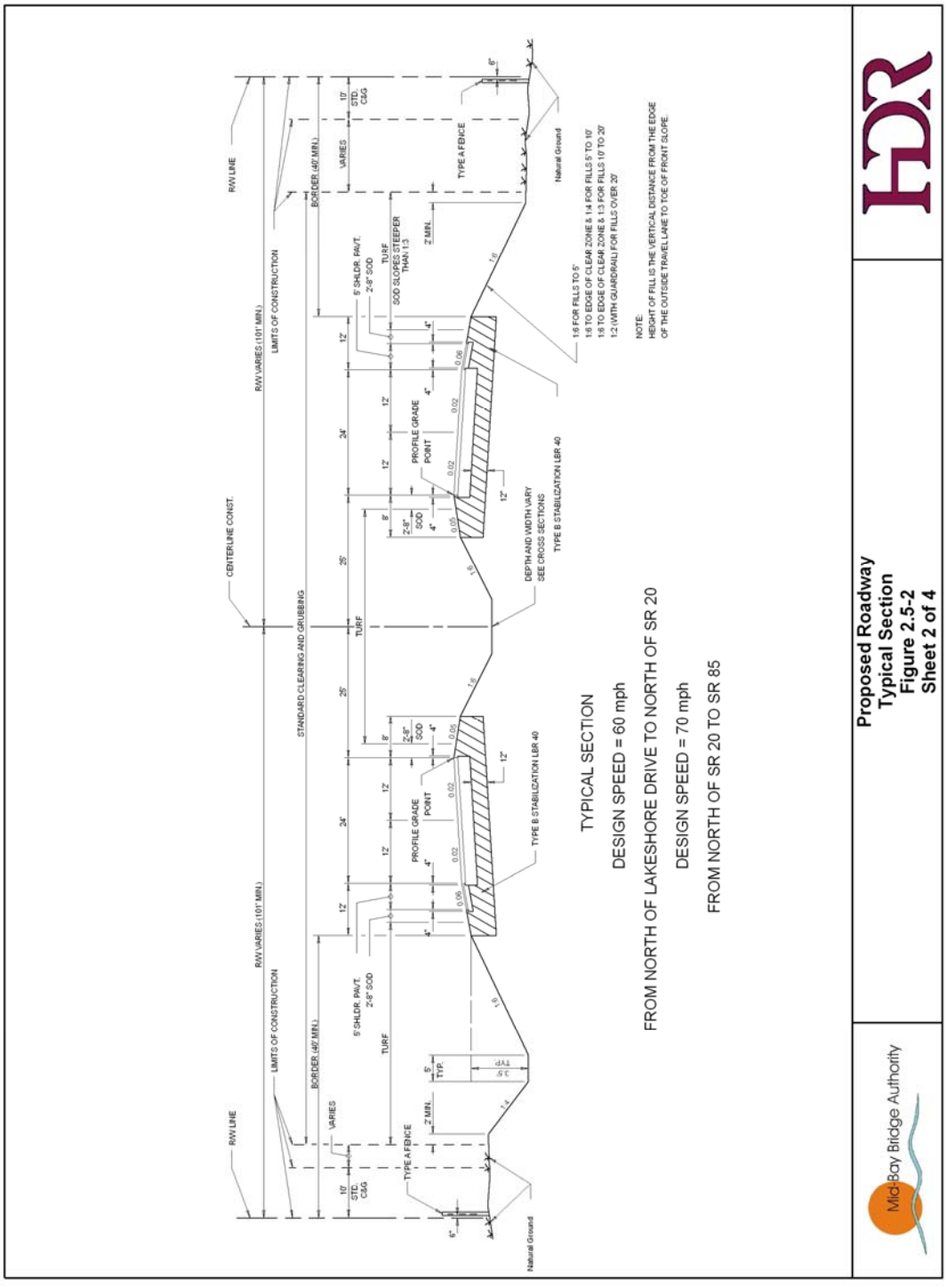
The Mid-Bay Bridge Connector involves construction of an alternative bypass route around the eastern and northern sides of the communities of Niceville, Seminole and Bluewater Bay in Okaloosa County, Florida. The new 10-mile route consists of a four-lane divided facility with urban (curb and gutter) and rural cross sections and proposed structures over Rocky Creek and several smaller streams that drain to Choctawhatchee Bay. The Mid-Bay Bridge Connector will include a mainline toll plaza (either north or south of Rocky Creek) and intersections/interchanges at strategic locations throughout the corridor. **Figure 2.5-1** illustrates the proposed corridor and interchange locations. It is anticipated that the proposed interchanges located at SR 20 (MB-B), SR 285 (MB-E) and SR 85 (MB-F) will be single-point urban interchanges (SPUI), while the interchanges at Lakeshore Drive (MB-A), Range Road (MB-C) and the Northeast Niceville interchange (MB-D) will be conventional diamond interchanges. The location of the Northeast Niceville interchange (MB-D) is conceptual and will be determined during design.

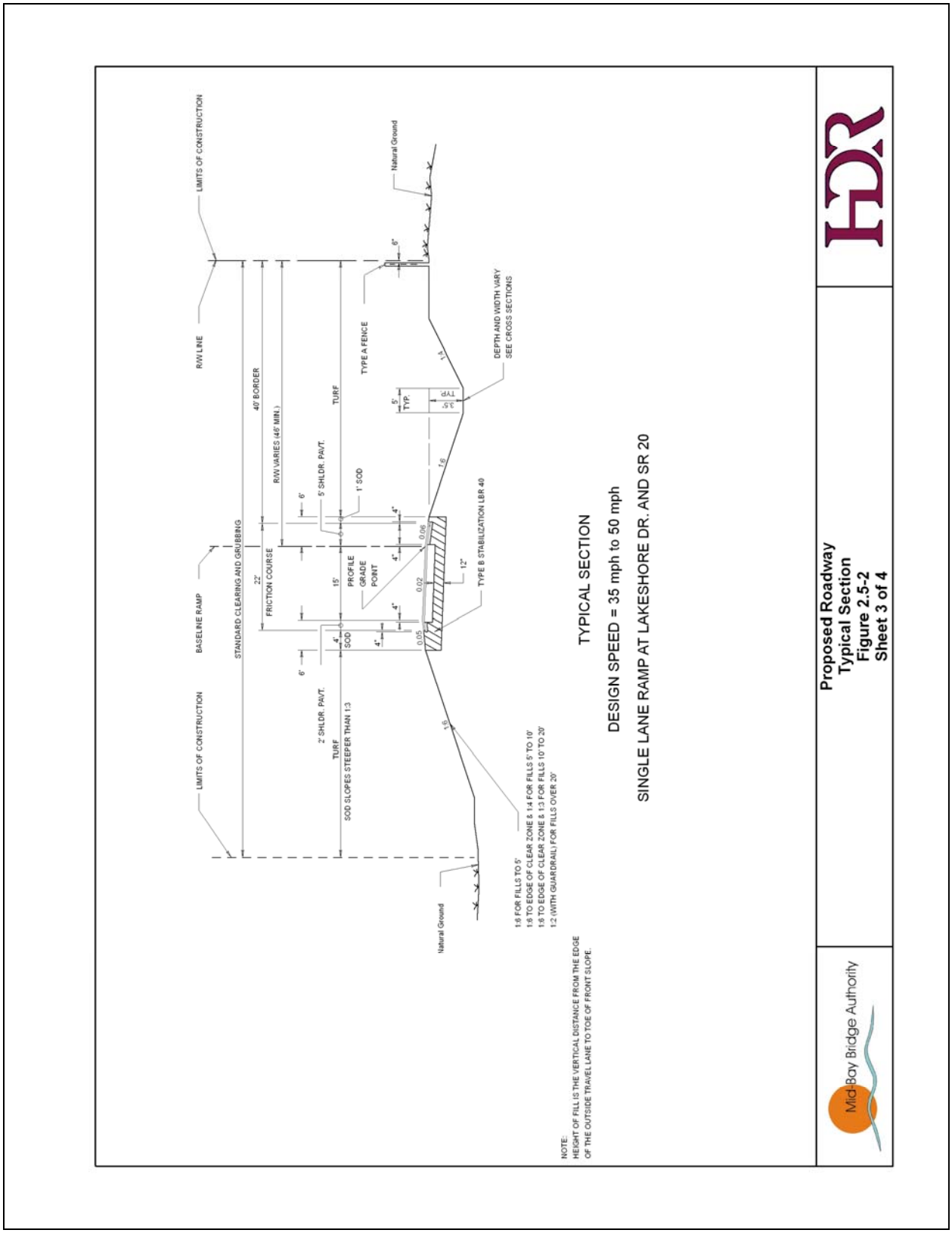
In order to avoid impacts to Pippin Lake and surrounding wetlands, a four-lane divided urban typical section (106' minimum ROW) is proposed for the southern 1.0-mile of the Connector from the existing Mid-Bay Bridge toll plaza to north of Lakeshore Drive. The roadway includes 12' travel lanes, 4' wide bicycle lanes, a 22' wide raised grass median, curb & gutter, and an underground drainage system. The roadway will have a design speed of 45 mph. From north of Lakeshore Drive to SR 85, a four-lane divided rural typical section (202' minimum ROW) is proposed. The roadway includes 12' travel lanes, 5' paved shoulders, a 50' wide depressed grass median, and parallel ditches. The roadway will have a design speed of 60 mph from north of Lakeshore Drive to north of SR 20; and a design speed of 70 mph for the remainder of the Mid-Bay Bridge Connector northward and westward to SR 85.**Figure 2.5-2** illustrates the proposed roadway typical sections.

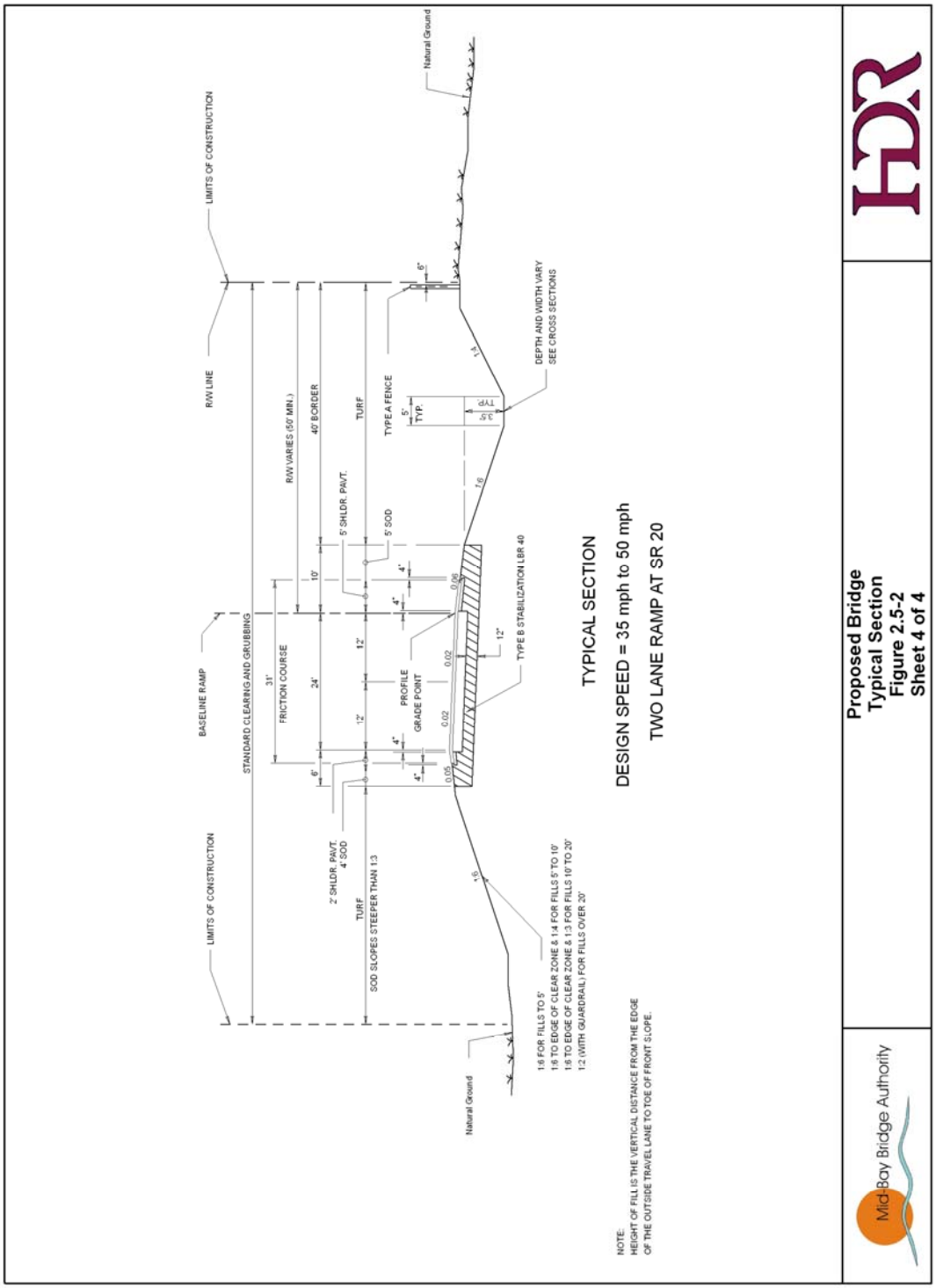
The Proposed Action would meet the Mid-Bay Bridge Connector Purpose and Need, as discussed in Section 1.4.


Legend
Interchange Locations
Alternative "A"
Eglin AFB
285
85
MB-E
MB-F
Eglin AFB
College Boulevard
MB-D
Exact location
to be determined
during design
Niceville
20
Boggy
Bayou
Rocky
Bayou
20
MB-C
Range Road
Bluewater
Bay
Seminole
MB-B
White Point Rd
Lakeshore
Drive
20
MB-A
Pippin
Lake
Choctawhatchee
Bay
Data Source:
Labins.org 2004, HDR, &
Okaloosa County GIS Department
Miles
0 0.5 1 2
Mid-Bay Bridge
Mid-Bay Bridge Authority
Proposed Action Corridor
and
Interchange Locations
Figure 2.5-1
HDR


STANDARD CLEARING AND GRUBBING
LIMITS OF CONSTRUCTION
R/W LINE
CENTERLINE CONST.
R/W VARIES (53' MIN.)
14' BORDER
VARIES (12' MIN. SOD)
3.5' LEVEL
TYPE A FENCE
Natural Ground
1:2 OR TO SUIT PROPERTY OWNER, NOT FLATTER THAN 1:6
PROFILE GRADE POINT
CURB AND GUTTER TYPE E
TYPE B STABILIZATION LBR 40
CURB AND GUTTER TYPE F
TYPICAL SECTION
DESIGN SPEED = 45 mph
FROM TOLL PLAZA TO NORTH OF LAKESHORE DRIVE
Mid-Bay Bridge Authority
Proposed Roadway
Typical Section
Figure 2.5-2
Sheet 1 of 4
HDR


TYPICAL SECTION
DESIGN SPEED = 60 mph
FROM NORTH OF LAKESHORE DRIVE TO NORTH OF SR 20
DESIGN SPEED = 70 mph
FROM NORTH OF SR 20 TO SR 85
Proposed Roadway
Typical Section
Figure 2.5-2
Sheet 2 of 4
Mid-Bay Bridge Authority
HDR


LIMITS OF CONSTRUCTION
R/W LINE
BASELINE RAMP
STANDARD CLEARING AND GRUBBING
40' BORDER
22'
FRICTION COURSE
R/W VARIES (46' MIN.)
6'
5' SHLDR. PAVT.
TURF
1' SOD
TYPE A FENCE
Natural Ground
6'
5' TYP.
3.5%
1:4
DEPTH AND WIDTH VARY
SEE CROSS SECTIONS
1:6
4'
0.06
PROFILE
GRADE
POINT
4'
4'
0.02
0.05
12"
TYPE B STABILIZATION LBR 40
6'
4'
SOD
2' SHLDR. PAVT.
TURF
SOD SLOPES STEEPER THAN 1:3
1:6
Natural Ground
1:6 FOR FILLS TO 5'
1:6 TO EDGE OF CLEAR ZONE & 1:4 FOR FILLS 5' TO 10'
1:6 TO EDGE OF CLEAR ZONE & 1:3 FOR FILLS 10' TO 20'
1:2 (WITH GUARDRAIL) FOR FILLS OVER 20'
NOTE:
HEIGHT OF FILL IS THE VERTICAL DISTANCE FROM THE EDGE
OF THE OUTSIDE TRAVEL LANE TO TOE OF FRONT SLOPE.
TYPICAL SECTION
DESIGN SPEED = 35 mph to 50 mph
SINGLE LANE RAMP AT LAKESHORE DR. AND SR 20
Mid-Bay Bridge Authority
Proposed Roadway
Typical Section
Figure 2.5-2
Sheet 3 of 4
HDR


LIMITS OF CONSTRUCTION
R/W LINE
BASELINE RAMP
STANDARD CLEARING AND GRUBBING
R/W VARIES (50' MIN.)
40' BORDER
TURF
5' SHLDR. PAVT.
5' SOD
TYPE A FENCE
5' TYP.
3.5' TYP.
Natural Ground
DEPTH AND WIDTH VARY SEE CROSS SECTIONS
31'
FRICTION COURSE
24'
10'
12'
4'
PROFILE GRADE POINT
0.02
0.06
TYPE B STABILIZATION LBR 40
6'
2' SHLDR. PAVT. 4' SOD
TURF
SOD SLOPES STEEPER THAN 1:3
0.05
1:6
1:6 FOR FILLS TO 5'
1:6 TO EDGE OF CLEAR ZONE & 1:4 FOR FILLS 5' TO 10'
1:6 TO EDGE OF CLEAR ZONE & 1:3 FOR FILLS 10' TO 20'
1:2 (WITH GUARDRAIL) FOR FILLS OVER 20'
NOTE:
HEIGHT OF FILL IS THE VERTICAL DISTANCE FROM THE EDGE OF THE OUTSIDE TRAVEL LANE TO TOE OF FRONT SLOPE.
TYPICAL SECTION
DESIGN SPEED = 35 mph to 50 mph
TWO LANE RAMP AT SR 20
Mid-Bay Bridge Authority
Proposed Bridge
Typical Section
Figure 2.5-2
Sheet 4 of 4
HDR

2.5.2 Alternative C

Alternative C would follow an alignment similar to that of the Proposed Action except where it diverges south prior to SR 285 and runs along the north side of College Boulevard. Alternative C minimizes the loss of usable Eglin AFB property by choosing a route located along a property boundary while maintaining the overall mission of Eglin AFB, avoiding and/or minimizing to the greatest extent practicable, the impacts associated with the human environment to include wetlands, wildlife and habitat, cultural resources, noise sensitive areas, and areas where UXO are probable. However, this alignment would impact the existing residential/commercially developed property along College Boulevard and was ultimately not favored by the public. Alternative C will be carried forward for analysis because it would meet the Mid-Bay Bridge Connector Purpose and Need, as discussed in Section 1.4, for the following reasons:

- It is consistent with Eglin's mission by increasing mobility to Eglin ranges north and east of Niceville and it supports a key objective of having the connector road serve as a definitive boundary for the Eglin Range

- Provides a streamline alternative route for south Okaloosa County residents to gain access to Interstate I-10 during hurricane evacuations and emergencies

- It will improve transportation along White Point Road

2.5.3 No Action Alternative

The existing traffic congestion in the area under the No Action alternative would remain the status quo with exacerbated congestion in the future. The No Action alternative would not meet the Purpose and Need as discussed in Section 1.4. However, as required by NEPA it will be carried forward for analysis to provide a detailed comparison.

2.6 REASONABLY FORESEEABLE CUMULATIVE ACTIONS

Cumulative impacts are impacts on the environment, which results from the incremental impacts of the actions when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. The scoping process used to identify and address key issues for the Mid-Bay Bridge Connector generated a list of other reasonably foreseeable projects by government agencies that could occur in or near the Mid-Bay Bridge Connector area. For a project to be reasonably foreseeable, it must have advanced far enough in the planning process that its implementation is likely. The following major reasonably foreseeable federal, state, and local projects within the Mid-Bay Bridge Connector area have been identified as additional actions to be considered:

According to the future traffic projections, construction for a parallel two-lane sister span to the existing Mid-Bay Bridge is needed by 2016. Therefore, design, environmental analysis, and permitting are tentatively scheduled to commence in 2009.

Widening of SR 20 is planned and would occur beneath an interchange proposed for the Mid-Bay Bridge project. The widening would occur within existing ROW. Potential environmental impacts of the project were addressed in a FDOT Categorical Exclusion (a NEPA document prepared to address environmental impacts of a project that are believed to be minor in nature).

The Northwest Florida Transportation Corridor Authority is currently studying an alignment from SR 87 in Santa Rosa County to US 331 in Walton County. Scoping, environmental planning, and early coordination with Eglin AFB, other state and local governments, and the public are currently underway. Design, ROW acquisition, and construction schedules have not been finalized. This and other current and planned projects in the area will be addressed under separate NEPA documents.

In response to the 2005 BRAC Report, Eglin AFB and all the communities within Okaloosa County are preparing for a significant population increase of approximately 12,000 (7,000 Eglin family members and 5,000 government and contract employees) by FY 10 and FY 11 (Eglin, 2006). As a result of this population increase, Eglin is currently preparing an EIS to address many of the housing, training facilities, transportation, and other infrastructure deficiencies of the area.

2.7 COMPARISON OF ALTERNATIVES

Table 2.7-1 presented below summarizes the impacts for each resource area under the Proposed Action, Alternative C, and the No Action Alternative.

Table 2.7-1: Summary of Impacts

	Alternative A (Proposed Action)	Alternative C	No Action Alternative
NATURAL ENVIRONMENT			
Air Resources			
Air Quality	Will not exceed NAAQS; Beneficial impacts to local air quality	Will not exceed NAAQS; Beneficial impacts to local air quality	Does not currently exceed NAAQS; Short and long-term impacts to residences along White Point Road
Geological Resources			
Physiography	Short-term insignificant impacts from grading activities	Short-term insignificant impacts from grading activities	No impacts
Geology	Short-term insignificant impacts from excavation and fill material	Short-term insignificant impacts from excavation and fill material	No impacts to geology
Geologic Hazards	No impacts from seismic activity or other hazards	No impacts from seismic activity or other hazards	No impacts from seismic activity or other hazards
Soils	Short-term insignificant disturbance of soils during construction	Short-term insignificant disturbance of soils during construction	No impact to soils
Water Resources			
Surface Water	Short-term insignificant impacts to water quality from sedimentation and erosion;	Short-term insignificant impacts to water quality from sedimentation and erosion;	No impacts to surface waters
Groundwater	No significant impacts to groundwater	No significant impacts to groundwater	No impacts to groundwater
Floodplains	No significant impacts to floodplains; Bridges will span approximately 39.84 acres	No significant impacts to floodplains; Bridges will span approximately 39.15 acres	No impacts to floodplains

Table 2.7-1: Summary of Impacts			
	Alternative A (Proposed Action)	**Alternative C**	**No Action Alternative**
Biological Resources			
Ecological Associations	No impacts to critical habitat	No impacts to critical habitat	No impacts to critical habitat
T&E Species	Consultation with USFWS is required under Section 7 of the ESA; The biological opinion from USFWS is found in Appendix B	Consultation with USFWS is required under Section 7 of the ESA	No impacts to T&E species; No benefits to the 4% of Okaloosa darter habitat through habitat restoration
Wildlife	Short-term insignificant impacts to wildlife	Short-term insignificant impacts to wildlife	No impacts to wildlife
Wetlands			
Wetlands	Impacts are estimated at 42.77 acres	Impacts are estimated at 50.66 acres	No impacts to wetlands
Noise			
Noise	No substantial impacts & 11 insignificant impacts predicted; Beneficial impacts to residences along existing White Point Road	25 substantial impacts & 36 significant impacts predicted; Beneficial impacts to residences along existing White Point Road	No change in current noise levels; Significant & substantial impacts predicted along White Point Road
Cultural Resources			
Cultural Resources	Section 106 cultural resource survey, testing, and site evaluations were conducted in Phase 1, 2, and 3 of the planned project corridor. Two eligible resources 8OK427 and 8OK900 fall within the area of potential effect. These impacts and resolution of adverse effect are covered in an MOA being developed in consultation with SHPO and Tribes	Section 106 cultural resource survey, testing, and site evaluations were conducted in Phase 1, 2, and 3 of the planned project corridor. Two eligible resources 8OK427 and 8OK900 fall within the area of potential effect. These impacts and resolution of adverse effect are covered in an MOA being developed in consultation with SHPO and Tribes	No impacts to cultural resources
HAZARDOUS MATERIALS AND WASTE MANAGEMENT			
Hazardous Materials			
Hazardous Materials	No encounters with hazardous materials are expected	No encounters with hazardous materials are expected	No encounters with hazardous materials are expected
Health & Safety	UXO will be surveyed and cleared prior to construction activities; No impact to health & safety	UXO will be surveyed and cleared prior to construction activities; No impact to health & safety	UXO will not be surveyed or cleared
Hazardous Waste			

Table 2.7-1: Summary of Impacts			
	Alternative A (Proposed Action)	**Alternative C**	**No Action Alternative**
Hazardous Waste	No significant impacts from hazardous waste generators are expected	No significant impacts from hazardous waste generators are expected	No encounters with hazardous waste generators are expected
Health & Safety	No impacts to health & safety	No impacts to health & safety	No impacts to health & safety
Solid Waste			
Solid Waste	Short-term increase in solid waste from construction activities; No long-term impact	Short-term increase in solid waste from construction activities; No long-term impact	No change in solid waste generation
LOCAL COMMUNITY			
Socioeconomics			
Population	Regional population is expected to increase as a result of BRAC	Regional population is expected to increase as a result of BRAC;	Regional population is expected to increase as a result of BRAC;
Employment & Income	Short-term benefits from construction dollars; No long-term impact	Short-term benefits from construction dollars; No long-term impact	No change in employment or income
Environmental Justice			
Environmental Justice	No impact to low-income or minority populations	No impact to low-income or minority populations	No impact to low-income or minority populations
Land Use and Aesthetics			
Land Use	Has been sited to not negatively impact Eglin's mission	Has been sited to not negatively impact Eglin's mission	No changes to current land use
Aesthetics	Insignificant change to visual resources	Insignificant change to visual resources	No change to visual resources
Transportation			
Transportation	Short and long-term benefits to regional commuters and regional transportation network; Short-term impacts to regional commuters	Short and long-term benefits to regional commuters and regional transportation network; Short-term impacts to regional commuters	Increased negative impacts to LOS along area roadways; Substantial negative impact to regional transportation network
Utilities			
Utilities	Short-term insignificant impacts during the relocation of utilities at proposed interchanges	Short-term insignificant impacts to utilities during relocation of existing utilities through residential communities	No utility impacts

CHAPTER 3

AFFECTED ENVIRONMENT

3.0 AFFECTED ENVIRONMENT

3.1 INTRODUCTION

This section describes the natural and human environment that could be affected by the Proposed Action, Alternative C, and the No Action alternative. The potential environmental consequences of those actions are presented in Chapter 4. Based on the Proposed Action description and the potential corridors for the Proposed Action and Alternative C, environmental resources that may be potentially affected are considered in this chapter. Environmental issues are identified and addressed based on a sliding scale approach discussed earlier in this EA (Section 1.6). The history and mission of the installation are described to provide background information and an evaluation of mission impacts was conducted with Eglin AFB personnel through extensive coordination initiated by the MEC. The order of resource description is based on introducing the background and mission of the installation, the natural environment (air, geology, water, biology, wetlands, noise, and culture), hazardous materials and wastes, and the local community (socioeconomics, environmental justice, land use and aesthetics, and transportation).

3.2 HISTORY AND CURRENT MISSION OF EGLIN AIR FORCE BASE

Eglin AFB is the largest military reservation in the United States consisting of approximately 464,000 acres in Northwest Florida. It is within Santa Rosa, Okaloosa, and Walton counties. Eglin AFB occupies much of the Northwest Florida panhandle east of Pensacola. With 724 square miles of land area and airspace overlying 130,000 square miles of land and water ranges, it is the largest Air Force base in the free world. Its unique combination of natural resources, capital space assets, and talented people provide an outstanding environment for fulfillment of the Eglin AFB's mission. Eglin has armed the U.S. Military for six decades (USAF, 2007).

Today, Eglin AFB is home to a wide variety of U.S. Air Force units. In addition, Eglin is also host to Army, Navy, Special Operations, and Coast Guard units. Eglin has an unsurpassed arrangement of more than 50 specific test areas and sites embedded in a single contiguous land area adjacent to the Gulf of Mexico. This unique setting and over water airspace combine to provide a sea-to-land transition area- a vital resource for modern weapons system research, development, testing, training, and evaluation. These test areas are located beneath special use airspace that permits relatively unconstrained operations and makes the Eglin AFB an ideal setting in which to operate (USAF, 2007).

As the Air Force's premier munitions testing center, and a unique DoD training location, Eglin is indispensable to America's defense effort. It is an invaluable national asset in terms of its testing, evaluation, and training mission support to the DoD, and its bountiful cultural and natural resources. Eglin is unique because of the depth and breadth of testing and training that occurs there. All phases of munitions life cycle support occur at Eglin AFB from research through sustainment testing. Additionally, various operational units train on Eglin AFB. This interplay of units, all focused on ensuring that our nation employs superior enhanced munitions, is unsurpassed and generates a synergism that cannot be quantified. Past performance proves its unquestionable value. No other U.S. military installation offers such an expanse of land and water located in an ideal climate with so much diversity of terrain and vegetative cover. Mission activities at the Eglin Reservation today fall into four broad categories:

- Weapons system research, development, test, and evaluation
- Training
- Space operations

- Base and Reservation support

Among USAF bases, only Eglin offers terrain features such as shoreline, rolling hills, dense forest, cleared flat expanses, and water all in one location to support a variety of mission requirements (USAF, 2007).

The Air Armament Center (AAC), headquartered at Eglin AFB, Fla., is one of four product centers in Air Force Materiel Command. The center is responsible for development, acquisition, testing, deployment and maintenance of all air-delivered weapons. The AAC applies advanced technology to provide superior combat capability to the warfighter. The center plans, directs and conducts tests and evaluations of U.S. and allied air armament, navigation/guidance systems and command and control systems. It provides host support to Eglin and to Kirtland AFB, N.M. The center supports the largest single base mobility commitment in the Air Force.

AAC accomplishes its mission through four components-the Armament Product Directorate (APD) (Eglin), the 46th Test Wing (Eglin), the 96th Air Base Wing (Eglin), and the 377th Air Base Wing (Kirtland). The APD is the focal point for research, acquisition, testing and maintenance of the world's most superior armaments, ranging from tactical missiles to explosive ordnance disposal equipment.

Eglin AFB also is host to the 33rd Fighter Wing and 53rd Wing, Air Combat Command units, the 20th Space Surveillance Squadron, the Navy School EOD, 919th Special Operations Wing (Hurlburt Field), the Army's 6th Ranger Training Battalion, Unmanned Aerial Vehicle Battlelab, a Coast Guard Station, and the Joint Fires Integration and Interoperability Team.

The 46th Test Wing, located at Eglin, manages the Center’s test and evaluation mission and oversees a variety of specialized test facilities at Eglin and Holloman AFB, New Mexico. The Holloman test facilities are located adjacent to, or on the White Sands Missile Range, an Army facility used for many AAC tests (USAF, 2007).

The 96th Air Base Wing is the Eglin host base support wing, providing base services and deployment support to the AAC and 45 associate units residing at Eglin (USAF, 2007).

The 377th Air Base Wing at Kirtland AFB provides base support to over 200 associate units, performs a munitions maintenance mission, and operates munitions storage at Nellis AFB, Nevada (USAF, 2007).

The AAC gains synergism from the associate units located at both Eglin and Kirtland. The Air Force Research Laboratory’s Munitions Directorate is located at Eglin, and the Directed Energy and Space Directorates are located at Kirtland. These directorates research and develop state-of-the-art technologies to support future air armament concepts. The unique combination of basic technology development, acquisition, testing, sustainment, and war fighting units located at AAC bases provides the center of gravity for air armament (USAF, 2007).

3.3 NATURAL ENVIRONMENT

This section describes the affected resources for the natural environment, which includes air quality, geological resources, water resources, biological resources, wetlands, noise, and cultural resources.

3.3.1 Air Quality

This section describes the climatic and meteorological conditions that influence air quality, and the existing concentrations of various pollutants.

3.3.1.1 Climate

Climate is relevant to the proposed action because of the effects that local rainfall and wind conditions can have on soil erosion, surface runoff, and generated air emissions. Generally, Eglin AFB experiences a mild, subtropical climate as a consequence of its latitude (30° to 31°) and the stabilizing effects of the Gulf of Mexico. Warm, humid summers and mild winters, prevailing southerly winds, and intense thunderstorm events and hurricane cycles characterize the climate. The Gulf of Mexico, numerous marshes, and swamps add moisture to the air and moderate winter and summer temperatures. Overall, the Gulf of Mexico moderates the climate of Eglin AFB by tempering the cold northern winds of winter and causing cool sea breezes during the daytime in the summer (USAF, 2003a).

3.3.1.2 Temperature, Rainfall and Wind

The mean daily maximum temperature at Eglin AFB is near 75 degrees Fahrenheit (°F) (USAF, 1998). The average daily high temperature for August is 90°F; the average daily low temperature for January is 42°F (Destin-ation.com, 2007). Temperatures are equal to or below 32°F on an average of 18 days and equal or above 90°F on an average of 50 days. The mean annual precipitation is 62 inches. Thunderstorms occur on an average of 80 days, and measurable amounts of precipitation occur on an average of 106 days (USAF, 1998). Rainfall occurs primarily in the summer and late winter or early spring. The two peak rainfall periods are the primary period of June through September and the secondary period of December through April. Historically, the heaviest rainfall occurs during July at an average of 7.2 inches, and the lowest occurs in October at an average of 3.2 inches (Destin-ation.com, 2007). Most of the summer rainfall is from scattered showers that are often heavy and last only one or two hours. Although the area experiences large amounts of rainfall, extensive droughts occur (USAF, 1998). Mean annual wind speed is 5 knots, and the prevailing surface wind directions are northerly with calm winds occurring 19 percent of the time (USAF, 1998). A monthly weather summary is presented in **Table 3.3.1.2-1**.

Eglin AFB is vulnerable to tropical storms that originate off of North Africa and the Caribbean Sea. The Atlantic hurricane season runs from June 1st through November 30th. In the Eglin AFB area, the most likely months are August through October. Historically, this area experiences gale-force winds an average of once every three years and hurricane-force winds an average of once every six years. Weather associated with hurricanes includes tornadoes, high winds, and extremely heavy rain (USAF, 1998).

Table 3.3.1.2-1: Weather Statistics Chart By Month (Averages)				
Month	**High Temp (°F)**	**Low Temp (°F)**	**Rainfall (Inches)**	**Water Temp (°F)**
January	61	42	4.0	64
February	63	44	4.3	64
March	68	50	6.0	66
April	76	58	4.5	72
May	83	65	3.4	78
June	89	74	5.2	81
July	89	74	7.2	83
August	90	74	7.1	85
September	87	70	6.8	84
October	80	59	3.2	84
November	69	48	3.4	72
December	63	44	5.0	64
Source: Destin-ation, 2007.				

3.3.1.3 Regional Air Quality

Air quality in a given location is generally determined by the concentrations of various measurable substances in the atmosphere known as "criteria pollutants." The type and amount of pollutants in the atmosphere, the size and topography of the air basin, and the local and regional meteorological influences determine air quality.

Identifying the affected area for an air quality assessment requires knowledge of pollutant types, source emissions rates and release parameters, proximity relationships of project emission sources to other emissions sources, and local and regional meteorological conditions. For inert pollutants (those that do not participate in photochemical reactions), the affected area is generally limited to an area extending a few miles downwind from the source. Pollutant concentrations are compared to federal and state ambient air quality standards to determine potential effects. These standards represent the maximum allowable atmospheric concentration that may occur and still protect public health and welfare, with a reasonable margin of safety (USAF, 2003a).

The National Ambient Air Quality Standard (NAAQS) developed by the Environmental Protection Agency (EPA) sets a national limit on the concentrations of "criteria pollutants" in the atmosphere of a particular area. The pollutants of highest concern to the EPA are Carbon Monoxide (CO), Nitrogen Dioxide (NO_2), Sulfur Dioxide (SO_2), particulate matter less than or equal to 2.5 micrometers in diameter ($PM_{2.5}$), Ozone (O_3), and Lead (Pb) (EPA, 2003). The CAA of 1990 requires states to achieve and maintain the NAAQS within their borders. Each state may adopt requirements stricter than those of the national standard.

In accordance with EO 12088, *Federal Compliance with Pollution Control Standards*, DoD facilities must ensure that all necessary actions are taken for the prevention, control, and abatement of environmental pollution with respect to the CAA and other environmental laws. In support of EO 12088, AFI 32-70, *Environmental Quality*, requires Air Force facilities to comply with applicable federal, state, and local environmental laws and standards.

Furthermore, AFI 32-7040, *Air Quality Compliance*, establishes a framework for Air Force facilities to follow in order to comply with applicable CAA requirements. Within this framework are the requirements to obtain and maintain operating permits as required and to prepare and periodically update a comprehensive base emissions inventory (USAF, 2003a).

Air quality is affected by point sources and area sources. Point source emissions are from a single source and are usually passed through a vent or stack. Area sources are generally characterized as a conglomerate of general point sources near each other such as an industrial area or manufacturing area. The status of an area is determined by how "criteria pollutant" concentrations in the atmosphere compare to the NAAQS. In accordance with the CAA, all areas within the state are designated with respect to the NAAQS as either attainment, non-attainment, or unclassifiable. Areas that meet the NAAQS are designated as attainment. Conversely, areas that violate the NAAQS are designated as non-attainment. Finally, areas where data is insufficient for classification as either attainment or non-attainment are designated as unclassifiable. In areas designated as non-attainment, a *State Implementation Plan* (SIP) is developed to bring the area into compliance with the NAAQS. Currently, Okaloosa County is designated as an attainment area for all "criteria pollutants" provided in the CAA. Therefore, the CAA conformity requirements do not apply to the project. However there are no known ambient air monitoring locations within the areas of the proposed connector road corridors. Due to a lack of current ambient air quality data, it was determined that the use of the *Air Quality Screening Test* in accordance with the FDOT, PD&E manual would be appropriate. The purpose of the *Air Quality Screening Test* analysis is to predict the impact of the proposed roadway construction on future air quality conditions in the Mid-Bay Bridge Connector vicinity. The analysis examines the generation and localized transport of CO, the most prevalent air pollutant emitted from motor vehicles. The results of the analysis are used to compare the "No Build" (No Action) and "Build" (Action) conditions and to indicate whether or not motor vehicle emissions associated with the Mid-Bay Bridge Connector would contribute to CO concentrations in exceedance of the NAAQS. **Table 3.3.1.3-1** shows the federal NAAQS and the stricter standards adopted by Florida.

Table 3.3.1.3-1: Ambient Air Quality Standards

Air Pollutant	Averaging Time		National Ambient Air Quality Standards		Florida Ambient Air Quality Standards
			Primary	Secondary	
Carbon Monoxide (CO)	8-hour[1]		9 ppm	N/A	9 ppm
	1-hour[1]		35 ppm	N/A	35 ppm
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean		0.053 ppm	0.053 ppm	0.053 ppm
Sulfur Oxides	Annual Arithmetic Mean		0.03 ppm	N/A	0.02 ppm
	24-hour[1]		0.14 ppm	N/A	0.10 ppm
	3-hour[1]		N/A	0.50 ppm	0.50 ppm
Particulate Matter (PM_{10})	2.5 microns or less in size	Annual Arithmetic Mean[4]	15 µg/m^3	15 µg/m^3	15 µg/m^3
		24 hour[5]	35 µg/m^3	35 µg/m^3	35 µg/m^3
	10 microns or less in size	Annual Arithmetic Mean[2]	Revoked[2]	Revoked[2]	50 µg/m^3
		24 hour[3]	150 µg/m^3	150 µg/m^3	150 µg/m^3
Ozone (O_3)	8-hour[6]		0.08ppm	0.08ppm	0.08ppm
	1-hour[7] (Applies only in limited areas)		0.12ppm	0.12ppm	0.12ppm
Lead (Pb)	Quarterly Average		1.5 µg/m^3	1.5 µg/m^3	1.5 µg/m^3

,(1) Not to be exceeded more than once per year. (2) Due to a lack of the agency revoked the annual PM_{10} standard in 2006 (effective December 17, 2006). (3) Not to be exceeded more than once per year on average over 3 years. (4) To attain this standard, the 3-year average of the weighted annual mean $PM_{2.5}$ concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/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 µg/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 0.08 ppm. (7) (a) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is < 1, as determined by appendix H. (b) As of June 15, 2005 EPA revoked the 1-hour ozone standard in all areas except the fourteen 8-hour ozone nonattainment Early Action Compact (EAC) Areas. NA = Not applicable; ppm = parts per million; µg/m3 = microgram per cubic meter. Source: United States Environmental Protection Agency, 2007.

Florida has adopted the NAAQS except for sulfur dioxide (USAF, 2003b). A "worst case" approach was used in the *Air Quality Screening Test* analysis, as outlined in the FDOT *Process Design and Engineering Manual*. The premise of this approach is that CO concentrations elsewhere along the Mid-Bay Bridge Connector corridor will be lower than the "worst case" location. Roadway conditions such as interrupted traffic flow and signalized intersections generally yield "worst case" air quality conditions. Traffic data and aerial photography of the proposed corridors were reviewed to identify the intersection having the greatest combination of heavy traffic volumes, low vehicular speeds, and nearby reasonable receptor sites. A reasonable receptor site is an area where the public has routine access and could conceivably be expected to spend a significant amount of time, generally one to eight hours. This amount of time is consistent with CO limits, which are expressed in one-hour and eight-hour averages. The intersection of White Point Road and SR 20 was found to represent the "worst case" combination of forecasted peak-hour traffic volumes, low vehicular speeds, and distance to the closest reasonable receptor. This intersection was also chosen as it is a common point for each of the corridor locations being considered. Multiple air quality receptor locations were identified during field review and the Walgreens on the northeast corner of the intersection of White Point Road and US 20 was chosen as the receptor location in order to perform the *Air Quality Screening Test* analysis.

The *Air Quality Screening Test* for urban areas was applied to the intersection of White Point Road and SR 20 for years 2001, and 2030. Peak hour traffic volumes and roadway operating conditions were obtained from an existing Preliminary Engineering Report for White Point Road. The baseline emissions for CO at the proposed intersection, White Point Road and SR 20, ranged from 12.1 parts per million (ppm) for the maximum one-hour concentration and 7.1 ppm for the maximum eight-hour concentration. The projected emissions for CO in the year 2030 model ranged from 5.6 ppm for the maximum one-hour concentration and 9.4 ppm for the maximum eight-hour concentration. Both models yielded CO values which are less than the Florida Ambient Air Quality Standards (FAAQS).

In attainment areas such as Okaloosa County, major new or modified stationary sources of air emissions on and in the area are subject to Prevention of Significant Deterioration (PSD) review to ensure that these sources are constructed without causing significant adverse deterioration of the clean air in the area. The goal of the PSD program is to: 1) ensure economic growth while preserving existing air quality, 2) protect public health and welfare from adverse effects which might occur even at pollutant levels better than the NAAQS, and 3) preserve, protect, and enhance the air quality in areas of special natural recreational, scenic, or historic value, such as national parks and wilderness areas. Federal PSD regulations (40 CFR 52.21) and state PSD regulations (62-212, Florida Administrative Code) (FAC) define air quality levels that cannot be exceeded by major stationary emission sources in specified geographic areas. Any change that results in the addition of a major source or in a significant increase in emissions from stationary sources would be subject to limits under PSD regulations. Major stationary sources are usually sources that emit more than 100 - 250 tons per year (tpy) of a specific pollutant based upon the sources industrial category. A significant increase in emissions would include 100 tpy of CO; 40 tpy of NO_x, VOCs, or sulfur oxides (SO_x); or 15 tpy of PM_{10}. These limits do not include emissions from mobile sources during construction of the facilities. PSD regulations establish limits on the amounts of SO_2 and total suspended particulates (TSP) that may be emitted above a premeasured amount in each of three class areas. Class I areas are pristine areas and include national parks and wilderness areas. Class II areas are those where moderate, well-controlled industrial growth could be permitted. Class III allow for greater industrial development. Eglin AFB is located in a PSD Class II area (USAF, 2006).

3.3.2 Geological Resources

Geological resources include the physical surface and subsurface features of the earth such as physiography, geology, geologic hazards, and soils.

3.3.2.1 Physiography

Eglin AFB occupies portions of three physiographic provinces: the Coastal Barrier Island Chain, the Coastal Lowlands, and the Western Highlands. These physiographic provinces have been delineated based on geomorphic history and similarity of relief features or landforms and do not necessarily correspond to surface water drainage basin divides (USAF, 2003a).

The Proposed Action is located in the Coastal Lowlands physiographic region. The Coastal Lowlands are a series of coast-parallel terraces composed of clastics (consisting of rock and mineral fragments) that extend to higher inland elevations. The coast-parallel terraces are separated by an escarpment or gentle slope. The Coastal Lowlands are generally characterized by beach ridge plains, shorelines, and marine terraces formed during the Pleistocene Epoch or Ice Age between 10,000 and 1.8 million years ago. The terrace complexes are predominantly underlain by sand with local occurrences of clay, shell beds, and peat. The inland elevations of the terraces occur at about 150 feet, 100 feet, and 35 feet. The terrace is present at approximately 10 feet but is poorly preserved. Elevations in these lowlands range from 0 to 100 feet above National Geodetic Vertical Datum (USAF, 2003a).

3.3.2.2 Geology

Millions of years ago, the area now known as Florida began as limestone formed at the bottom of a shallow sea. Northwest Florida has been slowly emerging from the sea since at least some time in the Miocene geologic period. Therefore, the age of surface sediments is older near the Alabama and Georgia borders and becomes progressively younger toward present sea level. The floor of each stand of the sea (a term used in fluctuations of sea level) was a relatively flat, gently seaward-sloping terrace when first exposed by the receding shoreline. Terraces are separated from each other by step-like escarpments or by subtle changes in relief. Since their emergence, terraces have been eroded and dissected by streams and rivers. Entire strata have been removed in some areas, and materials from other strata have been deposited on top of lower terraces and rearranged by the erosive power of water (Wolfe et al., 1988).

The upland portion of Eglin AFB's range area is generally blanketed by up to 250 feet of primarily non-marine quartz sands with some gravel and relatively thin clay lenses of the Citronelle Formation. The distribution and character of the Citronelle sediments suggest that they are coalescent deposits of several early rivers that emptied into the Gulf of Mexico. For this reason, few outcrops can be correlated, as most clay lenses and gravel beds are discontinuous (USAF, 2007).

Two types of sandy clay units are found in the Citronelle Formation. One is a gray, massive, plastic clay that contains only a small amount of quartz sand. The other unit is generally gray-mottled red and gray and contains more sand. The clay is kaolinitic in both units (Clark and Schmidt, 1982).

The Citronelle Formation is underlain by a series of Miocene-aged coarse clastic (Alum Bluff Group) and clay marine deposits (Pensacola clay) up to several hundred feet thick. These units are underlain by several hundred feet of early Miocene and Oligocene Marine limestones. All of these units dip gently southwestward in the Gulf Coast geosyncline (USAF, 2007).

3.3.2.3 Geologic Hazards

Geologic hazards in the area are negligible; there are no active sinkholes and no damage is likely from seismic events in Florida or Southern Alabama (USAF, 1992). However, there are unique geologic occurrences of seepage slopes and steephead ravines within the Mid-Bay Bridge Connector area.

Seepage slopes are wetlands on or at the base of sandhill slopes where moisture levels are maintained by the downslope seepage of water from the intersection with a semi-impermeable soil layer resulting in saturated but rarely inundated conditions. On Eglin AFB, seepage slopes are embedded within sandhills that are located on the clay-rich soils in the northeastern and eastern part of the base and usually grade into a bay and gall plant community. They are relatively rare habitats throughout the state, and their plant communities are the most biodiverse (Wolfe et al., 1988).

Steepheads are a type of ravine that exists in the Coastal Plain, but until the past couple of decades has been altogether unknown to biologists. Such ravines are called "steepheads" because of the peculiar geomorphology of their valley heads, which are impressive amphitheaters up to 35 m deep. Steepheads and the downstream ravines they form have a geological provenience entirely different from that of gully-eroded ravines. Steepheads are actively migrating heads of valleys that are formed in large, deep sand deposits of the lower Coastal Plain. The sand bodies appear to be ancient, (usually Plio-Pleistocene, barrier island complexes) with little clay or silt, and sands so porous that rainwater rapidly percolates downward to some confining layer, usually a silty marl or limestone, and resides there as a surficial aquifer (Means, 1985).

3.3.2.4 Soils

Based on the *Okaloosa County Soil Survey*, a listing of the types of soils identified within the study corridors is presented in **Table 3.3.2.4-1** and is illustrated in **Figure 3.3.2.4-1**.

Table 3.3.2.4-1: Soil Descriptions

Symbol	Soil Name	Soil Classification		Permeability (In/ Hour)	Suitability for Road Subgrade
		Unified [1]	AASHTO [2]		
4	Chipley & Hurricane sands, 0 to 5 percent slopes	SP-SM	A-3, A-2-4	6-20	Fair
6	Dorovan muck, frequently flooded	PT	-----	0.6 – 2.0	Poor
8	Foxworth	SP, SP-SM	A-3, A-2-4	> 20	Good
10	Kureb sand, 0 to 8 percent slopes	SP, SP-SM	A-3	6-20	Good
12/13	Lakeland	SP, SP-SM	A-3, A-2-4	6-20	Good
20	Udorthents (Borrow Areas)	-----	-----	0.06-20	Good

Source: USDA 1995.

1 Based on the Unified Soil Classification System.

2 Based on the AASHTO Soil Classification System.

Eglin AFB contains eight major soil associations as follows:

- Lakeland
- St. Lucie-Paola
- Bonifay-Troup-Dothan
- Norfolk
- Chipley-Foxworth-Albany
- Rutledge-Leon
- Kingston-Bibb
- Dorovan-Pamlico

The majority of the study corridors traverse through the Lakeland association. This association covers the greater part of the base (about 78 percent) and consists of fine sands that have formed on broad ridge tops on the highest elevations. Most of the soils in the study area have high rates of permeability, being classified as SP, SM, or SP-SM by the unified soil classification system or A-2, A-3, or A-2-4 by AASHTO. They are generally considered good for road bed construction.

A brief description of the soil associations expected to be encountered along the Mid-Bay Bridge Connector corridor consists of:

Chipley & Hurricane: This soil appears mostly along the southern portion of the Mid-Bay Bridge Connector limits south of SR 20. It consists of nearly level or gently sloping, somewhat poorly drained soils in areas bordering drainage ways in the uplands or on low ridges in the flatwoods.

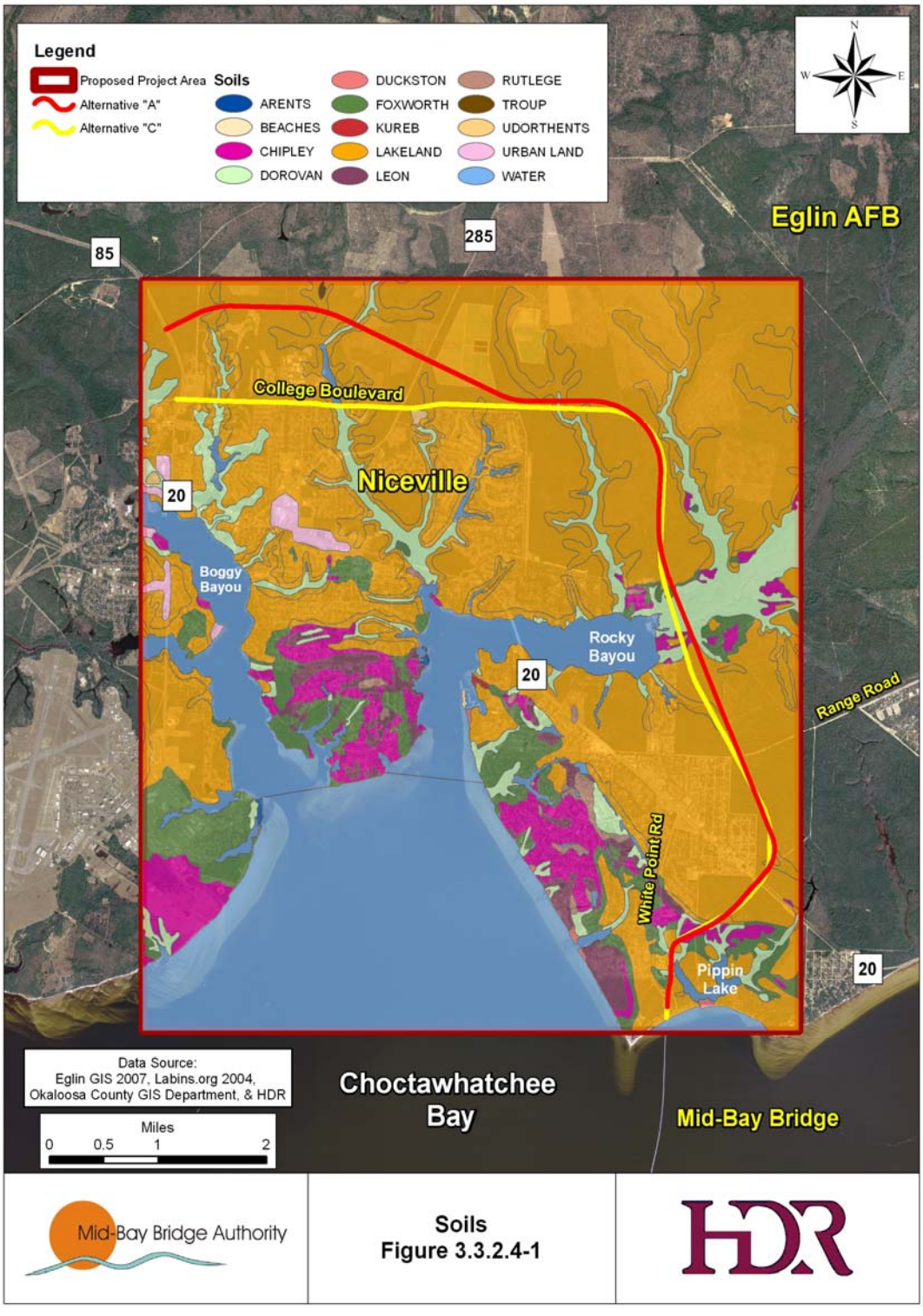
Dorovan: This soil appears to be located throughout the Mid-Bay Bridge Connector limits in the wetland areas and was confirmed during the geotechnical field investigation; the soil consists of black muck to a depth of 60 inches or more overlying very dark grayish brown sand that extends to a depth of 80 inches or more. Dorovan soils are moderate in permeability and have very high water capacity. These soil areas will be studied in more detail during design to determine the type and exact location of the structures needed to adequately address this soils compaction limitation.

Foxworth: This is a nearly level or gently sloping, moderately well drained soil in the uplands and in elevated areas in the flatwoods. Permeability is very rapid and available water capacity is low. This soil is found generally south of SR 20.

Kureb: This excessively drained soil is on nearly undulating ridges and short side slopes on upland sandhills and dune like ridges. It contains many varieties of oaks as well as sand pines, saw-palmetto, and other xeric vegetation.

Lakeland: This soil is found on the majority of the Eglin AFB reservation (78 percent) and appears to be the dominant soil association found within the Mid-Bay Bridge Connector corridor. It is nearly level or gently sloping, excessively drained soil found on broad ridge tops in the uplands. Natural vegetation consists of long-leaf pine and turkey oak as well as sand pine, saw palmetto, wiregrass, and reindeer moss to name a few.

Udorthents (Borrow Areas): These soils consist of material in areas of open excavations from which sand and loamy materials have been removed and used primarily for construction and repair of roads and as fill material for foundations. They are almost barren and most have been abandoned. A few may pond during periods of high rainfall. These are some of the areas that are of concern to Eglin AFB, especially regarding natural resource management.


Legend
Proposed Project Area
Alternative "A"
Alternative "C"
Soils
ARENTS
BEACHES
CHIPLEY
DOROVAN
DUCKSTON
FOXWORTH
KUREB
LAKELAND
LEON
RUTLEGE
TROUP
UDORTHENTS
URBAN LAND
WATER
N
W
E
S
Eglin AFB
85
285
College Boulevard
Niceville
20
Boggy Bayou
Rocky Bayou
20
Range Road
White Point Rd
Pippin Lake
20
Data Source:
Eglin GIS 2007, Labins.org 2004,
Okaloosa County GIS Department, & HDR
Miles
0 0.5 1 2
Choctawhatchee Bay
Mid-Bay Bridge
Mid-Bay Bridge Authority
Soils
Figure 3.3.2.4-1
HDR

3.3.3 Water Resources

The water resources section contains information relevant to surface waters (streams, creeks, bays, and bayous), groundwater (aquifers), and floodplains as well as their relationship to water quality. It also discusses the water quality programs that are enforced as part of these regulations.

3.3.3.1 Surface Water

Section 303 of the CWA requires states to establish water quality standards for waterways, to identify those that fail to meet the standards, and to take action to clean up these waterways. Florida recently adopted the Impaired Waters Rule (IWR, Chapter 62-303, FAC, with amendments, as the new methodology for assessing the state's waters for CWA Section 303(d) listing. Waters that are determined to be impaired using the methodology in the IWR and adopted by Secretarial Order, are submitted to the USEPA for approval as Florida's 303(d) List. FDEP submits updates to Florida's 303(d) List of Impaired Surface Waters to the USEPA every two years. The 2004 Integrated Water Quality Assessment for Florida, 2004 305(b) Report, and 303(d) List Update satisfies the listing and reporting requirements of Sections 303(d) and 305(b) of the CWA (USAF, 2006).

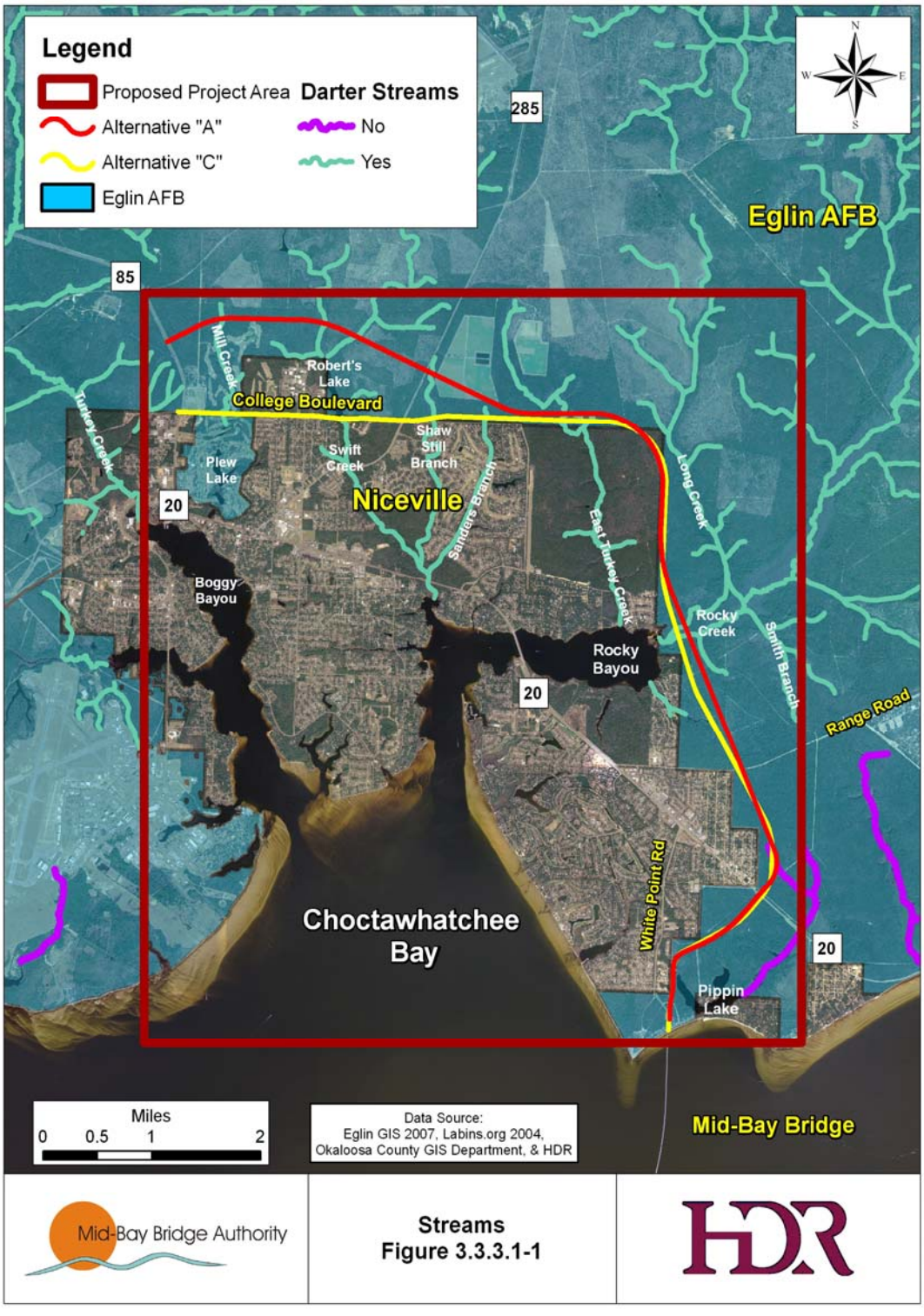
FDEP is currently rotating through all of the state's basins over a five-year cycle to update the 1998 303(d) List using the new IWR. FDEP's comprehensive "watershed management" strategy views the state based on its natural boundaries (called groups), like river and estuary basins, rather than political boundaries. Therefore, to implement the watershed cycle, FDEP has developed a phased approach and divided these naturally bounded areas into five "groups" within each of FDEP's 6 districts statewide. This approach was necessary to accommodate workload and allows at least one active group in each district. Choctawhatchee-St. Andrew Bay is in Group 3. Groups 1, 2, and 3 were verified in June of 2005 and Choctawhatchee-St. Andrews Bay remained on the 303(d) List.

After these 303(d) impaired waters have been identified, the state must follow-up by calculating Total Maximum Daily Loads (TMDL's). A TMDL identifies the amount of an offending pollutant that a waterway can assimilate without violating its water quality standards. Once a TMDL has been established, the state must allocate the allowable pollution load among all pollution sources in the waterway segment. Eglin plans to participate in the development and implementation phases of the Basin Management Action Plans for Group 3 to identify and achieve TMDL reductions. No water bodies within the action area are listed as impaired on the 1998 303(d) List (FDEP, 2008).

The state of Florida has developed and retains primacy for surface water quality standards for all waters of the state (FAC 62-301 and FAC 62-302) in accordance with the provisions of the Safe Drinking Water Act. No surface water in the range of influence is currently defined as Class I (potable water supplies). A portion of Choctawhatchee Bay and its tributaries, East Bay and its tributaries, and the Santa Rosa Sound are delineated as Class II (shellfish propagation or harvesting). The remaining streams on Eglin AFB and marine waters seaward of Santa Rosa Island and Cape San Blas are defined as Class III (recreation, propagation, and maintenance of a healthy, well-balanced population of fish and wildlife).

Figure 3.3.3.1-1 depicts streams on Eglin AFB with respect to the Proposed Action and Alternative C corridors. A spatial model used a number of criteria to rank stream conditions, including road density, number of unpaved road crossings, soils, land use within the watershed, forested cover, number of culverts, and known erosion sites. All streams within the Mid-Bay Bridge Connector boundary were ranked as intermediate streams. The figure also differentiates the streams as Okaloosa darter (*Etheostoma okaloosae*) and not Okaloosa darter streams. This designation is given because Okaloosa darter streams have been given higher priority for

restoration (USAF, 2007). The USFWS has not designated these streams as critical habitat. The USACE, NWFWMD, and FDEP are responsible for providing policy, guidance, and permits for media specific environmental programs (air, water, storage tanks), including Section 401 and 404 of the CWA. The 96 CEG/CEVCE, Environmental Management, Compliance Division, Engineering Branch conducts environmental engineering evaluations of base operations (facilities, systems, and processes) to ensure continued compliance with permit and media specific requirements. The Natural Resource Section (NRS) works closely with 96 CEG/CEVCE on water quality and wetland management. Several water bodies on or adjacent to the reservation and one directly affected by the Proposed Action and Alternative C (Rocky Bayou) have been defined as Outstanding Florida Waters (FAC 62-302.700) because they have exceptional recreational or ecological significance. It is the FDEP's policy to afford the highest protection to Outstanding Florida Waters (USAF, 2007).


Legend
Proposed Project Area
Alternative "A"
Alternative "C"
Eglin AFB
Darter Streams
No
Yes
N
W
E
S
285
Eglin AFB
85
Mill Creek
Robert's Lake
College Boulevard
Turkey Creek
Plew Lake
Swift Creek
Shaw Still Branch
Niceville
Sanders Branch
East Turkey Creek
Long Creek
20
Boggy Bayou
Rocky Creek
Smith Branch
Rocky Bayou
Range Road
White Point Rd
Choctawhatchee Bay
Pippin Lake
Miles
0 0.5 1 2
Data Source:
Eglin GIS 2007, Labins.org 2004,
Okaloosa County GIS Department, & HDR
Mid-Bay Bridge
Mid-Bay Bridge Authority
Streams
Figure 3.3.3.1-1
HDR

3.3.3.2 Groundwater

Two major aquifers underlie the main reservation of Eglin AFB: the surficial aquifer, also known as the sand and gravel aquifer, and the Floridan aquifer. The sand and gravel aquifer is a generally unconfined, near-surface unit separated from the underlying confined Floridan aquifer by the low-permeability Pensacola Clay confining bed. The sand and gravel aquifer is mainly composed of clean, fine-to-coarse sand and gravel, while the Floridan aquifer consists of a thick sequence of inter-bedded limestone and dolomite. Water quality of the sand and gravel aquifer is generally good, but it is vulnerable to contamination from surface pollutants due to its proximity to the ground surface (USAF, 2003c).

Water from the sand and gravel aquifer is not a primary source of domestic or public water supply on Eglin because of the higher quality water available from the underlying Upper Limestone of the Floridan aquifer. Water quality of water drawn from the upper limestone of the Floridan aquifer is of suitable quality for most uses, and is the primary source of water used at Eglin AFB. The top of the aquifer is about 50 ft below mean sea level (MSL) in the northeast corner of the base and increases to about 700 ft below MSL in the southwestern area of the base (McKinnon and Pratt, 1998). The wells on Eglin tap into both the surficial and Floridan aquifers and are used for both potable and non-potable supply. Groundwater levels have dropped up to 160 ft since 1940 at some locations in south Okaloosa County. One site on Eglin AFB in central Okaloosa County has dropped 100 ft since 1940 (NWFWMD, 2005). The NWFWMD has identified excessive groundwater pumping for water supply as the reason for these drops. While the Floridan aquifer is the primary source for drinking water at Eglin AFB and the surrounding areas, due to groundwater level decreases, the sand and gravel aquifer is being examined for increased pumpage. This aquifer is already used as a water source in Santa Rosa County, but has not been used in Okaloosa County for potable supply.

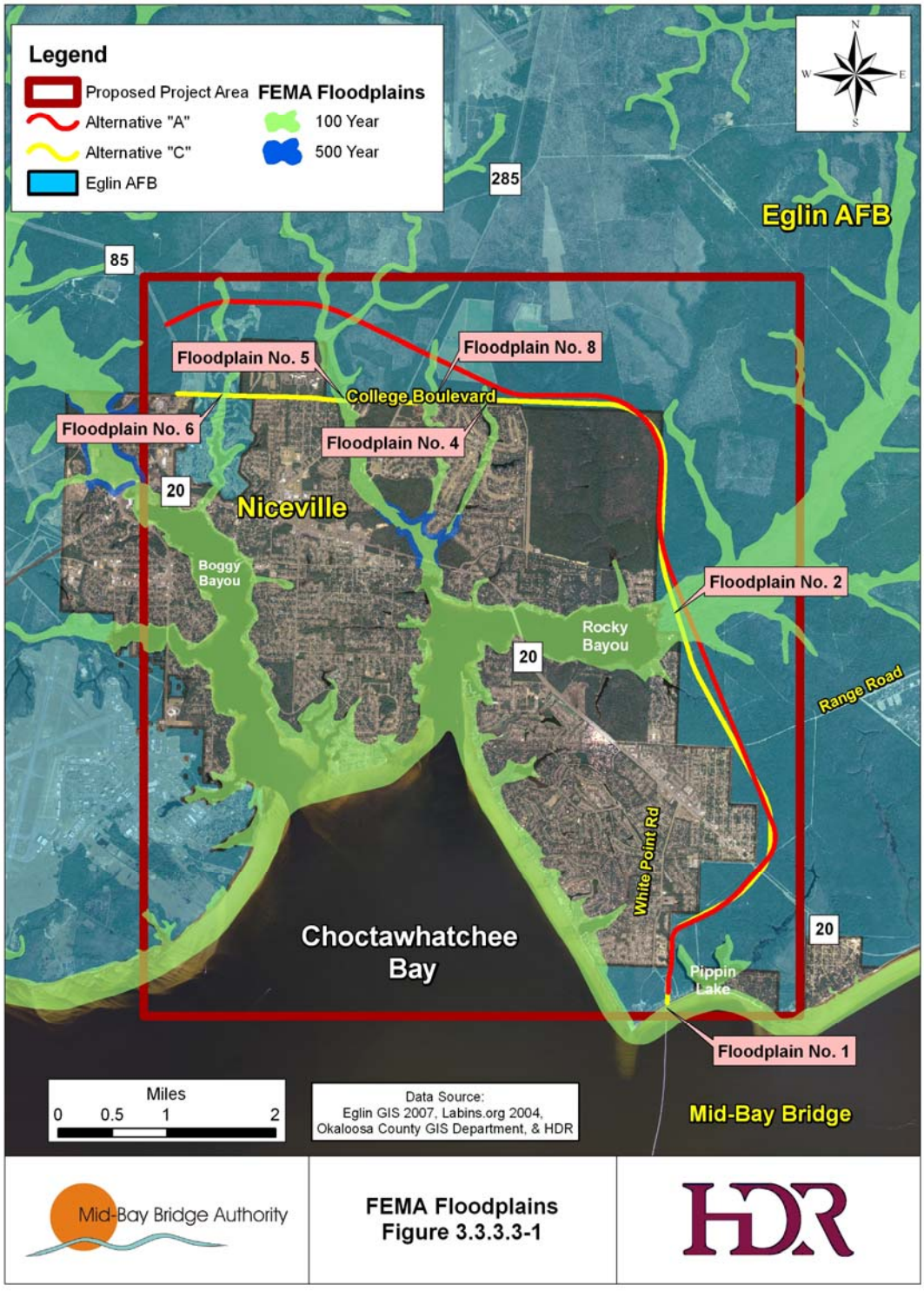
To address the water supply needs of the area, the NWFWMD developed the *Regional Water Supply Plan for Santa Rosa, Okaloosa and Walton Counties* (NWFWMD, 2001). This Plan identified current water sources and current and future water demands within the region, along with alternative water supply sources to meet the region's water needs through the 2020-planning horizon. Strategies were also discussed that would better determine the ability of current and alternative sources to meet the region's future demands.

3.3.3.3 Floodplains

Under EO 11988, *Floodplain Management* (42 Federal Register (FR) 26951), federal agencies are prohibited from the occupancy and modification of floodplains and floodplain development unless there is no practicable alternative. The EO stipulates that agencies proposing actions in floodplains consider alternative actions to avoid adverse effects, avoid incompatible development in the floodplains, and provide opportunity for early public review of any plans or proposals. If adverse effects are unavoidable, the action agency must include mitigation measures in the action to minimize impacts.

Floodplains are lowland areas adjacent to surface water bodies (i.e., lakes, wetlands, and rivers) that are periodically covered by water during flooding events. Floodplains and riparian habitat are biologically unique and highly diverse ecosystems providing a rich diversity of aquatic and terrestrial species, acting as a functional part of natural systems. Floodplain vegetation and soils act as water filters, intercepting surface water runoff before it reaches lakes, streams, or rivers, and serve to store floodwaters during flood events. This 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. Floodplains also reduce downstream flooding by increasing upstream storage in wetlands, sloughs, back channels, side channels, and former channels.

Figure 3.3.3.3-1 shows the location of floodplain areas associated with the Proposed Action and Alternative C corridors. Floodplains are identified using flood hazard mapping data developed through the National Flood Insurance Program. Areas identified as located within Special Flood Hazard Areas (SFHA), as determined by the Federal Emergency Management Agency (FEMA), are areas that would be inundated by a flood having a 1-percent chance of occurring in any given year. This occurrence was previously referred to as the 100-year floodplain (FEMA, 2004). Development may take place within the SFHA as long as the development is compliant with local floodplain management ordinances (which must meet minimum federal requirements). Within the SFHA, several flood hazard zones correspond to different levels of detailed determination methods and flood insurance requirements.


Legend
Proposed Project Area
Alternative "A"
Alternative "C"
Eglin AFB
FEMA Floodplains
100 Year
500 Year
N
W
E
S
285
Eglin AFB
85
Floodplain No. 5
Floodplain No. 8
College Boulevard
Floodplain No. 6
Floodplain No. 4
20
Niceville
Boggy Bayou
Floodplain No. 2
Rocky Bayou
20
Range Road
White Point Rd
Choctawhatchee Bay
20
Pippin Lake
Floodplain No. 1
Miles
0 0.5 1 2
Data Source:
Eglin GIS 2007, Labins.org 2004,
Okaloosa County GIS Department, & HDR
Mid-Bay Bridge
Mid-Bay Bridge Authority
FEMA Floodplains
Figure 3.3.3.3-1
HDR

3.3.4 Biological Resources

Biological resources include the plants and animals that make up natural communities. These natural communities are dependant upon the climate and landscape position (topography) of the area. The discussion of biological resources is divided into three components: Ecological associations, wildlife, and rare, threatened, or endangered species.

3.3.4.1 Ecological Associations

Eglin applies a classification system of ecological associations to all its lands, based on floral, faunal, and geophysical characteristics. These ecological associations are described in Eglin's *Integrated Natural Resources Management Plan, 2007* (USAF, 2007) and the *Environmental Baseline Study Resource Appendices* (USAF, 2003c). Seven ecological associations occur throughout the Eglin Land and Test and Training Range:

1. Sandhills ecological association
2. Flatwoods ecological association
3. Barrier Island ecological association
4. Wetlands/Riparian ecological association
5. Open Grassland/Shrubland ecological association
6. Landscaped and Urban Areas ecological association
7. Invasive Exotics/Non-native Plants ecological association

The Proposed Action and Alternative C are located within three of the seven ecological associations described above: the Sandhills ecological association, Flatwoods ecological association, and the Wetlands/Riparian ecological association. The proposed action will not impact the Barrier Island ecological association, Landscaped/Urban Areas, Open Grassland/Shrubland, or the Invasive Exotic/Non-native plant ecological associations.

Sandhills Ecological Association

The Sandhills ecological associations system is the most extensive natural community type on Eglin AFB, accounting for approximately 78% (approximately 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 mid-story of oaks and other hardwoods, and a diverse groundcover comprised mainly of grasses, forbs and low stature shrubs. The structure and composition was maintained by frequent fires, (every 3-5 years), which controlled 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. Variation within the Sandhills is recognized by the two associations differing in the dominance of grass species (wiregrass versus bluestem). Sandhills are often associated with and grade into Scrub, Upland Pine Forest, Xeric Hammock or slope forests. It is also known as longleaf pine-turkey oak, longleaf pine-xerophytic oak, longleaf pine-deciduous oak or high pine. The functional significance of the Sandhills ecological associations is to provide maintenance of regional biodiversity. Additionally, the sandhills due to their wide coverage on Eglin AFB are the ecological associations across which fire carries into the other imbedded fire-dependent systems. Eglin AFB is the largest and least fragmented, single longleaf pine ownership in the region, and has the best remaining old growth longleaf pine (USAF, 2007).

Flatwoods Ecological Association

The Pine Flatwoods ecological association consists of Mesic, Wet, and Scrubby Flatwoods which account for approximately 17,297 acres throughout the Eglin Reservation (USAF 2002a). They occur on flat, moderately well drained sandy soils with varying levels of organic matter, often underlaid by a hard pan. While the canopy is 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 (natural and human-influenced). The functional significance of the Flatwoods ecological association is its role in maintaining regional biodiversity and is providing the foundation for fire (USAF, 2007).

Wetlands/Riparian Ecological Association

The Wetlands/Riparian ecological association is an extraordinarily important contributor to the health and diversity of the Eglin landscape. This ecological association comprises approximately 60,809 acres and 1,158 miles of riverine aquatic systems. The Florida Natural Areas Inventory (FNAI) initially conducted an inventory of these features in 1994, but satellite field imagery is now used to map and document changes within many of these features. Field efforts are being developed to augment remote sensing monitoring of the wetland communities that are conservation targets (USAF, 2007).

The Riparian ecological association includes the twelve large watersheds within the Eglin AFB boundaries. Great diversity of invertebrate and fish species is found within the streams associated with these watersheds. At least eleven different plant community types, defined by the State Heritage Program, are found within riparian areas on Eglin AFB. Seepage 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 (USAF, 2007).

Some of the wetland communities found within the Wetlands/Riparian ecological association consist of:

- Depression wetlands,
- Seepage slopes and streams, and
- Floodplain Wetlands.

3.3.4.2 Wildlife

Eglin AFB harbors a remarkable assemblage of biodiversity. This is due primarily to the large size of the installation, its habitat quality and diversity including thirty-five distinct natural community types ranging from barrier islands to old growth longleaf pine forests, and the enormous investment and management efforts of the Air Force in conjunction with NRS, USFWS, FWC, FDEP, and USACE via intense and constant coordination with the military mission. Eglin's contribution to southeastern conservation is evident in its extraordinary biodiversity and the exemplary quality of many remnant natural communities (HDR, 2002e). The Proposed Action and the Alternative C have the potential to impacts areas which contain suitable habitat for many animal species. **Table 3.3.4.2-1** summarizes the fish and wildlife species found on Eglin AFB. Many of the species are likely to occur in the Mid-Bay Bridge Connector area.

Table 3.3.4.2-1: Summary List of Fish and Wildlife Species Found on Eglin AFB
(Source: USAF, 2007)

Common Name	Scientific Name	Common Name	Scientific Name	Common Name	Scientific Name
Red-cockaded Woodpecker	*Picoides borealis*	Wood Duck	*Aix sponsa*	Pine Barrens Tree Frog	*Hyla andersonii*
Northern Bobwhite	*Colinus virginianus*	Red-winged Blackbird	*Agelaius phoenicius*	Five-lined Skink	*Eumeces fasciatus*
Great Horned Owl	*Bubo virginianus*	Cotton Mouth	*Agkistridon piscivorus*	Green Anole	*Anolis carolinensis*
Gopher Tortoise	*Gopherus polyphemus*	Flatwoods Salamander	*Ambystoma bishopi*	Garter Snake	*Thamnophis sirtalis*
Indigo Snake	*Drymarchon corais*	River Otter	*Lutra canadensis*	American Beaver	*Castor canadensis*
Diamondback Rattlesnake	*Crotalus adamanteus*	Gray Fox	*Urocyon cinereoargenteus*	Northern Parula	*Parula Americana*
Six-lined Racerunner	*Cnemidophorus sexlineatus*	Ghost Crab	*Ocypode quadratus*	Periwinkles	*Littorina Irrorata*
Florida Black Bear	*Ursus americanus floridanus*	Least Tern	*Sterna albifrons*	Oyster	*Crassostrea virginica*
Fox Squirrel	*Sciurus niger*	Loggerhead Sea Turtle	*Caretta caretta*	Gulf Crab	*Calinectes smilis*
Least Shrew	*Cryptodus parva*	Shorebirds	*Several genera & species*	Long-nosed Killifish	*Fundulus similis*
Cottontail Rabbit	*Sylvilagus floridanus*	Fox	*Vulpes vulpes*	Sheepshead Minnow	*Cyprinodon variegatus*
Pocket Gopher	*Geomys pinetus*	Cotton Rat	*Sigmodon hispidus*	Great Blue Heron	*Ardea herodias*
White-tailed Deer	*Odocoileus virginianus*	Opossum	*Didelphis virginiana*	Belted Kingfisher	*Megaceryle alcyon*
Feral Pig	*Sus scrofa*	Eastern Mole	*Scalopus aquaticus*	Red shouldered Hawk	*Buteo lineatus*
Salt Marsh Rabbit	*Sylvilagus aquaticus*	Florida Burrowing Owl	*Athene cunicularia*	Southeastern American Kestrel	*Falco sparverius paulus*
Slender Glass Lizard	*Ophisaurus attenuatus*	Flycatchers	*Tyrannidae spp.*	American Alligator	*Alligator mississippiensis*
Raccoon	*Procyon lotor*	Cotton Mouse	*Peromyscus gossypinus*	Pygmy Rattlesnake	*Sistrurus miliarius*
Beach Mouse	*Peromyscus polionotus sbspp.*	Black Racer	*Coluber constrictor*	Okaloosa Darter	*Etheostoma okaloosae*
Largemouth Bass	*Micropterus salmoides*	Sailfin Shiner	*Pteronotropis hypselopterus*		

3.3.4.3 Rare, Threatened, or Endangered Species

There are 11 federally listed T&E species that are being managed on Eglin AFB because they occur on Eglin AFB either year-round or seasonally. The 11 federally listed species include: the Red-cockaded Woodpecker (RCW), bald eagle, piping plover, Okaloosa darter, Gulf sturgeon, flatwoods salamander, Eastern indigo snake, loggerhead sea turtle, green sea turtle, leatherback sea turtle, and Florida perforate lichen. Other federally listed species such as the West Indian manatee, peregrine falcon, and wood stork have been documented on Eglin during seasonal migrations. The American alligator, which is common on Eglin, is also federally listed due to its similarity in appearance with the endangered American crocodile. Nine of the 11 federally listed T&E species have Recovery Plans currently in place (RCW, Okaloosa darter, loggerhead, green and leatherback sea turtles, Eastern indigo snake, Florida perforate lichen, bald eagle, and Gulf sturgeon). A flatwoods salamander Recovery Plan is currently in draft stage. There are 67 state-listed T&E species found on Eglin. Most (55) of the 67 state-listed T&E species are plants. Of the 12 state-listed T&E animal species, only four (snowy plover, least tern, southeastern American kestrel, and Florida black bear) are not also federally listed as a T&E species. Eighteen species of animals are listed as state Species of Special Concern. An additional 17 animal species are not listed by the FWC or the USFWS, but are tracked by FNAI due to their rarity and/or declining population trends (USAF, 2007).

According to Eglin AFB, GIS data sources and FNAI Element Occurrence Record Search dated June 14, 2007, the species presented in **Table 3.3.4.3-1** are likely to occur within a one mile radius of the proposed MBBA - Connector corridors. The table shows these species, their federal and state status in Okaloosa County, and their potential of occurrence within the proposed Mid-Bay Bridge Connector area

Table 3.3.4.3-1: Federal and State Listed Species Recorded in the Proposed Mid-Bay Bridge Connector Area (Source: FNAI)

Species		Listing Status	Habitat	Potential
Fish				
Okaloosa darter	Etheostoma okaloosae*	FE, SE	Creeks and small freshwater tributaries	High
Gulf sturgeon	Acipenser oxyrinchus desotoi	FT, ST	Coastal and major waterways	Low
Amphibian and Reptiles				
Eastern indigo snake	Drymarchon corais couperi	FT	Most habitat types; xeric uplands; (including gopher tortoise burrows)	Moderate
Flatwoods salamander	Ambystoma bishopi	FT	Open canopy ponds and pine flatwoods	Low
Gopher frog	Rana capito	ST	Wetlands and waterbodies	Moderate
American alligator	Alligator mississippiensis	FT	Water bodies	Low
Gopher tortoise	Gopherus polyphemus	ST	Xeric upland communities	High
Birds				
Bald eagle	Haliaeetus leucocephalus	FT	Near large bodies of water	Moderate
Red-cockaded woodpecker	Picoides borealis	FE	Old growth pine forests	Low

Species		Listing Status	Habitat	Potential
Wood Stork	Mycteria Americana	FE	Wetlands and near shore waterbodies	Low
Mammals				
West Indian manatee	Trichechus manatus	FE	Coastal and major inland waterways	Extremely Low
Florida black bear	Ursus americanus floridanus	ST	Most habitat types including riparian areas	High
Plants				
Curtis' sandgrass	Calamovilfa curtissii	ST	Wet prairies and savannas	Low
Large-leafed jointweed	Polygonella macrophylla	ST	Upland communities	High
White-top pitcher plant	Sarracenia leucophylla	SE	Wet prairies and savannas	Low
Arkansas oak	Quercus arkansana	ST	Scrub and sand pine flatwoods	Moderate
Ashe's magnolia	Magnolia ashei	SE	Upland hardwoods	Low
Florida flame azalea	Rhododendron austrinum	SE	Slope forests	Low
Spoon-leaved sundew	Drosera intermedia	ST	Wet prairie and seepage wetlands	Low
Panhandle meadow-beauty	Rhexia salicifolia	ST	Wet Prairies and savannas	Low

FE - federally endangered; FT - federally threatened; SE - state endangered; ST - state threatened; * - Proposed for down listing; ** - Observed during field investigations

Federal & State Listed Species

The federal and state listed species presented in **Table 3.3.4.3-1** above have the potential to occur within a one mile radius of the Mid-Bay Bridge Connector corridor. Therefore, species surveys and a BA were conducted to initiate the formal consultation process with the USFWS pursuant to Section 7 of the ESA to determine if adverse impacts to any listed species are likely to occur as a result of the Proposed Action. Consultation with Eglin and USFWS reveal the listed species likely to occur within the Mid-Bay Bridge Connector corridor are the Okaloosa darter, Eastern indigo snake, Flatwoods salamander, bald eagle, RCW and two state listed species, Gopher tortoise and Florida black bear. Through early consultation, Eglin and USFWS have determined that only the Okaloosa darter may be adversely impacted by the Proposed Action. Results of the BA and the BO are summarized in Section 4.1.4 and included in Appendix B.

Okaloosa darter

The federally endangered Okaloosa darter is known to occur within the Proposed Action area. The Okaloosa darter is found in six small Choctawhatchee Bay Basin tributaries located in the Sandhills ecological association of the Eglin Mainland Reservation. The USFWS listed the Okaloosa darter as endangered on June 4, 1973 (38 FR 14678). The darter's exact, current population level is unknown, but estimates range from 1,500 to 10,000. There is currently a proposal to down-list the federally endangered Okaloosa Darter from endangered to threatened. This down listing would still provide the Okaloosa darter the same protection.

Okaloosa darter habitat is sensitive to a variety of disturbances. Habitat loss or degradation has occurred from several factors including siltation, several small impoundments, and possibly domestic pollution. Erosion can increase siltation and imperil the darter's habitat, and its range has also been reduced by habitat modification and encroachment by the brown darter.As a result, management activities for this species involve erosion control measures within darter drainages such as the repair of culverts, range road maintenance, borrow pit closures, and the use of BMPs, such as but not limited to staked silt fence, hay bales, and turbidity barriers. Spawning occurs from March to October, with the greatest amount of activity taking place during April. The spawning occurs in beds of clean, current swept macrophytes (large aquatic plants). In order to protect the Okaloosa darter, the quantity and quality of water in the streams must be protected. There is a high potential for impacts to the Okaloosa darter as the Proposed Action proposes to cross tributaries currently populated by the fish.

Eastern indigo snake

The federally threatened Eastern indigo snake is the largest non-venomous snake in North America and can grow up to 125 inches in length. The USFWS listed the Eastern indigo snake as threatened in 1978 (FR Vol. 43 No 52:11082-11093). It generally requires very large tracts of land to survive and Eglin AFB provides an ideal habitat with large expanses of undeveloped and undisturbed land. Indigos utilize a diverse range of habitats, from flatwoods, hammocks, stream bottoms, cane brakes, riparian thickets, and high ground with deep, well-drained to excessively drained, sandy soils. Habitat preferences vary seasonally. Pine sandhill winter dens are used from December to April. Summer territories are selected from May to July. From August through November, indigo snakes are frequently located in shady creek bottoms. These seasonal changes in habitat encourage the maintenance of travel corridors that link these different habitat types (Hallam et al., 1998). They are considered commensals of the gopher tortoise, wintering over in their burrows in the uplands, but foraging in more mesic to hydric habitats. The Eastern indigo snake is found throughout Florida, but is rare in most areas. There is a low potential for the indigo snake in the Proposed Action area.

Reticulated flatwoods salamander

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, *A. bishopi*, inhabiting areas to the west and frosted flatwoods salamanders, *A. 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). The draft proposed rule to list the reticulated flatwoods salamander is due in August 2008, with the final ruling to be completed by January 2009. 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). Eglin natural resource management for the Flatwoods salamander focuses on habitat management. Efforts to protect the species and its habitat include the observation of buffer areas from the edge of known and potential wetland habitat. Restrictions apply to ground disturbing activities within these buffers to minimize the potential for direct impact to salamanders and alterations to hydrology and water quality. No critical habitat areas exist in the Proposed Action corridor. The Proposed Action corridor will likely not directly impact any potential breeding habitat areas therefore, there is a low potential for impacts to the salamander or its habitat.

Bald eagle

As of August 8, 2007, the USFWS has removed (de-listed) the bald eagle from the federal endangered species list. However, protection would continue under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The National Bald Eagle Management Guidelines would take the place of the 1987 Habitat Management Guidelines which operated with 750-foot and 1,500-foot buffers around active nests. The proposed guidelines require one 660-foot no activity buffer zone for projects of any size that are visible from the nest. The bald eagle most commonly uses habitats close to bays, rivers, lakes or other bodies of water providing good food sources. Bald eagles generally nest in tall pine trees and return to the same nest year after year. Most bald eagles in northern and central Florida migrate north out of the state in May-July after the breeding season but some birds from northern populations migrate to northern Florida in the winter. No active bald eagle nests are documented within 660-feet of the Proposed Action corridor. The nest was documented as being active from 1997 to 1999; it has been documented as inactive since that time.

Red-cockaded woodpecker

The federally endangered RCW is a small woodpecker inhabiting open, mature pine woodlands, generally longleaf pine flatwoods in north and central Florida. They nest and forage in these mature pine flatwoods and distribution is tied to remaining areas of old-growth pine forests. They are nonmigratory and maintain territories year-round. Populations are small and highly fragmented and are found primarily on federally managed lands with some state-owned and private lands supporting smaller populations.

As a result of active management, RCW populations on Eglin have continued to increase with the number of active clusters growing from an estimated 217 in 1994 to approximately 347 potential breeding pairs and 390 active clusters as of 2008. There is a low potential for the RCW in the Proposed Action area.

Other Species Considered

Gopher tortoise

The state threatened Gopher tortoise is a terrestrial tortoise that lives primarily in well managed upland scrub habitats. They typically feed in the dawn and dusk hours and spend most of the day in their burrows. Eglin AFB provides excellent habitat and foraging areas for the Gopher tortoise. No Gopher tortoises or active burrows were located within the Proposed Action corridor however; the Proposed Action crosses many areas that would provide suitable habitat for foraging for Gopher tortoises in the area. Two inactive burrows were identified outside the 400-foot-wide corridor study limits north of Pippin Lake near Lakeshore Drive. An inactive burrow is a burrow that is currently unoccupied by any Gopher tortoises. While they are not being utilized by the Gopher tortoises themselves, they provide excellent homes for several other species including the Eastern indigo snake.

Florida black bear

The state threatened Florida black bear is a large mammal that inhabits large expanses of undeveloped land for foraging. Their range is throughout north Florida and commonly found on Eglin AFB. The black bear moves through various habitats such as pine flatwood communities and floodplain areas foraging primarily on berries and insects. Most sitings on the base occur during the dawn and dusk hours as the bear is mostly nocturnal and feeds during the cooler hours of the day. Eglin AFB has taken numerous measures to protect the bear from development and habitat degradation. Vehicle traffic and development are the primary problems for the bear.

There is a high potential for impacts to the Florida black bear as the Proposed Action proposes to create a new high speed corridor through a large expanse of undeveloped land. Therefore, the Proposed Action would include fences along the entire roadway that would not only delineate a new southern boundary for Eglin AFB, but would also enable wildlife to cross the roadway at natural and secure locations.

3.3.5 Wetlands

Wetlands are defined as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (Army, 1987). Wetlands are the most productive ecosystems in the world (Mitsch and Gosselink, 1993). Values associated with biological productivity of wetlands include: water quality, flood control, erosion control, community structure and wildlife support, recreation, aesthetics, and commercial benefits as well as serving to control the local climate. Many wetlands return over two-thirds of their annual water inputs to the atmosphere through evapotranspiration (Richardson and McCarthy, 1994).

3.3.5.1 Wetland Regulations

Wetlands are regulated pursuant to Section 404 of the CWA, EO 11990, *Protection of Wetlands*, and Chapter 373, F.S. The USACE, NWFWMD, and the FDEP have jurisdiction over wetlands in the Mid-Bay Bridge Connector area. For projects on federally owned property at an Air Force installation where avoidance of wetlands impacts is not feasible, a Finding of No Practicable Alternative (FONPA) is required in accordance with EO 11990.

3.3.5.2 Wetland Communities

As mentioned in Section 3.3.4.1 (Wetlands/Riparian ecological associations), Eglin AFB contains a variety of wetland communities. These wetland and riverine aquatic systems are remarkable in their uniqueness and include, but are not limited to:

- Depression Wetlands, or basin wetlands, are shallow closed basins fed through groundwater or rainwater with an outlet usually only in time of high water. They have peat or sand substrates, are inundated for most of the year, and contain woody and/or herbaceous wetland vegetation. The functional significance of Depression Wetlands is to provide maintenance of regional biodiversity, floodwater storage, and water quality through filtering (USAF, 2007).

- Seepage Slopes/Streams are wetlands on or at the base of sandhill slopes where moisture levels are maintained by the downslope seepage of water from the intersection with a semi-impermeable soil layer resulting in saturated but rarely inundated conditions. On Eglin AFB, Seepage Slopes are embedded within sandhills that are located on the clay-rich soils in the northeastern and eastern part of the base and usually grade into a Baygall community. They are relatively rare habitats throughout the state, and their plant communities are the most biodiverse (USAF, 2007).

- Floodplain Wetlands are flat, alluvial sand or peat substrates associated with riverine communities and are subject to seasonal flooding but not permanent inundations. The functional significance of floodplain wetlands is to provide maintenance of regional biodiversity, corridors for species movement, floodwater storage, and water quality through filtering. As AFI 32-7064 requires, these forested areas are monitored for changes in habitat structure and distribution over time. NRS uses annual satellite imagery and change analysis to follow the health

of this target community. There is no active management that is pursued in this community, although hunting and low-impact missions do occur (USAF, 2007).

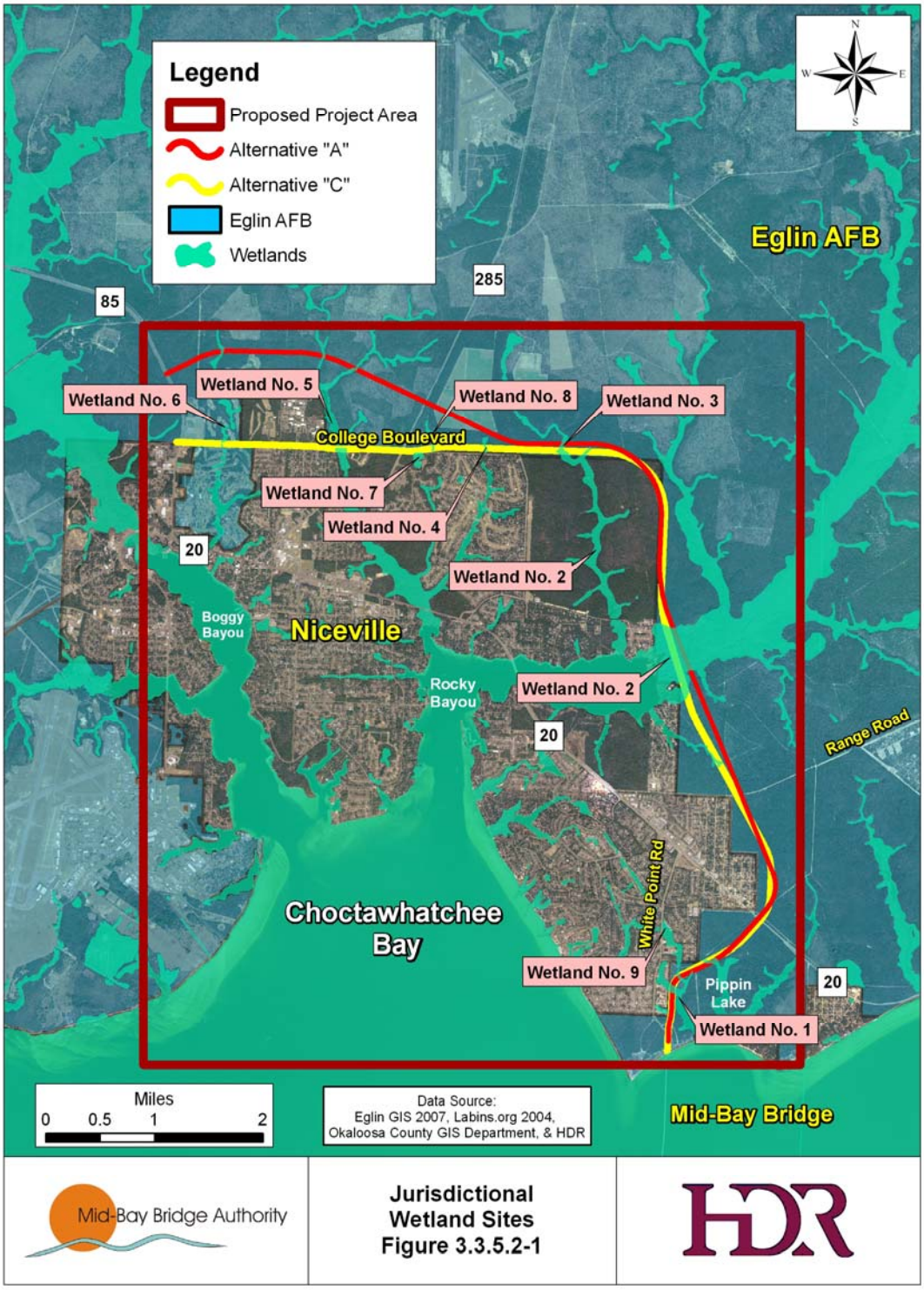
Wetland identification along the Mid-Bay Bridge Connector area was accomplished through the use of 2007 aerial photography, GIS interpretation, USGS topography maps, National Wetland Inventory (NWI) maps, the Okaloosa County Soil Survey (USDA,1995), and limited on-site ground investigation.

Wetlands along the Mid-Bay Bridge Connector corridor are illustrated in **Figure 3.3.5.2-1** and described in **Table 3.3.5.2-1**. These wetlands are contiguous with fresh and saltwater marshes and drainage flow-ways which have a hydrological connection to the Choctawhatchee Bay and ultimately the Gulf of Mexico.

As illustrated in **Figure 3.3.5.2-1**, the largest wetland system along the Mid-Bay Bridge Connector corridor is the Rocky Creek (Wetland system #2). This wetland is permanently flooded within its banks and seasonally flooded throughout its floodplain during periods of heavy rainfall and major storm events. It contains submerged and emergent vegetation throughout its reach and eventually empties into Rocky Bayou, a designated Aquatic Preserve (AP).

Wetland canopy vegetation within the Mid-Bay Bridge Connector corridor consists of slash pine (*Pinus elliotii*), willows (*Salix spp*.), sweetbay (*Magnolia virginiana*), red maple (*Acer rubrum*), and cypress (*Taxodium spp*.). The understory and groundcover consist of species such as black titi (*Cliftonia monophylla*), red titi (*Cyrilla racemiflora*), wax myrtle (*Myrica cerifera*), dahoon holly (*Ilex cassine*), myrtle-leaved holly (*Ilex myrtifolia*), gallberry (*Ilex glabra* and *coriacea*), fetterbush (*Lyonia lucida*), ferns (*Osmunda spp*.) and (*Woodwardia spp*.), yellow-eyed grass (*Xyris spp*.), sawgrass (*Cladium jamaicense*) and meadow beauty (*Rhexia spp*.).

The identification of the wetland sites within and along the Mid-Bay Bridge Connector corridor was accomplished during field investigations conducted in the summer of 2007. The wetlands were characterized by soil type, dominant vegetation, and hydrology; they were classified according to the USFWS manual, "*Classification of Wetlands and Deepwater Habitats of the United States*" (Cowardin et. al., 1979).


Legend
Proposed Project Area
Alternative "A"
Alternative "C"
Eglin AFB
Wetlands
N
W
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S
Eglin AFB
285
85
Wetland No. 6
Wetland No. 5
Wetland No. 8
Wetland No. 3
College Boulevard
Wetland No. 7
Wetland No. 4
20
Wetland No. 2
Boggy Bayou
Niceville
Rocky Bayou
Wetland No. 2
20
Range Road
White Point Rd
Choctawhatchee Bay
Wetland No. 9
Pippin Lake
20
Wetland No. 1
Miles
0 0.5 1 2
Data Source:
Eglin GIS 2007, Labins.org 2004,
Okaloosa County GIS Department, & HDR
Mid-Bay Bridge
Mid-Bay Bridge Authority
Jurisdictional
Wetland Sites
Figure 3.3.5.2-1
HDR

Table 3.3.5.2-1: Wetland Sites

Wetland Number	Classification	Description	Contiguity
1	PFO3/3B, PFO1/3C, E1UBL	Palustrine, Forested, Broad-leaved Deciduous, Needle-leaved Evergreen, Saturated/Seasonal, transitioning to Estuarine, Unconsolidated Bottom, Subtidal	Connected
2 (Rocky Creek)	PFO1/3C, PFO3/1B, PFO7/1B, R2UBH	Palustrine, Forested, Broad-leaved Deciduous, Broad-leaved Evergreen, Indeterminate Evergreen, Saturated/Seasonally Flooded, transitioning to Riverine, Unconsolidated Bottom, Permanently Flooded	Connected
3	PFO4B	Palustrine, Forested, Broad-leaved Evergreen, Saturated	Connected
4	PFO3/1B, PEM1Fh	Palustrine, Forested, Broad-leaved Evergreen, Saturated, transitioning to Palustrine, Emergent, Semipermanently/permanently Flooded, Diked/Impounded	Connected
5	PSS3/1C, PFO1/3C, PFO3/4B	Palustrine, Scrub-Shrub, Broad-leaved Evergreen, Seasonally Flooded and Palustrine, Forested, Broad-leaved Deciduous, Broad-leaved Evergreen, Saturated/Seasonally Flooded	Connected
6	PFO7/1B	Palustrine, Forested, Indeterminate Evergreen, Saturated	Connected
7	PUBHx	Palustrine, Unconsolidated Bottom, Permanently Flooded, Excavated	Connected
8	PEM1Fh	Palustrine, Emergent, Semipermanently Flooded	Connected
9	PFO4/3B	Palustrine, Forested, Needle-leaved Evergreen, Saturated	Connected

3.3.6 Noise

This section provides a description of noise, the region of influence, area noise receptors, and the affected environment.

3.3.6.1 Noise Description

Noise is defined, as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise annoying. Human response to noise varies according to the type and characteristics of the noise sources, distance between source and receiver, receiver sensitivity, and time of day. Sound is measured with instruments that measure variations in air pressure, which are used to calculate instantaneous sound levels in decibels (dB). A-weighted sound level measurements (often denoted dBA) are used to characterize sound levels that the human ear responds to especially well by emphasizing mid-frequencies and de-emphasizing the low and high frequencies. The C-weighted sound level, denoted dBC, is used

less frequently but is practical when measuring impulsive sounds such as blasts. Unlike A-weighting, the C-weighting does not de-emphasize the low frequencies within the audible spectrum.

Noise can be presented as day-night average sound level (DNL), a cumulative metric that accounts for the total sound energy occurring over a 24-hour period with a 10-dB penalty added to those operations between 10:00 pm and 7:00 am. The DNL is the preferred metric of the U.S. Department of Housing and Urban Development, the Federal Aviation Administration, and the EPA. Most studies have demonstrated that people are exposed to DNL of 50 to 55 dBA or higher on a daily basis. Research has indicated that approximately 87 percent of the population is not highly annoyed by outdoor sound levels below 65 dBA DNL (FICON, 1992). According to 23 CFR Part 772 - *"Procedures for Abatement of Highway Traffic Noise and Construction Noise"*, the Federal Highway Administration (FHWA) uses 67 dBA as the threshold level when construction or traffic noise could be considered a significant impact to picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, RV Parks, day care centers and hospitals. The FDOT guideline, as shown in **Table 3.3.6.1-1** below, use 66 dBA DNL as their threshold for considering abatement measures.

Table 3.3.6.1-1: FHWA Noise Abatement Criteria

Activity Category	Abatement Level (in LAeq1h)		
	FHWA	**FDOT**	**Description of Activity Category**
A	57	56 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67	66 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, RV Parks, day care centers and hospitals.
C	72	71 (Exterior)	Developed lands, properties, or activities not included in Categories A and B above.
D	N/A	N/A	Undeveloped lands
E	52	51 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

1Source: Environmental Impact Analysis Handbook, ed. By Rau and Wooten, 1980

Other descriptors used to describe time-varying sound levels are the equivalent sound level (LEQ) and the sound exposure level (SEL). LEQ represents the continuous sound level having the same acoustic energy and time interval as the actual fluctuating sound event. For example, 8-hr LEQ signifies that the continuous sound level is measured over an 8 hour period. LEQ is the preferred metric for traffic noise analyses. SEL is a measure of the total acoustic energy transmitted to the listener. It represents the sound level of a constant sound that would, in one second, generate the same acoustic energy, as did the actual time-varying noise event (USAF, 2003b).

3.3.6.2 Region of Influence (Noise Sensitive Areas)

The Region of Influence (ROI) for noise concerns for this project is the area immediately surrounding the intersections of SR 20, Range Road, SR 285, and SR 85 as well as the areas along College Boulevard, White Point Road, and the residential communities to the north of SR 20. Therefore, based on the roadway segment traffic volumes, proposed typical section, posted speed, and land use, the Mid-Bay Bridge Connector has been divided into five noise sensitive areas (NSAs) shown in **Figure 3.3.6.3-1** and described below.

NSA "A" begins at the existing north abutment of the Mid-Bay Bridge and extends northeastward approximately 3.8 miles to the intersection of SR 20. The land use surrounding and adjacent to NSA "A" consists primarily of undeveloped land to the east and mixed single-family/multi-family residential on the western side.

The surrounding terrain within NSA "A" is relatively flat near the roadway. There are no other unusual features that could significantly influence the noise propagation environment.

NSA "B" begins near the existing north abutment of the Mid-Bay Bridge and extends north approximately 3.2 miles to the intersection of Range Road. This includes White Point Road and the residential communities to the north of SR 20. The land use surrounding and adjacent to NSA "B" consists primarily of mixed single-family/multi-family residential on both sides of the roadway south of Range Road. North of Range Road the land use is mostly undeveloped within 500 feet of the proposed roadway.

The surrounding terrain within NSA "B" is relatively flat near the roadway. There are no other unusual features that could significantly influence the noise propagation environment.

NSA "C" begins approximately 0.8 miles north of Range Road and extends north approximately 3.6 miles to a location approximately 0.75 miles east of SR 285. The land use surrounding and adjacent to NSA "C" consists primarily of rural/undeveloped land with mixed single-family/multi-family residential immediately at the beginning of NSA "C" on the west and at the end of NSA "C" on the south.

The surrounding terrain within NSA "C" is relatively flat near the roadway. There are no other unusual features that could significantly influence the noise propagation environment.

NSA "D" begins approximately 0.75 miles east of SR 285 and continues west along College Boulevard. NSA "D" continues approximately 2.8 miles to the west along College Boulevard. The land use surrounding and adjacent to NSA "D" consists primarily of mixed single-family/multi-family residential to the south of College Boulevard and rural/undeveloped forested land within 500 feet to the north of College Boulevard.

The surrounding terrain within NSA "D" is relatively flat near the roadway. There are no other unusual features that could significantly influence the noise propagation environment.

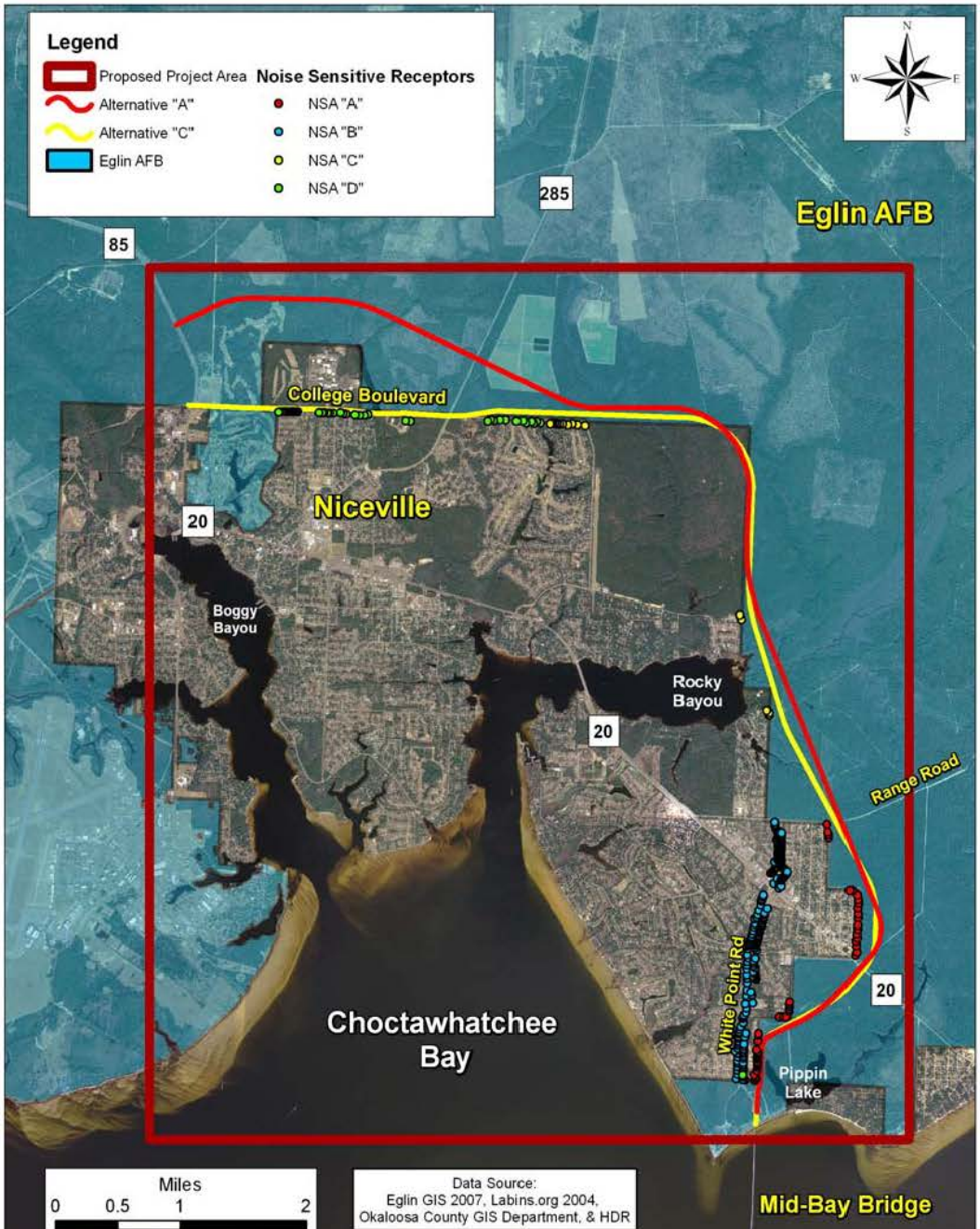
NSA “E” begins approximately 0.75 miles east of SR 285 and follows the Proposed Action (Alternative A) approximately 3.2 miles to the northwest through rural/undeveloped/forested land. NSA "E" is currently an undeveloped, forested section of Eglin AFB where the corridor is proposed to be located. Existing noise levels are typical of an undeveloped rural area and were monitored in the field between 42.3 dBA to 47.9 dBA. Since no noise sensitive sites currently exist or are planned to exist in the future in this area, future predicted levels were not evaluated in NSA "E".

3.3.6.3 Noise Sensitive Receptors

Each NSA analyzed depicts individual noise sensitive receptors. Noise sensitive receptors are defined as any property (owner occupied, rented, or leased) where frequent exterior human use occurs and where a lowered noise level would be of benefit. In those situations where there are no exterior activities to be affected by the traffic noise, the interior of the building shall be used to identify a noise sensitive receptor. The NSAs and individual noise sensitive receptors evaluated for the Mid-Bay Bridge Connector can be seen in **Figure 3.3.6.3-1**. The Proposed Action and Alternative C alignments have been identified for reference.

3.3.6.4 Affected Environment

The FHWA Noise Abatement Criteria (NAC), summarized in **Table 3.3.6.1-1**, establish guidelines for traffic noise impact assessment with respect to various land uses. If one or more noise sensitive receptors are affected by project related traffic noise levels that approach or exceed the abatement criteria or that substantially exceed (15 dBA) existing noise levels, then abatement measures must be considered. By FDOT guidelines, as approved by FHWA, approaching the criteria means within 1 dBA of the appropriate FHWA NAC. If the abatement criteria is not approached or exceeded or if projected traffic noise levels do not substantially exceed existing noise levels, abatement measures normally will not be considered. For this analysis, noise impacts were identified for locations whose predicted noise levels were 1 dBA less than the FHWA criteria for the Activity Category “B” and “C”. Existing noise levels within NSA “A” - NSA “D” are found in Appendix C.


Legend
Proposed Project Area
Alternative "A"
Alternative "C"
Eglin AFB
Noise Sensitive Receptors
NSA "A"
NSA "B"
NSA "C"
NSA "D"
N
W
E
S
285
85
Eglin AFB
College Boulevard
Niceville
20
Boggy Bayou
Rocky Bayou
20
Range Road
White Point Rd
20
Choctawhatchee Bay
Pippin Lake
Miles
0 0.5 1 2
Data Source:
Eglin GIS 2007, Labins.org 2004,
Okaloosa County GIS Department, & HDR
Mid-Bay Bridge
Mid-Bay Bridge Authority
Noise Sensitive Receptors
Figure 3.3.6.3-1
HDR

3.3.7 Cultural Resources

The National Register of Historic Places (NRHP) is a listing of historic properties regarded as significant on local, state, and/or national levels. The NRHP sets forth criteria for evaluating the significance of cultural resources and determining their eligibility for nomination for listing on the NRHP. Section 106 of the National Historic Preservation Act (NHPA) required federal agencies to consider the effects of their undertakings on propertied listed in or eligible for inclusion in the NRHP. The Section 106 review process involves consultation with an independent federal reviewing agency, the Advisory Council on Historic Preservation (ACHP). At the outset of the Section 106 review process, the agency must plan for consultation with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), and other interested public parties.

A determination of effect is central to the Section 106 planning process. Pertinent to the definition of adverse effect is wording contained in 36 CFR 800, the regulation that implements Section 106 of the NHPA.

To summarize, the consideration of effects results in one of three determinations:

- No effect: the undertaking will not affect historic properties;
- No adverse effect: the undertaking will affect one or more historic properties, but the effect will not be harmful;
- Adverse effect: the undertaking will harm one or more historic properties.

If a determination is made that the effects of the undertaking will be adverse, Section 106 is designed to result in a Memorandum of Agreement (MOA), which outlines measures agreed upon that the agency will take to reduce, avoid, or mitigate the adverse effect. Consultation with the SHPO, THPO, and other interested public parties continues as part of the process. Others who are consulted, under various circumstances, may include local governments, Indian tribes, property owners, other members of the public, and the ACHP. In some cases, the consulting parties may agree that no such measures are available, but that the adverse effect must be accepted in the public interest. If consultation proves unproductive, the agency or SHPO, or the ACHP itself, may terminate consultation. The agency must submit appropriate documentation to the ACHP and request the ACHP's written comments. The ACHP may comment during the process by participating in consultation and signing the resulting MOA. Otherwise, the agency obtains ACHP comment by submitting the MOA to the ACHP for review and acceptance. The ACHP can accept the MOA, request changes, or opt to issue written comments. If consultation was terminated, the council issues its written comments directly to the agency head, as the agency head had requested. If an MOA is executed, the agency proceeds with its undertaking under the terms of the MOA. In the absence of an MOA, the agency head must take into account the ACHP's written comments in deciding whether and how to proceed.

3.3.7.1 Local Area History

Humans have occupied the study region for at least 10,000-15,000 years. Since the initial arrival of migrating groups at an unknown time in the past, a cultural evolution has occurred in the area. Archeologists have placed identifying names on some of these groups as they learn to recognize their similarities and differences (Curren, 2005).

The European Exploratory Period in the study region, and the first written history, began in the early 1500's when "scouting" parties explored the northern Gulf coast making maps and initiating trade as well as skirmishing with native peoples. The European Colonial period extended from the late seventeenth century to 1821, when the Historic American period begins with Florida's birth as an American Territory. The lumber and Naval Stores industries became major subsistence activities and economic factors in the American settlement of the northern Gulf Coast. Ports along the northern Gulf coast became cultural centers and shortly after the Civil War, railroads provided a boost to the thriving lumber and timber products industry. By the1880s, the turpentine industry was a major industry in the area. Fishing had long been a mainstay of early American life in these coastal communities. The Historic American period "ends" during the early 20th century. The early 20th century brought World War I in 1914 followed in the 1920's by a period of economic prosperity known as the "Roaring 20's." The economic base of the populous was largely based on agrarian activities such as small farms, fishing communities, as well as production of timber and naval stores (Curren, 2005).

The United States military has had a prominent presence in this area throughout most of the 20th century. The land where Eglin currently sits was once known as the Choctawhatchee National Forest. The history of Florida's Fourth National Forest began early in the 20th century when lands found unsuitable for agriculture were withdrawn from the public domain to determine their suitability for national forest purposes. President Theodore Roosevelt established the Choctawhatchee National Forest on November 27, 1908. The supervisory headquarters was established at DeFuniak Springs and moved to Pensacola in September 1910. It remained there until 1936 when it was relocated to Tallahassee. The Choctawhatchee's two districts (Easy Bay-Camp Pinchot and Niceville) were separated by what is now SR 85. But the national defense needs of a changing world prompted Congress to transfer the national forest to the War Department just prior to World War II. Congress transferred the Choctawhatchee from the Forest Service to the War Department for military purposes on June 27, 1940. The law provided that the land may be restored to national forest status by proclamation or order of the President when it was no longer needed for military purposes.

3.3.7.2 Archaeological Surveys

The Air Force has identified more than 2,200 archaeological sites on Eglin AFB. Of those, approximately 400 sites are eligible or potentially eligible for listing on the National Register. Federal agencies must consider these historic properties during the planning and execution of any federal undertaking that has the potential to affect them. Under the NHPA Eglin AFB is required to consider the effects of its undertakings on historic properties listed, or eligible for listing, in the National Register. NHPA obligations for a federal agency are independent from NEPA and must be complied with even when an environmental document is not required. When both are required, Eglin coordinates NEPA compliance with their NHPA responsibilities to ensure that historic properties are given adequate consideration in the preparation of environmental documents such as EAs and EISs, as per AFI 32-7065 Sections 3.3.1 and 3.3.2, and 36 CFR 800.8.

Eglin is mandated by Section 110 of the NHPA to maintain an active historic preservation program and provide stewardship of cultural resources, "consistent with the preservation of such properties and the mission of the agency (*16 U.S.C. §470 h-2(a)*)." 16 U.S.C. §470 h-2(b) also mandates that "such properties under the jurisdiction or control of the agency as are listed in or may be eligible for the National Register are managed and maintained in a way that considers the preservation of their historic, archaeological, architectural, and cultural values in compliance with Section 106 of this (NHPA) Act."

Eglin has initiated the Section 106 review process for the Mid-Bay Bridge Connector undertaking in a phased approach consistent with the CIP described in Section 1.2 and shown in **Figure 1.2-2**. The majority of the Mid-Bay Bridge Connector area has been previously inventoried through cultural resources surveys as part of Eglin's active historic preservation program. Cultural resource survey was conducted on three small parcels, testing sites potentially eligible for nomination to the NRHP, and assessing the undertaking's effects. A final report was submitted and SHPO concurrence was received. Eight archaeological sites in Phase 2 portion of the corridor required evaluation for determination of eligibility (**See Appendix E, Table E-1**). This work has been completed and the Draft Report of Findings is currently being reviewed by Eglin's Cultural Resources (CR) Section.

The SHPO and Tribes were informed of and invited to an environmental agency coordination meeting concerning this project on 19 November 2007. The SHPO declined to attend via telephone on 13 November 2007. One THPO response was received, indicating the tribe wanted to be informed once surveys and site evaluations were complete. Documentation on these consultations has been included in Appendix E of the EA. The SHPO and Tribes will review the results of the surveys and evaluations of NRHP eligibility, and consultation will continue throughout the Section 106 review process.

3.4 HAZARDOUS MATERIALS AND WASTES MANAGEMENT

Hazardous materials and wastes include substances that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may present danger to public health or welfare or to the environment when released or otherwise improperly managed.

AFI 32-7086, *Hazardous Materials Management*, primarily establishes hazardous materials management at Air Force installations. The AFI incorporates the requirements of all federal regulations, other AFIs, and DoD Directives, for the reduction of hazardous material uses and purchases (USAF, 2003b).

Environmental programs at Eglin AFB, specifically the Environmental Restoration Program (ERP) is used to identify, characterize, clean up, and restore sites contaminated with toxic and hazardous substances, low level radioactive materials, petroleum, oils, and other pollutants and contaminates. ERP has established a process to evaluate past disposal sites, control the migration of contaminants, identify potential hazards to human health and the environment, and remediate the sites (USAF, 2002b). All programs are managed in accordance with applicable federal, state, local, DoD, and Air Force instructions, standards, laws, and regulations that apply to the installation (USAF, 1998). These programs are not expected to be impacted by the construction and use of the new roadway corridor from Mid-Bay Bridge to SR 85 north of Niceville.

A preliminary hazardous materials evaluation was conducted to determine the potential for contamination from properties and business operations located within the Mid-Bay Bridge Connector corridors. Since the identification of potential contamination problems was a primary objective of the evaluation, all parcels subject to ROW acquisition were located and identified.

Field reviews were performed to determine business names, types, and general site characteristics of each parcel. Special attention was paid to any business, which might handle potentially contaminating materials or generate contaminated waste. The methodology utilized for investigation involved: coordination with the appropriate regulatory agencies; obtaining lists of hazardous class information (generators, transporters, etc.), stationary tanks, and known leaks and spills; obtaining and evaluating historic aerial photographs to determine potential contamination problem areas; conducting site visits to document the existing conditions at the site, to verify information provided by others, and to identify other potentially contaminated sites within the vicinity of the Mid-Bay Bridge Connector; and determining the contamination

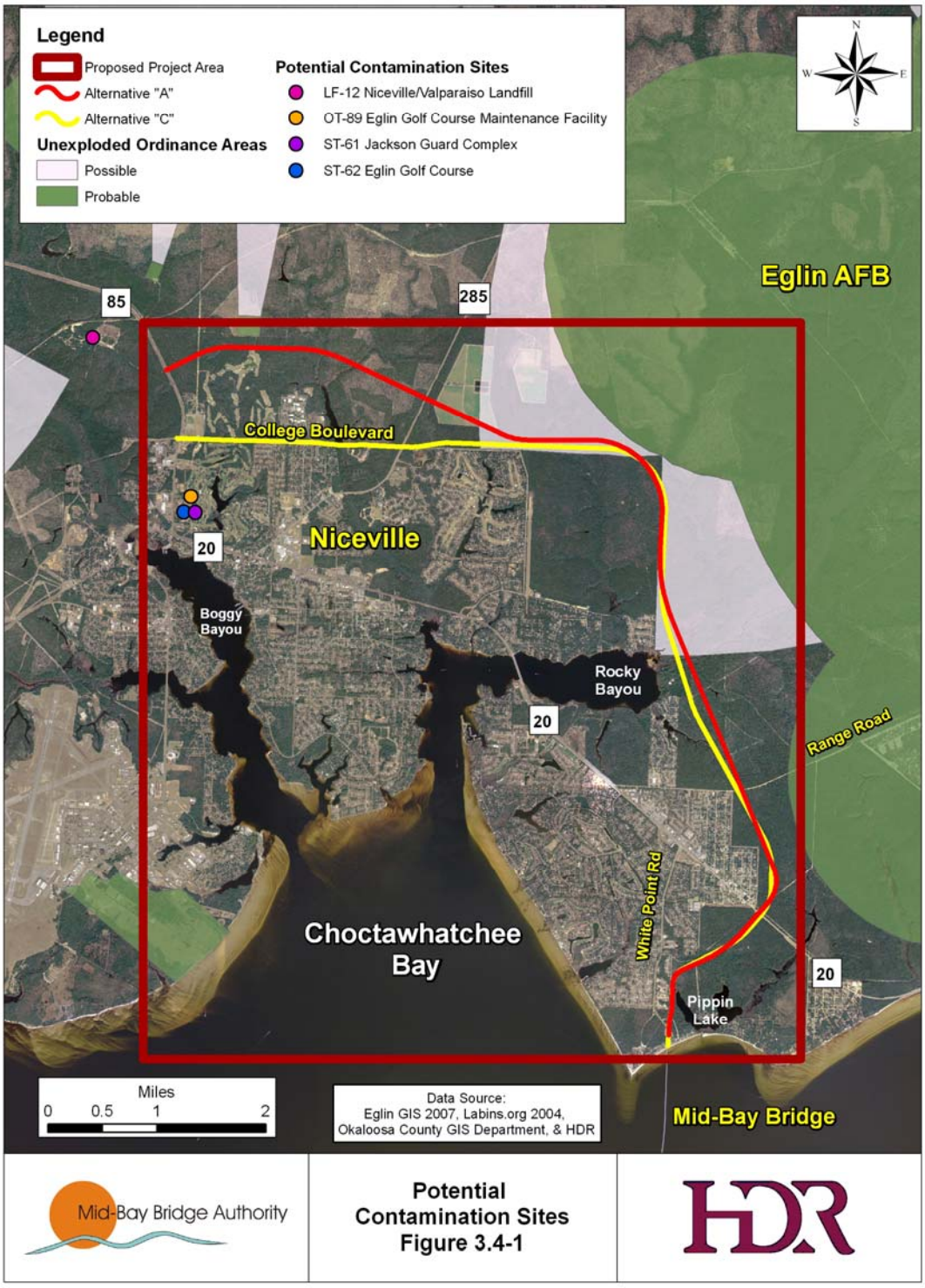
potential for each property within the Mid-Bay Bridge Connector limits. **Figure 3.4-1** illustrates the potential contamination sites in the area including the potential for UXO.

Due to the mobile nature of pollutants in soils and groundwater, sites located in close proximity, but not included in the actual ROW acquisition, were also evaluated; especially if there was any evidence of involvement with contaminants.

Through historical and regulatory searches and inspections within the Mid-Bay Bridge Connector area, four sites within the study area were identified for further evaluation for potential contamination. Although several gasoline stations along SR 20, near White Point Road, were identified in earlier PD&E studies, recommendations and commitments were made and these facilities have been eliminated from further discussion for this EA. The four sites, according to the Eglin AFB's *Environmental Management Action Plan, 2002* are listed in **Table 3.4-1**. This table includes a description of the site as well as its regulatory status and its potential for impacts related to the alternatives.

Table 3.4-1: Contamination Sites in the Proposed Mid-Bay Bridge Connector Area

Facility Name	Description	Regulatory Status	Close Out Date	Potential for Impacts (Alternative A)	Potential for Impacts (Alternative C)
Site LF-12	Niceville/Valparaiso Landfill, Latitude 30°32′54″ N. Longitude 86°30′23″ W	Long Term Maintenance performed by Okaloosa County; Eglin to provide oversight	12/01/1996	None	None
Site OT-89	Eglin Golf Course Maintenance Facility, Pesticide Storage Building Latitude 30°31′38.5″ N. Longitude 86°29′27″ W	Long Term Monitoring required from 09/30/2002 through 09/30/2024	Scheduled for 09/30/2024	None	None
Site ST-61	Eglin Golf Course Maintenance Compound Latitude 30°31′31″ N. Longitude 86°29′24.5″ W	UST excavation and closure 1994 No Further Action required	09/30/1994	None	None
Site ST-62	Jackson Guard Complex Latitude 30°31′31″ N. Longitude 86°29′30.7″ W	UST excavation and closure 1994 No Further Action required	09/30/1994	None	None


Legend
Proposed Project Area
Alternative "A"
Alternative "C"
Unexploded Ordinance Areas
Possible
Probable
Potential Contamination Sites
LF-12 Niceville/Valparaiso Landfill
OT-89 Eglin Golf Course Maintenance Facility
ST-61 Jackson Guard Complex
ST-62 Eglin Golf Course
N
W
E
S
Eglin AFB
85
285
College Boulevard
Niceville
20
Boggy Bayou
Rocky Bayou
20
Range Road
White Point Rd
Choctawhatchee Bay
20
Pippin Lake
Miles
0 0.5 1 2
Data Source:
Eglin GIS 2007, Labins.org 2004,
Okaloosa County GIS Department, & HDR
Mid-Bay Bridge
Mid-Bay Bridge Authority
Potential Contamination Sites
Figure 3.4-1
HDR

An additional public safety issue, especially during construction, is the potential of UXO on the Eglin Reservation. UXO can be set off, or detonated, by a variety of construction equipment or by personnel using digging tools. As a result, coordination with Eglin AFB-UXO professionals was initiated and it has been determined that the Proposed Action and Alternative C will be located in an area that is considered possible for UXO occurrences. Therefore, the MBBA has consulted with Eglin's safety office and will be responsible for funding and conducting surveys for UXO to further identify the potential and subsequently clear the corridor for UXO hazards. **Figure 3.4-1**, shows the areas of possible and probable UXO on the Eglin Reservation. However, because of the UXO occurrence possibility, the MBBA has consulted with Eglin's safety office and has initiated the Explosive Safety Submission (ESS). The purpose of the ESS is to ensure all applicable DoD and Department of the Air Force Explosives Safety Standards are applied during a Military Munitions Response Program (MMRP) Response Action. The following guidance documents were used to ensure all Air Force Explosive Safety Standards were complied with:

- DoD 6055.9-STD, DoD Ammunition and Explosives Safety Standards, Chapter 12 - Real Property Contaminated with Ammunition, Explosives or Chemical Agents
- DoD Explosives Safety Board (DDESB): "Memorandum Guidance for Clearance Plans" dated January 1998 Air Force Manual 91-201, Explosives Safety Standards, Chapter 6 - Real Property Contaminated with Ammunition and Explosives
- Air Force Manual (AFM) 91-201 Explosives Safety Standards
- Air Force Instruction 90-901, Operational Risk Management
- Air Force Pamphlet 90-902, Operational Risk Management Guidelines and Tools

3.5 LOCAL COMMUNITY

This section describes socioeconomic resources, environmental justice, land use and aesthetics, transportation, and utilities.

3.5.1 Socioeconomics

The magnitude of socioeconomic factors can vary across communities and stakeholder groups based in large part to a differing view on the relativity of an issue or the interpretation of an impact. What may be viewed as a significant impact in one community can be viewed as a desired outcome in another community. This creates variability in the evaluation of socioeconomic impacts that is difficult to predict. In consideration of this variability, it is generally accepted to use public meetings and other public involvement outlets to better gauge a community or stakeholder group consensus. The feedback gained from the various public involvement components should be used in conjunction with other technical data gathered that more closely defines the known impacts and improvements and is not just a reflection of public sentiment.

In 2004 and 2005, a variety of public meetings were held as part of the preliminary environmental scoping process of the Mid-Bay Bridge Connector. These meetings were held in various locations and forums in and around the proposed affected areas and a significant amount of feedback on potential community impacts was generated. This feedback was evaluated and considered along with a more technical analysis of standard socioeconomic indicators including; ROW acquisition needs, residential and commercial relocations, conflicts with local

comprehensive plans, traffic pattern impacts or improvements, impacts to community facilities, impacts to cultural or historical resources, impacts to environmental resources and the disruption of community cohesion. A comparative analysis of both the public feedback and the technical analysis of the socioeconomic impacts were used to determine the preferred alternative.

3.5.1.1 Location and Region of Influence

Eglin AFB is located in Okaloosa County and encompasses more than 724 square miles of land in the Florida Panhandle. Okaloosa County comprises the one-county Fort Walton Beach Metropolitan Statistical Area (MSA) see **Figure 1.2-1.**

The socioeconomic ROI for this type of analysis is generally defined by the residence patterns of installation personnel and by the number of incoming personnel associated with the action under consideration. No incoming personnel are associated with the action under consideration, and the construction labor force is expected to be drawn from the local area. For this reason, Okaloosa County (the Fort Walton Beach MSA) is defined as the ROI (USAF, 1998).

3.5.1.2 Population

The population of Okaloosa County in 2000 was approximately 180,291. The County's population increased by more than 18 percent during the 1990's, compared to nearly 23 percent for the state of Florida. (USBC, 2003) From 2000-2006, the County's population has increased by 5.7 percent, while the state as a whole grew 13.2 percent. (EDC, 2006)

There are nearly 11,000 active-duty military, 11,000 civilian, and 19,000 dependents associated with Eglin AFB. Of Okaloosa County's total population, there are an estimated 41,000 Air Force retirees in the area (EDC, 2006). According to the 2005 BRAC Report, Okaloosa County is anticipating a population increase of approximately 12,000 (7,000 Eglin family members and 5,000 government and contract employees) by FY 10 and FY 11 (Eglin, 2006).

3.5.1.3 Employment and Income

Key indices for measuring the economic strength of a given area include the number of individuals' employed, employment growth, economic diversification, the rate of unemployment, and per capita income (PCI). This section discusses characteristics and growth patterns of Okaloosa County employment and income.

Total 2000 employment in Okaloosa County was approximately 57,204. Okaloosa County experienced a 34.8 percent increase in employment between 1990 and 1999, compared to a 29.3 percent increase for the state of Florida (USBC, 2003).

Okaloosa County has a somewhat diversified economy as illustrated in **Table 3.5.1.3-1**. In 2000, the government sector accounted for nearly 11 percent of employment and the services sector accounted for more than 58 percent (USBC, 2003).

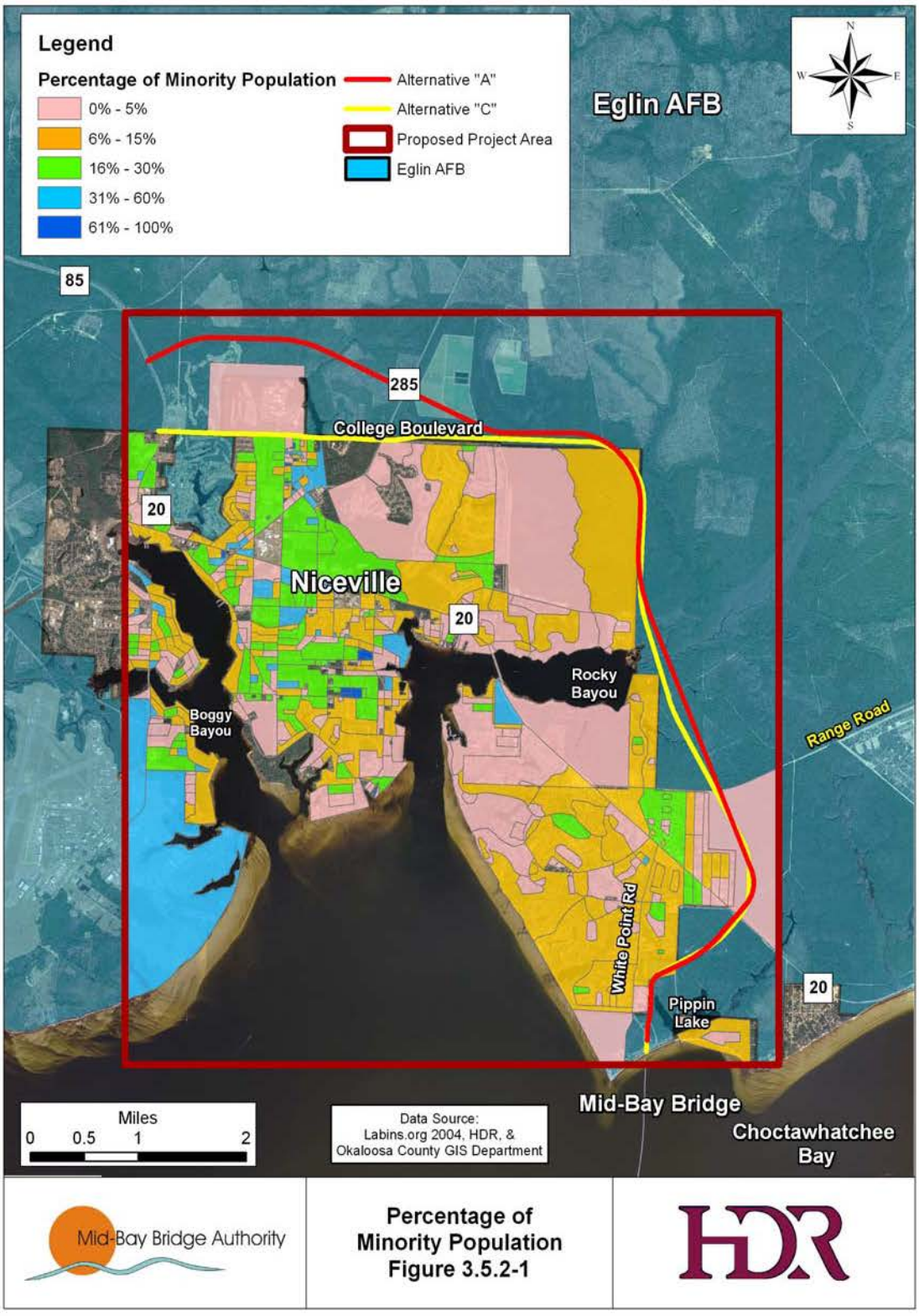
Table 3.5.1.3-1: Employment By Industry in Okaloosa County	
Industry	**Employment (%)**
Agriculture, Forestry & Mining	0.01
Construction & Real Estate	8.60
Education Services	5.90
Finance & Insurance	2.80
Government	11.00
Healthcare & Social Assistance	8.70
Information	2.50
Manufacturing	4.30
Other Services	32.40
Professional & Business Services	20.00
Transportation /Wholesale Trade	3.80

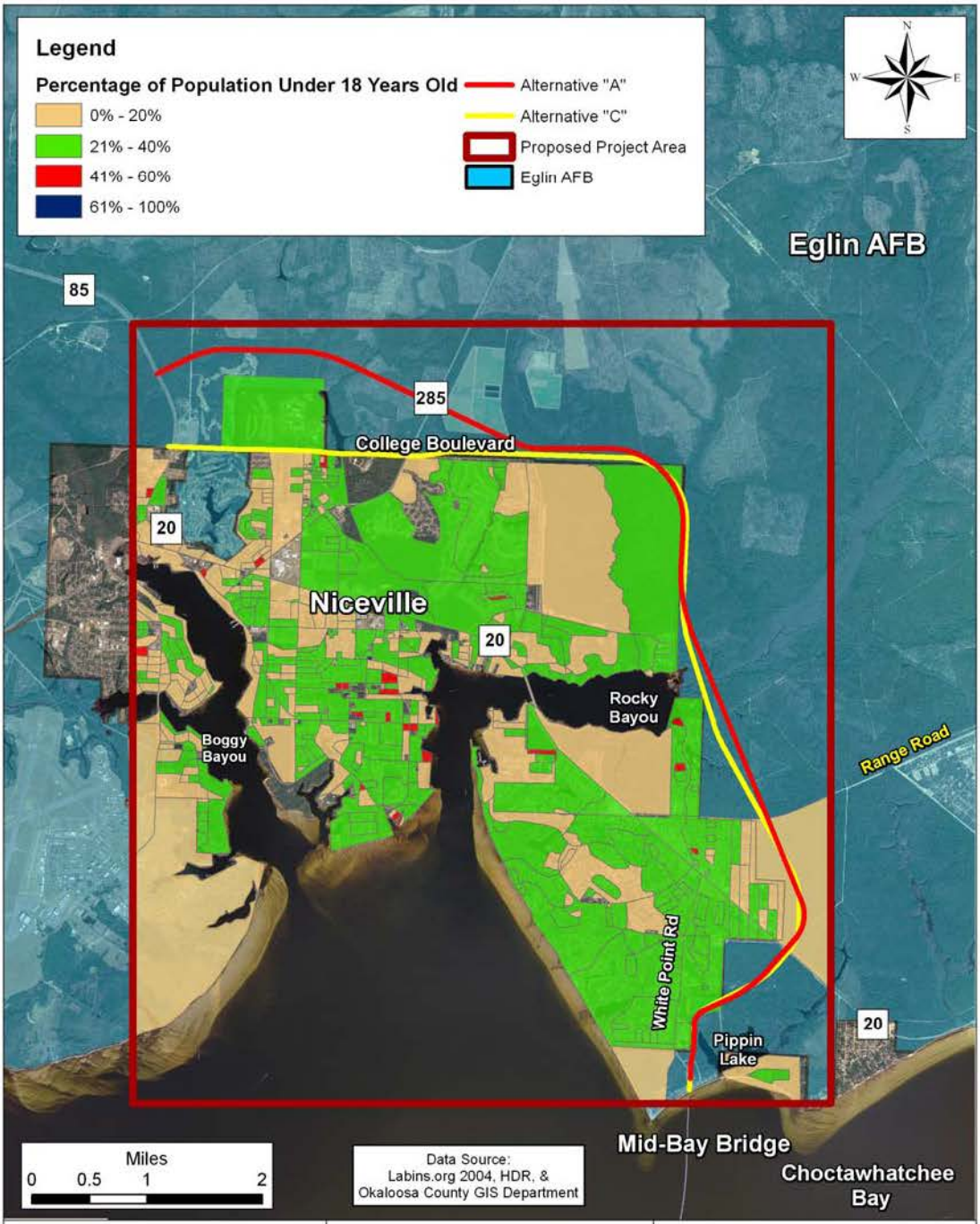
The PCI is an income measure commonly used to compare incomes of different areas, and is calculated by dividing the total personal income of an area by the total population. In 2000, Okaloosa County PCI was $20,918, roughly 6 percent of the PCI for the United States. The Florida PCI ($21,557) is 0.3 percent of the United States amount ($21,587). In 1990, Okaloosa County's PCI ($13,147) was only 12 percent of the United States PCI for that year (USBC, 2003).

3.5.2 Environmental Justice

The President signed EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, on February 19, 1994. This EO requires that each federal agency identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. In order to evaluate these potential effects, demographic data on minority and low-income populations are provided in this section. The latest available consistent data are used.

The terms "low-income population" and "minority population" are defined according to guidance published by The Air Force Center for Environmental Excellence (AFCEE) in its Guide for Environmental Justice Analysis with the EIAP, November 1997. Under this guidance, "Low-Income Population" is defined as persons below the poverty level, designated as $12,674 for a family of four in 1989 by the U.S. Bureau of the Census. The poverty threshold is a function of family size and is adjusted over time to account for inflation. "Minority Population" is defined as persons designated as Black; American Indian, Eskimo, or Aleut; Asian or Pacific Islander; Other; and of Hispanic origin in census data. As seen in **Figure 3.5.2-1**, the population of minorities is shown as a percentage of the community in relation to the Proposed Action and Alternative C. **Figure 3.5.2-2** is also included to show the percentage of the population under 18 years old. These figures provide a visual representation of the community in understanding potential impacts to environmental justice resulting from Proposed Action and Alternative C.


Legend
Percentage of Minority Population
0% - 5%
6% - 15%
16% - 30%
31% - 60%
61% - 100%
Alternative "A"
Alternative "C"
Proposed Project Area
Eglin AFB
N
W
E
S
Eglin AFB
85
285
College Boulevard
20
Niceville
20
Rocky Bayou
Boggy Bayou
Range Road
White Point Rd
Pippin Lake
20
Mid-Bay Bridge
Choctawhatchee Bay
Miles
0 0.5 1 2
Data Source:
Labins.org 2004, HDR, &
Okaloosa County GIS Department
Mid-Bay Bridge Authority
Percentage of Minority Population
Figure 3.5.2-1
HDR



Mid-Bay Bridge Authority

Percentage of Population Under 18 Years Old
Figure 3.5.2-2

HDR

3.5.2.1 Ethnic Origin

According to the 2000 Census, which provides the latest consistent data for ethnic composition and poverty status, the 2000 population of Okaloosa County was 83.4 percent Caucasian, 9.1 percent African-American, 2.5 percent Asian/Pacific Islander, and 1.3 percent other; 4.3 percent are considered Hispanic. In Florida, 80 percent of the population is Caucasian and 12 percent is African-American, while persons of the Asian/Pacific Islander, Native American, or Other origin make up only about 3.4 percent of the total. More than 16 percent of the state's population is of Hispanic origin. The United Sates is approximately 75.1 percent Caucasian and 12 percent African-American, with persons of Hispanic origin making up nearly 12 percent of the U.S. total population (USBC, 2003).

3.5.2.2 Low-Income Status

The 2000 Census found approximately 6 percent of Okaloosa County residents living below the poverty level. In comparison, approximately 9 percent of the state's population and 9.2 percent of the U.S. population are in this category (USBC, 2003).

3.5.3 Land Use and Aesthetics

Communities categorize land according to its current use, and may restrict future development based on those categories. Thus, the financial value of land is dependent on its land use classification as well as other factors. The aesthetic nature of an area is also dependent on land use and the presence or absence of man-made structures. This section describes the land use and aesthetics in the Mid-Bay Bridge Connector area.

3.5.3.1 Military Land Use

Five types of land/water use support the current mission of Eglin AFB and the AAC in the testing and evaluation of non-nuclear munitions, electronic combat systems, navigation/guidance systems, and training. The military land/water uses necessary to conduct and support the objectives of Eglin AFB are listed below (USAF, 2007).

- Test and evaluation
- Space Operations Support
- Training
- Eglin Gulf Test and Training Ranges
- Administrative Area Land Use

As a result of BRAC 2005, Eglin AFB has identified land use as a growth related challenge that could possibly affect Eglin's current and future military mission. Therefore, Eglin AFB has become involved in a cooperative land use planning effort (Joint Land Use Study) between military installations and the surrounding communities that promotes compatible community growth that supports military training and operational missions (EDC, 2008).

3.5.3.2 Non-Military Land Uses

Eglin AFB contains a large forested area used for outdoor recreation, commercial forestry products, wetland values, and biodiversity maintenance where these uses are compatible with the military mission. The Natural Resources Branch sells approximately 5,000 general recreation permits each year. These permits are sold to individuals who do not hunt or fish and who use the

Eglin reservation for other recreational purposes. These other purposes include: canoeing, hiking, picnicking, nature study and appreciation, swimming, berry picking, and bicycling. Individuals who possess a current hunting or fishing permit are not required to purchase a recreation permit.

3.5.3.3 Regional Land Uses

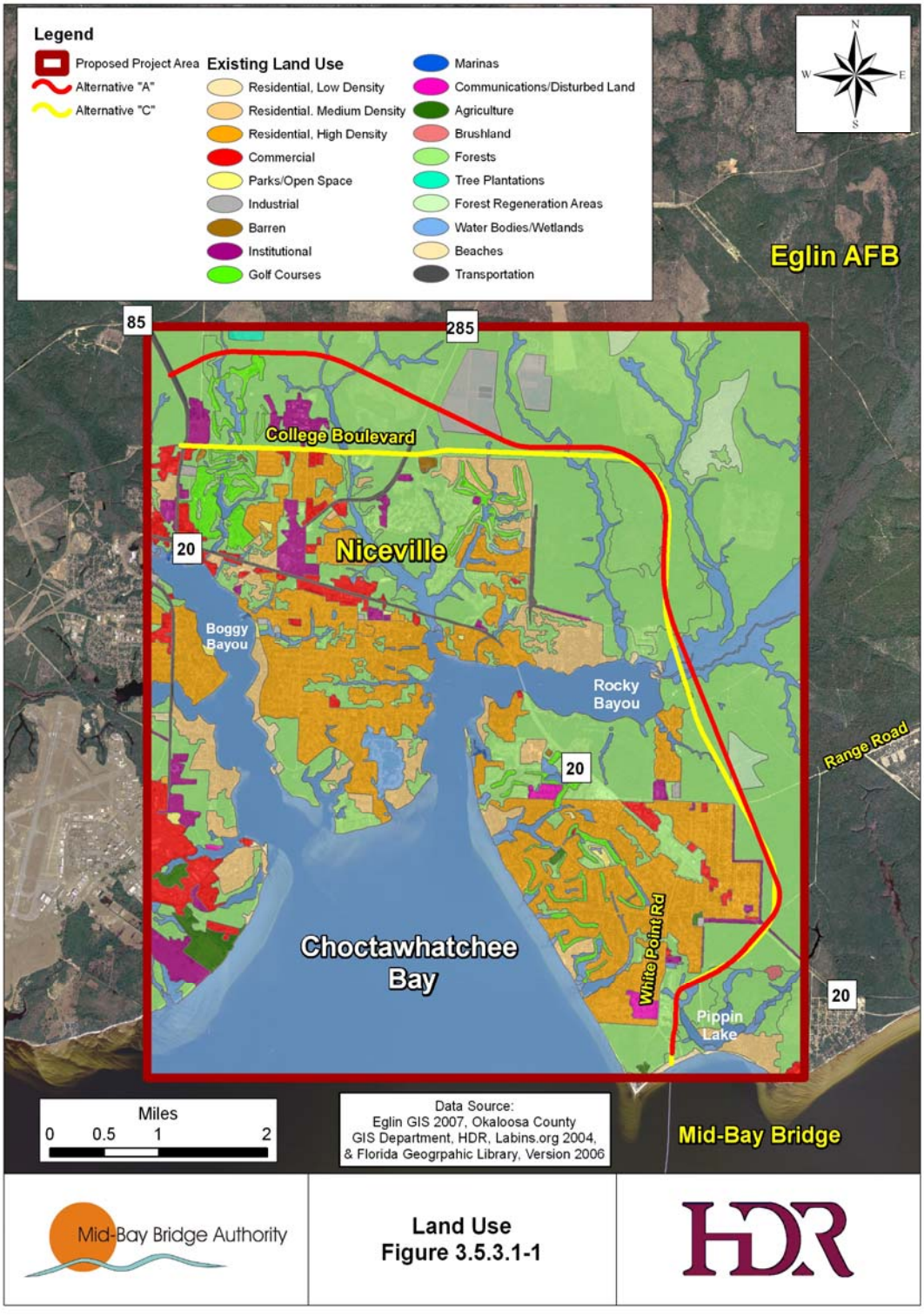
The region of influence includes Eglin AFB, Okaloosa County and the local jurisdictions within Okaloosa County. The area south of Eglin AFB is primarily commercial and urban residential land. West, north, and east of Eglin AFB, more rural and less constrained. Within these areas the largest proportion of the region is devoted to:

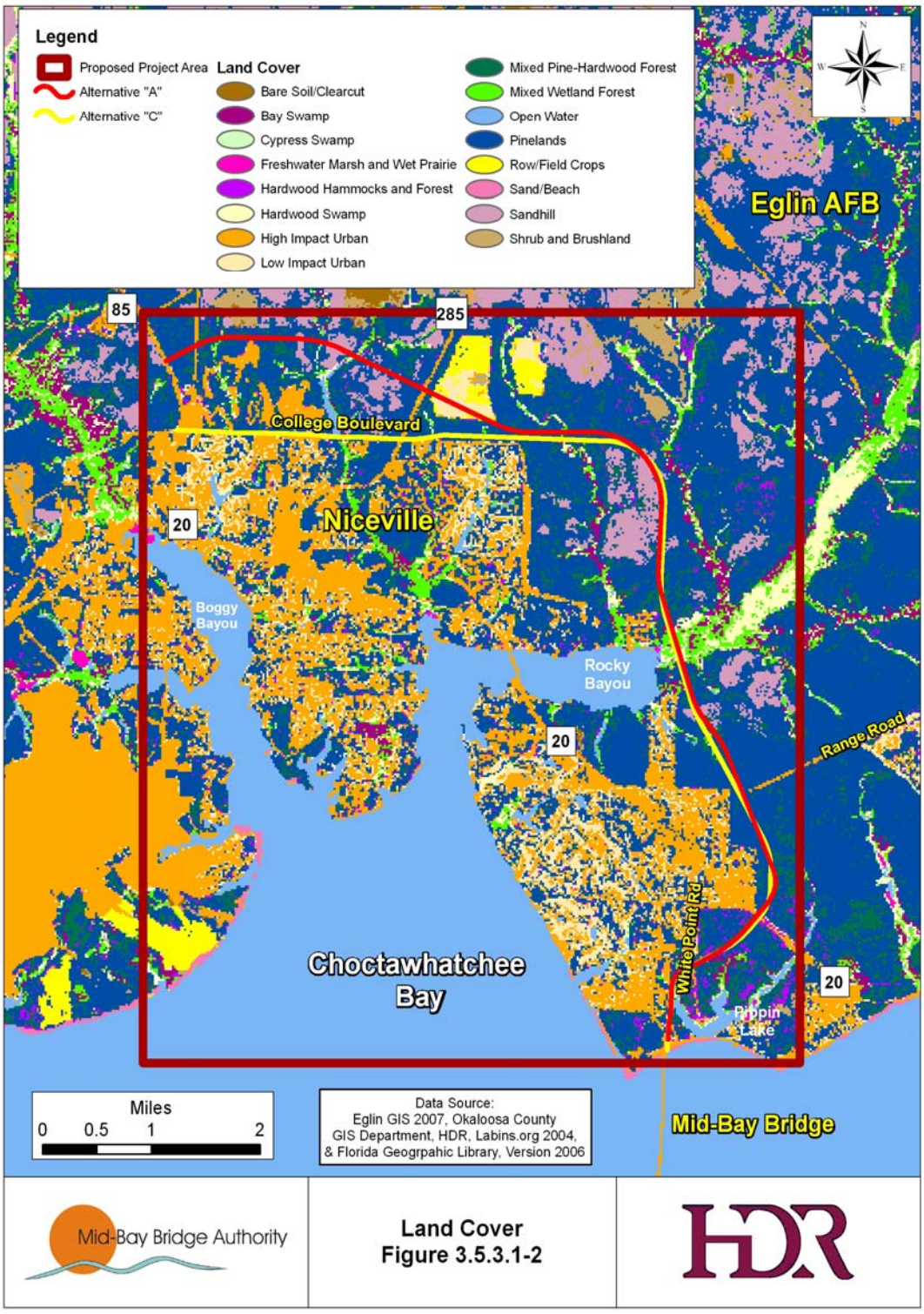
- Agriculture/timber: Major tracts of forested land west, north and east of the base are owned by timber companies or used for agriculture.

- Recreation/natural resource management areas: These areas include, Henderson Beach State Recreation Area, Fred Gannon Rocky Bayou State Recreation Area, Rocky Bayou State Park Aquatic Preserve, Yellow River Wildlife Management Area, and the Blackwater River State Park.

- Residential: For many cities located along Eglin's southern boundary, urban residential (as well as commercial) development is limited to vacant parcels existing within the urbanized areas (infill development). The remainder of the region is open to rural residential development (USAF, 2007).

Generalized existing land use is shown in **Figure 3.5.3.1-1** and land cover in **Figure 3.5.3.1-2**.


Legend
Proposed Project Area
Alternative "A"
Alternative "C"
Existing Land Use
Residential, Low Density
Residential, Medium Density
Residential, High Density
Commercial
Parks/Open Space
Industrial
Barren
Institutional
Golf Courses
Marinas
Communications/Disturbed Land
Agriculture
Brushland
Forests
Tree Plantations
Forest Regeneration Areas
Water Bodies/Wetlands
Beaches
Transportation
N
W
E
S
Eglin AFB
85
285
College Boulevard
20
Niceville
Boggy Bayou
Rocky Bayou
20
Range Road
Choctawhatchee Bay
White Point Rd
Pippin Lake
20
Miles
0 0.5 1 2
Data Source:
Eglin GIS 2007, Okaloosa County GIS Department, HDR, Labins.org 2004, & Florida Geogrpahic Library, Version 2006
Mid-Bay Bridge
Mid-Bay Bridge Authority
Land Use
Figure 3.5.3.1-1
HDR


Legend
Proposed Project Area
Alternative "A"
Alternative "C"
Land Cover
Bare Soil/Clearcut
Bay Swamp
Cypress Swamp
Freshwater Marsh and Wet Prairie
Hardwood Hammocks and Forest
Hardwood Swamp
High Impact Urban
Low Impact Urban
Mixed Pine-Hardwood Forest
Mixed Wetland Forest
Open Water
Pinelands
Row/Field Crops
Sand/Beach
Sandhill
Shrub and Brushland
Eglin AFB
85
285
College Boulevard
20
Niceville
Boggy Bayou
Rocky Bayou
20
Range Road
White Point Rd
Choctawhatchee Bay
20
Pippin Lake
Miles
0 0.5 1 2
Data Source:
Eglin GIS 2007, Okaloosa County GIS Department, HDR, Labins.org 2004, & Florida Geogrpahic Library, Version 2006
Mid-Bay Bridge
Mid-Bay Bridge Authority
Land Cover
Figure 3.5.3.1-2
HDR

3.5.3.4 Visual

Visual resources consist of the natural and man-made landscape features that appear indigenous to the Mid-Bay Bridge Connector area and that give a particular environment its aesthetic qualities. Impacts to visual sensitivity are assessed in terms of whether the visual resource is of high, medium, or low sensitivity.

High sensitivity resources include designated areas of aesthetic, recreational, cultural, or scientific significance that meet certain criteria; examples include wilderness areas, state and national parks, wildlife refuge, wild and scenic rivers, and historic areas. Medium sensitivity areas are more heavily developed and contemporary human influences are more apparent, and are generally designated for recreational, scenic, and historical use by local authorities, such as community parks, highway scenic overlooks, and hiking trails. All other areas are considered to be of low sensitivity (USAF, 1998).

3.5.4 Transportation

Transportation systems facilitate the movement of people, goods, and materials by ground, water, or air. For transportation systems to be adequate, users must be able to reach their destinations within reasonable limits of time, cost, and convenience. The Proposed Action addressed in this EA involves roadway transportation.

Figure 1.3-1 illustrates the main highways and other primary and secondary access roads in the vicinity of the Mid-Bay Bridge Connector area. Since its opening in 1993, the Mid-Bay Bridge has served the region as part of the north-south connection between US 98 and I-10, as part of the local transportation system serving local citizens commuting to and from work and school and traveling to and from shopping and recreational activities, and as part of the hurricane evacuation route.

Between the year 1994 and the year 2000, traffic volumes grew by 51 percent on the portion of White Point Road from the Mid-Bay Bridge to SR 20. This represents an annual average increase of 8.5 percent per year. During the year 2001, the AADT volume on the bridge was 12,400; this volume exceeded the initial projection of 9,000 AADT made in the early 1990's by about 38 percent. Since that time, volumes on the bridge have continued to increase to 20,900 in 2006. It is anticipated the bridge's AADT volume will continue to increase at a steady pace for the foreseeable future; it is forecast that the bridge's AADT volume will be at least 32,200 by the year 2030.

Existing conditions of roads are characterized by LOS as a primary measure of operational efficiency. Performance of a roadway segment may be expressed in terms of LOS, a qualitative measure of operational factors such as speed, travel delay, freedom to maneuver, safety, and time (frequency or hours) of operation. Roadway capacity depends mainly on the street width, number of travel lanes, intersection controls, and other physical factors. The capacity and LOS of intersections along routes often determine average travel speed on these roads.

The LOS scale ranges from A (best) to F (worst), with each level defined by the criteria contained in the Highway Capacity Manual 2000, published by the Transportation Research Board, National Research Council. LOS ratings of A, B, C, and D represent good operating conditions where minor or tolerable delays are experienced by motorists; as LOS goes from A to D, there are increasing levels of congestion, longer waits at signals, and increasing reductions in speed from free-flow operations. A LOS rating of D borders on a range in which small increases in flow may cause substantial decreases in speed. A LOS rating of E represents the roadway at capacity, and LOS F represents unacceptable flow conditions; both E and F are characterized by

average travel speeds of one-third to one-quarter of the free-flow speed and highly congested operating conditions.

The LOS at intersections is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. Longer delays may result from some combination of unfavorable progression, long cycle lengths or high volume to capacity ratio. The delay associated with LOS F is considered by many drivers to be unacceptable. This level often occurs with over-saturation, i.e., when arrival flow rates exceed the capacity of the intersection. Clearly, the deterioration of the quality of the traffic flow at intersection to LOS F is unacceptable; as is LOS E for any length of time. The existing intersection of White Point Road and SR 20 is presently operating at LOS C.

White Point Road is currently operating at an overall LOS C based on the latest Highway Capacity Manual methodology for two-lane arterials. Without improvement, the overall arterial LOS along the existing White Point Road is expected remain at LOS E to the year 2010 (year of opening), but is expected to decline to LOS F by the year 2020 (**Figure 1.2-4**). At the intersection of White Point Road and SR 20, the intersection is estimated to be currently operating at LOS C, based on optimum timings and cycle lengths. Without improvement, the intersection is expected to remain at LOS C to the year 2010, but is expected to decline to LOS E by the year 2020, and is expected to further decline to LOS F by the year 2030.

3.5.5 Utilities

The utilities located in the Mid-Bay Bridge Connector area consist of power, gas, water/sewer, and communication lines as well as an effluent disposal spray-field used by the Niceville-Valparaiso and Okaloosa County (NVOC) Regional Wastewater Treatment Facility. Additional coordination with NVOC will continue to determine the appropriate BMPs for any impacts. Generally, the power, gas, water/sewer, and communication lines run within the ROW of existing roadways. There will be short-term, minimal impacts associated with the relocation of these services especially where interchanges are proposed. Where utility lines and easements diverge from the roadways, the MBBA will have to adhere to strict regulations prohibiting construction activities within these areas. Therefore, utility coordination efforts and plans are being developed to insure compliance with the rules and regulations of the affected utility companies. Specifically, where the Mid-Bay Bridge Connector and SR 20 interchange is proposed, Choctawhatchee Electric Cooperative (CHELCO) will be relocating existing overhead power lines to an area east and parallel to the proposed Connector corridor. This line is currently on Eglin AFB property and will be relocated on Eglin AFB property.

CHAPTER 4

ENVIRONMENTAL CONSEQUENCES

4.0 ENVIRONMENTAL CONSEQUENCES

This chapter provides a discussion of the potential for significant impacts to the human environment as a result of implementing the Proposed Action, Alternative C, or the No Action alternative and describes potential measures to mitigate adverse impacts. Initial background data was obtained from the engineering and environmental technical studies conducted during previous PD&E studies. These reports provide baseline information concerning environmental resources and issues, and evaluate the potential impacts resulting from alternatives identified at the time the studies were completed. Subsequent studies in 2007 have been conducted to augment these initial studies. A summary of all PD&E reports are included in Appendix F.

In accordance with NEPA, significant impacts are those that have the potential to significantly affect the quality of the human environment. "Human environment" is a comprehensive phrase that includes the natural and physical environments and the relationship of people to those environments (40 CFR 1508.14). Whether or not a Proposed Action "significantly" affects the quality of the human environment is determined by considering the context in which it will occur and the intensity of the action. The context of the action is determined by studying the affected region, the affected locality, and the affected interests within both. Significance varies depending on the setting of the Proposed Action (40 CFR 1508.27). This intensity of an action refers to the severity of the impacts, both regionally and locally. The level at which an impact is considered significant varies for each environmental resource area.

For each resource area, consideration is given to whether potential environmental effects are short-term or long-term, minor or significant, and adverse or beneficial. Consideration of potential cumulative effects and any applicable mitigation measures are also presented (USAF, 2001). For most environmental resource areas, any impacts resulting from the build alternatives for the Mid-Bay Bridge Connector are essentially the same.

4.1 NATURAL ENVIRONMENT

Potential impacts to the affected natural environment have been evaluated and are discussed in the subsequent sections.

4.1.1 Air Quality

Significant impacts would be a violation of the NAAQS or FAAQS, excessive or frequent exposure of sensitive receptors to increased pollutant concentrations (due to high emission rates or proximity to a source), or worker or public exposure to a hazardous air pollutant in excess of standard. Insignificant impacts would be those that are adverse but do not meet the criteria for significant. No impact would occur if no measurable change in emissions resulted. A reduction in baseline emissions would have a beneficial impact on air quality.

4.1.1.1 Proposed Action

Potential temporary effects of the Proposed Action on air quality would be minimal. Construction of the Proposed Action would result in temporary, localized emissions associated with vehicle and equipment exhaust as well as dust and debris from grading and paving. These impacts will be minimized by adherence to all state and local regulations and to the FDOT *Standard Specifications for Road and Bridge Construction*. Impacts due to exhaust and dust would be considered substantial without the implementation of the BMPs specified in the FDOT standard specifications. All applicable BMPs will be used to minimize the air quality impacts of the Proposed Action.

Based on the *Air Quality Screening Test* results, the Proposed Action would not cause, or contribute, to CO concentrations above the one-hour or eight-hour NAAQS. The results of an air quality analysis, run through the year 2030 for the intersection of SR 20, indicated that the CO concentrations of the Proposed Action would be in compliance with NAAQS. The Proposed Action will actually have a positive impact on air quality relative to the No Action alternative, as it will contribute to the general improvement of air quality in the Mid-Bay Bridge Connector area since access is limited and intersections will be designed for minimal delay times. Results of the analysis are shown in **Table 4.1.1.1-1**. As shown, the Proposed Action stayed below the eight-hour (9 ppm) and one-hour (35 ppm) maximum CO concentration limits set by the NAAQS for the years tested.

Because the Proposed Action would not contribute to a violation of the NAAQS, would not affect conformity with the SIP, and would have inconsequential, localized project effects, no mitigation for operational effects is necessary.

Table 4.1.1.1-1: NAAQS for the Proposed Action

Alternative	Year	Average Speed (mph)	Traffic Volumes		Receptor	Max 1-Hr Conc (ppm)	Max 8-Hr Conc (ppm)
			AADT	VPH			
Proposed Action	2001	45	17,400	981	Proposed Intersection at SR 20	5.6	3.3
Proposed Action	2030	45	32,000	2,058	Proposed Intersection at SR 20	9.4	5.6

4.1.1.2 Alternative C

Potential temporary effects of Alternative C on air quality would be minimal. Construction of Alternative C would result in temporary, localized emissions associated with vehicle and equipment exhaust as well as dust and debris from grading and paving. These impacts will be minimized by adherence to all state and local regulations and to the FDOT *Standard Specifications for Road and Bridge Construction*. Impacts due to exhaust and dust would be considered substantial without the implementation of the BMPs specified in the FDOT standard specifications. All applicable BMPs will be used to minimize the air quality impacts of Alternative C.

Using the intersection of SR 20 in the year 2030 as the "worst" case scenario, Alternative C is not expected to significantly impact air quality above the NAAQS. As seen in **Table 4.1.1.2-1**, the CO ranges for this alternative are consistent and average around 9.1 ppm for the one-hour concentration of CO and 5.4 ppm for the eight-hour concentration. The maximum CO concentration limits set by the NAAQS are one-hour (35ppm) and eight-hour (9ppm). Therefore, Alternative C will not exceed the NAAQS for CO.

Table 4.1.1.2-1: NAAQS for Alternative C

Alternative	Year	Average Speed (mph)	Traffic Volumes		Receptor	Max 1-Hr Conc (ppm)	Max 8-Hr Conc (ppm)
			AADT	VPH			
Alternative C	2001	45	17,400	981	Proposed Intersection at SR 20	5.6	3.3
Alternative C	2030	45	32,000	2,058	Proposed Intersection at SR 20	9.1	5.4

4.1.1.3 No Action Alternative

The results of an air quality analysis, run through the year 2030, indicated that the CO concentrations of the No Action alternative through the year 2030 are not expected to exceed the NAAQS pursuant to the CAA of 1990 (HDR, 2002a). The Mid-Bay Bridge Connector is in an area, which has been designated as attainment for the ozone standards under the criteria provided in the CAA Amendments of 1990. This Mid-Bay Bridge Connector is in conformance with the SIP because it will not cause violations of the NAAQS. **Table 4.1.1.3-1** presents the NAAQS for the No Action alternative.

Table 4.1.1.3-1: NAAQS for No Action Alternative

Alternative	Year	Average Speed White Point Road (mph)	Traffic Volumes		Receptor	Max 1-Hr Conc (ppm)	Max 8-Hr Conc (ppm)
			AADT	VPH			
No-Action	2001	45	17,400	981	White Point Road Intersection at SR 20	8.9	5.3
No-Action	2030	45	32,000	2,058	White Point Road Intersection at SR 20	10.4	6.2

4.1.2 Geological Resources

Significant impacts to geological resources could occur if the resources are depleted at a local or regional level, or if any mass movements or slumping (down slope movement of sediment and rock) events triggered by project activities cause irreversible damage or injuries. Significant adverse impacts to soils would result from an accelerated erosion rate (above existing erosion rates) or degradation of soil properties. An insignificant impact would occur if a resource is only slightly impacted or is not important to a region. A beneficial impact could occur if potential hazards were reduced or if soil productivity is enhanced.

4.1.2.1 Proposed Action

The Proposed Action would have no adverse impact on the geological resources of the area. Construction of the road would require clearing and grading. The topography along the Proposed Action corridor would be affected by removing some elevation in some areas and filling in lower areas. The geology would be insignificantly affected during construction and not impacted after construction. Due to the shallowness of the anticipated excavations, underlying geologic layers would not be impacted. Operation of the roads would not affect the local geology. No seismic impacts would occur as a result of constructing and operating the Proposed Action.

To minimize temporary impacts, construction activities would be staged to limit the amount of soil exposed at any one time. An erosion control plan conforming to FDOT requirements would be followed. BMPs (such as watering, reestablishing ground cover for disturbed areas, and using silt traps or diversion structures during construction) would be implemented to reduce the potential for soil erosion and sedimentation into wetlands and streams. With the use of these and other BMPs, impacts to soils should be insignificant. No further mitigation is anticipated.

4.1.2.2 Alternative C

Because Alternative C follows a similar alignment to the Proposed Action and BMPs will be followed using the applicable FDOT standards, impacts to geological resources will be insignificant and therefore, consistent with the Proposed Action.

4.1.2.3 No Action Alternative

No significant or beneficial impacts to geological resources would occur with the No Action alternative.

4.1.3 Water Resources

An impact to water resources would be considered potentially significant if an aquifer, groundwater well, surface water body, or floodplain is adversely affected, resulting in a measurable change in a user's water supply, if a water quality criteria, such as a maximum contaminant level (MCL), is exceeded, or if a floodplain's hydraulic characteristics are significantly altered or impeded. A decrease in groundwater recharge and increase in runoff could also be significant if the stormwater system cannot adequately handle the increased volume of water, thus increasing the potential for flooding. A finding of no significant impact would result if no measurable change is predicted to occur. A beneficial impact would result from an improvement to water quality or quantity by decreasing contaminant levels, decreasing the potential for future contamination, increasing groundwater recharge, and maintaining the hydraulic integrity of the floodplain.

4.1.3.1 Proposed Action

Water resources would be affected during construction (short-term in nature). Due to the potential for heavy rainfall in the region, disturbed soil in construction areas and stockpiles of dirt are susceptible to erosion during the construction process. This erosion could result in sediments entering the wetlands and streams and being ultimately conveyed to Choctawhatchee Bay. These sediments could smother aquatic resources. Construction through wetland areas would affect an area of exposed water and require dredge and fill permits from the USACE and the NWFWMD/FDEP (impacts to wetlands are addressed in Section 4.1.5).

An erosion control plan following FDOT and FDEP requirements would be developed for the construction of the Proposed Action. Proper construction techniques using BMPs such as the use of runoff and sediment traps (i.e., hay bales, silt fences) and small sediment collection ponds would minimize the potential for adverse impacts to surface waters from runoff. Ground cover would be replaced as soon as possible to reduce erosion. Spill prevention plans and cleanup plans would be followed to prevent spills or leaks of hazardous materials or wastes from impacting the environment (USAF, 1998). Therefore, siltation in the wetlands, streams, bayou, and ultimately Choctawhatchee Bay should be minimal.

Water resources would be affected during operation of the Proposed Action. An increase in the amount of stormwater surface runoff is anticipated due to the increase in the amount of impervious surfaces resulting from the Proposed Action. As a result, there would be an increase in runoff to the ditches and the stormwater management ponds. Constructing adequate stormwater management ponds pursuant to Chapter 62-346, FAC within the Mid-Bay Bridge Connector corridor will provide for additional treatment volumes and attenuation required for the Proposed Action. The proposed drainage system will maintain the existing drainage patterns. Runoff will be collected in roadside ditches and conveyed to outfalls. Bridges across Rocky Creek and other Okaloosa darter streams will collect and convey the stormwater into the appropriate stormwater management facility. This will greatly minimize and possibly eliminate the direct discharge of stormwater into a darter stream. Therefore, the surface water quality of the Okaloosa darter should not be negatively impacted.

In accordance with EO 11988, *Floodplain Management*, the Proposed Action will make every attempt to bridge (where applicable, as authorized by the USACE and NWFWMD/FDEP) all unavoidable floodplains. In addition, the design will incorporate top down construction techniques and will use a transverse approach to minimize longitudinal impacts. This will minimize the amount of fill needed for the bridge approaches, will reduce construction impacts by eliminating heavy equipment from entering into the floodplains, and provide an adequate terrestrial passage for wildlife movement. **Figure 3.3.3.3-1** shows floodplains associated with the Proposed Action and Alternative C. **Table 4.1.3.1-1** below quantifies the floodplain impacts with respect to the Proposed Action and Alternative C.

Table 4.1.3.1-1: Floodplain Impacts (acres)

Floodplain Number	Proposed Action	Alternative C
1	-----	0.60
2 (Rocky Creek)	24.24	23.31
3	3.20	3.20
4	3.11	4.39
5	6.51	5.22
6	2.78	2.43
Total Impacts	**39.84**	**39.15**

As required by EO 11988, a FONPA will be prepared and submitted for review and approval to Air Force Materiel Command (AFMC), in accordance with 32 CFR 989.15. The floodplains associated with the Proposed Action are not designated as regulatory floodways by FEMA. All floodplain crossings will be transverse and spanned sufficient to include the riparian areas to promote wildlife movement potential and designed not to increase backwater elevations. Therefore, floodplain encroachment is considered minimal and insignificant.

It is anticipated that the following permits would be required for construction of the Proposed Action:

- USACE: Individual Permit (Section 404)
- NWFWMD/FDEP: Environmental Resource Permit
- USEPA: NPDES/MS4 (administered by FDEP)

Mid-Bay Bridge Connector construction is not expected to significantly reduce the groundwater recharge area based on the bridging techniques and BMPs that will be incorporated. Construction occurring through jurisdictional wetlands and associated floodplains will follow Section 404 and Chapter 373, F.S. permit requirements. Excavations below grade would likely encounter groundwater during construction as groundwater can be encountered at or near the surface in some areas. The trend of shallow groundwater movement would continue in the direction of surface water flow. The introduction of additional impermeable surface to the Mid-Bay Bridge Connector area could further reduce the local recharge area. Consequently, the small decrease in overall recharge area would result in an insignificant impact.

Surface water quality would be protected with the use of BMPs to minimize erosion, and the construction of stormwater treatment facilities as required. By following the FDEP regulations regarding stormwater discharge, no mitigation is necessary because there are no substantial impacts to water resources expected.

4.1.3.2 Alternative C

All impacts to water resources resulting from Alternative C will be similar to those outlined in the Proposed Action and are considered to be insignificant.

4.1.3.3 No Action Alternative

Under the No Action alternative, the MBBA would not construct the proposed Mid-Bay Bridge Connector. As a result, no disturbance from construction, operation, or maintenance of this transportation facility would result and there would no change in water quality.

4.1.4 Biological Resources

Impacts to biological resources would be significant if the viability of any threatened or endangered plant or animal species was jeopardized. Impacts to biological resources would also be significant if the viability of a protected plant or animal species was jeopardized, with little likelihood of re-establishment after the action is complete. An adverse but insignificant impact could result if a disturbed population could be re-established to its original state and condition, or the population is sufficiently large or resilient to respond to the action without a measurable change. The significance of the impact depends upon the importance of the resource, and the proportion of the resource that would be affected relative to its occurrence in the vicinity. An increase in population numbers in response to an enhanced habitat, or the increased viability of a species, would be a beneficial impact.

4.1.4.1 Proposed Action

Impacts to the various ecological associations, wildlife, and rare, threatened or endangered species from the Proposed Action are discussed in the following sections.

4.1.4.1.1 Ecological Associations

The Proposed Action will impact three of Eglin's ecological associations (the Sandhills, Flatwoods, and Wetland/Riparian) as follows:

The Sandhills ecological associations system is the most extensive natural community type on Eglin AFB, accounting for approximately 78% (approximately 324,498 acres) of the base. The Flatwoods ecological association consists of Mesic, Wet, and Scrubby Flatwoods which account for approximately 17,297 acres throughout the Eglin Reservation. The Wetlands/Riparian ecological association, such as depression wetlands, seepage slopes and streams, and floodplain wetlands, comprises approximately 60,809 acres and 1,158 miles of riverine aquatic systems. The functional significance of these ecological associations is to provide maintenance of regional biodiversity and, for the Sandhills and Flatwoods ecological associations, to provide the foundation for fire (USAF, 2007).

These ecological associations are an extraordinarily important contributor to the health and diversity of the Eglin landscape. The Proposed Action has been sited to minimize its encroachment onto Eglin by following the boundaries as close as possible. Therefore, an adverse impact is expected based on the permanent nature of any large transportation project, but insignificant in terms of the proportion of the resource affected relative to its occurrence in the vicinity and region. In addition, mitigation resulting from an impacted natural community would be required from the pertinent regulatory agencies prior to issuance of permits.

Additionally, the Sandhills and Flatwoods due to their wide coverage on Eglin AFB are the ecological associations across which fire carries into the other imbedded fire-dependent systems. The Proposed Action is not likely to adversely impact Eglin's prescribed fire management

activities but will pose a new obstacle regarding smoke management. The buffer the roadway will create from adjacent residential communities will be a benefit of the Proposed Action regarding prescribed burning and smoke management.

4.1.4.1.2 Wildlife

As with any large transportation project, the Proposed Action will have temporary adverse impacts to wildlife; small animals such as but not limited too foxes, coyotes, squirrels, armadillos, opossums, mice, rabbits, frogs, lizards, salamanders, snakes, and turtles etc., may be displaced by the roadway in the area. Because the roadway will be fenced and the wetland/riparian areas bridged or spanned, to include terrestrial crossings, wildlife impacts or displacement will be more evident during construction and less obvious during operation of the facility as wildlife passages will present a safe alternative to crossing the roadway.

4.1.4.1.3 Rare, Threatened or Endangered Species

The Proposed Action will likely affect several rare, threatened, or endangered species. Because there are listed species likely to be affected by the Mid-Bay Bridge Connector, Eglin NRS has made the determination to consult with the USFWS under section 7 of the ESA. As a result of a BA submitted on May 2008, the USFWS has issued a BO that states their opinion as to whether or not the federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. The results of the BO are summarized below. The BA and BO are included in Appendix B for reference.

The USFWS, through their BO issued September 2008, has determined that the proposed Mid-Bay Bridge Connector Road is not likely to jeopardize the continued existence of the Okaloosa darter and because no critical habitat has been designated for this species; none will be affected.

Table 4.1.4.1.3-1 identifies other federally listed species occurring within the Proposed Action area. Provided that all proposed avoidance and minimization measures are followed, the USFWS concurs with Eglin's determination that road construction activities are not likely to adversely affect the flatwoods salamander (*Ambystoma bishopi*) and Eastern indigo snake (*Drymarchon corais couperi*), and have no effect on the red-cockaded woodpecker (*Picoides borealis*).

Table 4.1.4.1.3-1: Summary of Federally Protected Species Evaluated for Effects.

Species	Present in Action Area	Effects Determination
Okaloosa darter	Yes	Not Likely to Jeopardize the Continued Existence
Eastern indigo snake	Yes	Not Likely to Adversely Affect
Flatwoods salamander	Yes	Not Likely to Adversely Affect
Red-cockaded woodpecker	Yes	No Effect

An assessment was also made for the bald eagle (*Haliaeetus leucocephalus*), protected under the Bald and Golden Eagle Protection Act of 1940 (16 U.S.C. 668-668c). A bald eagle nest was documented in the Rocky Creek area from 1997-1999, with no occurrences since that time. Compliance with National Bald Eagle Management Guidelines is recommended if bald eagles nest within the project vicinity prior to or during construction.

Other Species Considered

Gopher tortoise

Since the Proposed Action is traversing through Gopher tortoise habitat and several inactive burrows were sighted in the vicinity during field reconnaissance, there is a moderate potential of impact through incidental contact. Therefore, the MBBA will be responsible for surveying and applying for relocation permits in accordance with FWC guidelines. In the unlikely event that construction personnel come into contact with a Gopher tortoise, all activities will cease until the animal has moved away from the area. Eglin NRS has determined that by using the avoidance and minimization procedures outlined below, the Proposed Action **would not** have an adverse impact on the Gopher tortoise.

Avoidance and Minimization Procedures for the Gopher tortoise

- Surveys for Gopher tortoises and burrows would be conducted within the proposed alignment prior to construction.
- Gopher tortoise burrows would be avoided by a minimum of 25 feet if possible.
- All relocations would be performed in accordance with FWC permit requirements.
- All staging and storage areas would be sited to avoid impacts to Gopher tortoise habitat.

Florida black bear

There is a high potential for impacts to the Florida black bear as the Proposed Action would create a new high speed corridor through a large expanse of undeveloped land. Vehicular deaths are now the number one killer of Florida black bears. Therefore, the Proposed Action would include fences along the entire roadway that would not only delineate a new southern boundary for Eglin AFB, but would also enable wildlife to cross the roadway at natural and secure locations. In addition to this; wetlands and streams would be spanned sufficiently to include the riparian areas to promote wildlife movement potential. In the unlikely event that construction personnel come into contact with a black bear, all activities would cease until the animal has moved away from the area. Therefore, Eglin NRS has determined that the Proposed Action **would not** have an adverse impact on the Florida black bear.

Avoidance and Minimization Procedures for Florida black bear

- All wetlands and their associated riparian areas where Florida black bear activity is known or likely to occur, as determined by the Eglin's Natural Resources Section, would be bridged or spanned to accommodate terrestrial passages for wildlife movement.
- Fences on the north and eastern boundaries of the roadway would be installed to avoid and minimize vehicular deaths.

All wetlands and their associated riparian areas where black bear activity is known or likely to occur, as determined by the Eglin NRS, will be bridged or spanned to accommodate terrestrial passages for wildlife movement. This along with fences on the north and eastern boundaries of the roadway will not only delineate a new southern boundary for Eglin AFB, it will enable wildlife to cross the roadway at natural and secure locations.

4.1.4.2 Alternative C

Impacts to the ecological associations, wildlife, and rare, threatened or endangered species from the Alternative C are discussed in the following sections.

4.1.4.2.1 Ecological Associations

Alternative C, as it traverses across Eglin AFB, would also impact the three ecological associations similar to the Proposed Action. The exception is within Phase 3, north of OWC, between SR 285 and SR 85. Alternative C diverges from the Proposed Action alignment in this area and would not impact as much Eglin property along College Boulevard. The ecological associations along this portion of the alignment are already somewhat impacted by existing infrastructure such as, College Boulevard, OWC, the Eglin Golf Course, and the recreational soccer fields and fairgrounds. Mitigation, similar to the Proposed Action, for any impacted natural community along this alignment would be required from the pertinent regulatory agencies prior to issuance of permits.

4.1.4.2.2 Wildlife

Impacts to the local wildlife and habitat would be similar to that of the Proposed Action for most of the corridor except along existing College Boulevard corridor where Alternative C diverges from the Proposed Action primarily between SR 285 and SR 85. Because this existing roadway is residentially developed and therefore creates a hardened border, impacts to wildlife would be considered minimal.

4.1.4.2.3 Rare, Threatened or Endangered Species

As it traverses across Eglin AFB, Alternative C would have similar impacts on Okaloosa darter, Eastern indigo snake, Flatwoods salamander, bald eagle, and RCW and two state listed species, Gopher tortoise and Florida black bear as the Proposed Action. Where the alignment differs for approximately two miles between SR 285 and SR 85 and continues immediately adjacent and north of College Boulevard, impacts to only the Okaloosa darter would be similar to the Proposed Action. This two-mile difference between Alternative C and the Proposed Action constitutes approximately 95 acres of land that would have similar impacts to the Okaloosa darter and its habitat but would not significantly impact any other rare, threatened or endangered species or their habitats.

4.1.4.3 No Action Alternative

Impacts to the ecological associations, wildlife, and rare, threatened or endangered species from the No Action alternative are discussed in the following sections.

4.1.4.3.1 Ecological Associations

The No Action alternative would have no impacts to any of the previously mentioned ecological associations.

4.1.4.3.2 Wildlife

The No Action alternative would have no impacts to wildlife or their habitats.

4.1.4.3.3 Rare, Threatened, or Endangered Species

The No Action alternative would have no impacts to any rare, threatened, or endangered species.

4.1.5 Wetlands

According to EO 11990, *Protection of Wetlands*, May 24, 1977, the Air Force will seek to preserve the natural values of wetlands while carrying out its mission on both Air Force lands and non-Air Force lands. To the maximum extent practicable, the Air Force will avoid actions which would either destroy or adversely modify wetlands. The Air Force will fully disclose the location of wetlands, and any land-use restrictions imposed by regulatory authority, on lands that are transferred or sold to non-federal entities. Prior to any construction activity in a wetland area (as defined by EO 11990), proponents must first prepare a FONPA prior to signature on a FONSI or Record of Decision (ROD) document, which documents that there are no practicable alternatives to such construction, and that the proposed action includes all practicable measures to minimize harm to wetlands. In preparing the FONPA, the Air Force must consider the full range of practicable alternatives that will meet the proposed mission requirements. The AFMC signs a FONPA. The Proposed Action must include all practicable measures to minimize harm to wetlands. The proponent of any activity that may affect known or suspected wetlands is required to conduct jurisdictional wetland delineations.

In accordance with EO 11990, wetlands within the Mid-Bay Bridge Connector area were evaluated relative to potential impacts and options for avoiding and minimizing such impacts and a FONPA involving wetlands and floodplain impacts was prepared and submitted in compliance with AFI 32-7064.

Significant impacts on wetlands would occur if the interchange construction resulted in altered hydrologic flow, drainage of sediment or contaminants into wetland areas, or actual filling or destruction of a wetland area. However, the wetland mitigation required by federal and state regulations could reduce a significant impact to insignificant. Although an individual wetland would be adversely affected, the required mitigation would result in an equal or greater amount of wetland acreage in the region. Enhancement or protection of existing wetland areas would result in a beneficial impact (USAF, 1998).

4.1.5.1 Proposed Action

As shown in **Table 4.1.5.1-1**, under the Proposed Action, approximately 42.77 acres of wetlands in the Mid-Bay Bridge Connector area would be affected. The impact calculations are based on a 400-foot ROW. Therefore, this conceptual estimate results in a higher impact value than will actually occur after final design. The estimated acreages also contain some amount of error when conducted through an existing urban corridor, because it does not account for impacts at existing crossings. Still, the Proposed Action alternative has fewer impacts than Alternative C as summarized in **Table 2.3-1**. There are unique qualities, functions, and values associated with the affected wetland area. Therefore, a significant amount of the wetlands will be bridged or spanned, using open bottom culverts, to greater reduce the impacts associated with fill material. **Table 4.1.5.1-1** shows the wetlands impact acreage for the Proposed Action. **Figure 3.3.5.2-1** illustrates the location of these wetland systems.

The USACE and the NWFWMD/FDEP will have jurisdiction over all of the identified wetlands.

The MBBA will be responsible for applying and securing an Individual Permit (Section 404) from the USACE and an Environmental Resource Permit from the NWFWMD/FDEP under 62-346 FAC.

Table 4.1.5.1-1: Proposed Action Wetland Impacts

Wetland System	Estimated Impacts By Wetland(acres)
1	7.07
2 (Rocky Creek)	28.81
3	1.79
4	0.81
5	3.20
6	1.09
7	-----
8	-----
9	-----
Total Impacts	**42.77**

Possible measures for reducing wetland impacts will include the following:

Avoidance and minimization; to the maximum extent possible, the MBBA will avoid and minimize direct and indirect disturbance of wetlands through roadway design and innovative construction techniques to include bridges (spans and open-bottom culverts, as applicable by regulations) and top-down construction, which is a process used to build a structure from the deck of a bridge and eliminate construction equipment from entering into wetland or other sensitive environments. Using this technique, impacts will be limited only along the pile-to-ground interface.

After avoidance and minimization are addressed, mitigation may be required pursuant to USACE and NWFWMD/FDEP applicable regulations. Further determination will be necessary to establish the extent of mitigation and coordination with the USACE and NWFWMD/FDEP will be necessary during the design phase before final permits would be issued (HDR, 2002d).

Mitigation; replace on-site (if possible) any wetland function lost with increased wetland function through enhancement of wetland habitat elsewhere on the site or purchase, enhancement, and protection of off-site replacement habitat (property) based on consultation with the USACE and NWFWMD/FDEP using the Uniform Mitigation Assessment Method (UMAM).

MBBA will develop a mitigation plan to satisfy the requirements of the USACE and NWFWMD/FDEP. Mitigation will require monitoring enhanced or preserved wetlands to determine the effectiveness of the replacement, and of any necessary remedial measures (USAF, 1998). All mitigation options will be carefully planned with Eglin to ensure maximum benefit pursuant to Eglin's *Integrated Natural Resource Management Plan*.

The wetlands were evaluated in compliance with EO 11990, *Protection of Wetlands*, which states, an agency shall consider factors relevant to a proposal's effect on the survival and quality of the wetlands. Among these factors are:

(a) public health, safety, and welfare, including water supply, quality, recharge and discharge; pollution; flood and storm hazards; and sediment and erosion;

(b) maintenance of natural systems, including conservation and long term productivity of existing flora and fauna, species and habitat diversity and stability, hydrologic utility, fish, wildlife, timber, and food and fiber resources; and

(c) other uses of wetlands in the public interest, including recreational, scientific, and cultural uses.

4.1.5.2 Alternative C

Alternative C would have higher wetland impacts. **Table 4.1.5.2-1** compares the impacts to the different wetland systems along the corridor.

Table 4.1.5.2-1: Alternative C Wetland Impacts (acres)

Wetland System	Proposed Action	Alternative C
1	7.07	7.18
2 (Rocky Creek)	28.81	33.99
3	1.79	4.08
4	0.81	0.70
5	3.20	3.06
6	1.09	0.51
7	-----	0.71
8	-----	0.43
9	-----	-----
Total Impacts	**42.77**	**50.66**

As seen the **Table 4.1.5.2-1**, Alternative C has significantly higher impacts than the Proposed Action. The variation occurs when Alternative C crosses Rocky Creek and East Turkey Creek and when Alternative C runs parallel and slightly north of College Boulevard impacting two addition wetland systems see **Figure 3.3.5.2-1.** Mitigation requirements for Alternative C will require the same measures as described for the Proposed Action. However, more mitigation will be required based on the increased impacts.

4.1.5.3 No Action Alternatives

The No Action alternative would remain the status quo regarding impacts to wetlands.

4.1.6 Noise

According to FHWA, for construction or traffic noise, increasing noise levels to 67 dBA or higher could be considered a significant impact. If noise levels increased to a level below 67 dBA at noise-sensitive receptors, an insignificant impact would occur. A decrease in noise levels would be a beneficial impact.

4.1.6.1 Proposed Action

The noise study for the Mid-Bay Bridge Connector was conducted in accordance with 23 CFR; Part 772 entitled, "*Procedures for Abatement of Highway Traffic Noise and Construction Noise*." In addition, Chapter 335.17, F.S., requires the use of 23 CFR Part 772 in the noise impact assessment process, regardless of funding. The FHWA Traffic Noise Model (TNM) version 2.5 was used to predict noise levels. For the existing year 2007 and the design year 2030, the lesser of either the LOS C or demand design hourly traffic volumes, along with posted speeds, were used as input data in the noise prediction model. This technique allows the maximum volume of vehicles at the highest (posted) speed to be modeled, giving the most conservative (worst-case) estimate of future noise levels.

The results of the noise prediction analysis are located in Appendix C page C-15 through C-33. The predicted noise levels reflect the existing field conditions, elevation differences, and the proposed roadway alignment in relation to the noise sensitive sites.

The change in relative noise levels for the design year 2030, defined as any noise level increase or decrease directly attributable to the Proposed Action, varies from 0 to 15 dBA greater than the noise levels predicted for the existing year (2007). An increase of 15 or more decibels above the existing noise level as a direct result of the transportation improvement project is considered a substantial noise increase as defined by FDOT.

Of the 105 individual noise sensitive receptors found to exist along the Proposed Action, none are predicted to be significantly or substantially impacted. No individual noise sensitive receptors along the Proposed Action are predicted to meet or exceed the 67 dBA FHWA NAC. **Table 4.1.6.2-1** summarizes the impacts by the Proposed Action and Alternative C. Both of these alternatives have 11 noise sensitive receptors that approach the 67 dBA FHWA NAC by 1 dBA. These receptors are located in the Chardonnay Estates Homeowners Association (HOA). The residences in this HOA have met with the MBBA on several occasions to discuss potential noise associated with the potential roadway. Because the noise levels approach 1 dBA for these residences, the MBBA has agreed to construct a vegetative buffer between the HOA property and the Proposed Action. Although not required, this buffer would serve as both a noise abatement measure as well as a visual barrier. The exact location will be determined during final design.

The construction of the Proposed Action is predicted to decrease the noise levels along the existing White Point Road (HDR, 2002f). The construction of the Proposed Action would result in temporary noise and vibration increases within the Mid-Bay Bridge Connector area. The noise and vibration would be generated primarily from heavy equipment used in hauling materials and building the roadway improvements. Sensitive areas located close to the construction area, in this case single-family residences, may temporarily experience increased noise and vibration levels. Construction noise will be minimized to the greatest extent practicable through the adherence to controls listed in the latest edition of the FDOT's *Standard Specifications for Road and Bridge Construction* (HDR, 2002b).

When appropriate, noisy construction activities will be suspended in the vicinity of churches beginning one hour prior to a normally scheduled service or special event to one hour following the service or event's completion, provided 24 hours notice is given to the Project Engineer.

4.1.6.2 Alternative C

The noise levels predicted as a result of the alternatives are presented in tables located in Appendix C page C-15 through C-32 and summarized on page C-33. **Table 4.1.6.2-1** summarizes the impacts predicted as a result of the Proposed Action and Alternative C.

Table 4.1.6.2-1: Predicted Noise Impacts

	Insignificant Impacts	**Significant Impacts**	**Substantial Impacts**
	# of Individual Noise Receptors (Approaching 1dBA of FHWA NAC)	# of Individual Noise Receptors (Meeting or Exceeding FHWA NAC (67dBA)	# of Individual Noise Receptors (15dBA Over Existing)
Proposed Action	11	0	0
Alternative C	11	36	25

Table 4.6.1.2-1 shows that the Proposed Action would have drastically fewer noise impacts than Alternative C. Noise impacts will be revisited at again during the design phase of the final alternative to reevaluate whether the FHWA NAC will be met or exceeded.

In the event, the FHWA NAC is met or exceeded, mitigation for noise impacts would consist of the options presented in the *Traffic Noise Abatement Techniques* pursuant to Chapter 17-4.6 of the FDOT PD&E manual and 23 CFR Part 772 of the FHWA, "*Procedures for Abatement of Highway Traffic Noise and Construction Noise*." The procedures and techniques will consist of:

- Traffic management measures (e.g., traffic control devices and signing for prohibition of certain vehicle types, time-use restriction for certain vehicle types, modified speed limits, and exclusive lane designations).

- Alteration of horizontal and vertical alignments.

- Acquisition of property rights (either in fee or lesser interest) for construction of noise barriers.

- Construction of noise barriers (including landscaping for aesthetic purposes) whether within or outside the highway ROW.

- Acquisition of real property or interests therein (predominately unimproved property) to serve as a buffer zones to preempt development which would be adversely impacted by traffic noise. Sound proofing a building, while often appealing, is not to be considered due to constraints within Chapter 339 of the F.S.

The MBBA is committed to the construction of feasible noise abatement measures at the noise-impacted locations identified in the tables found in Appendix C and **Table 4.1.6.2-1** contingent upon the following conditions:

- Detailed noise analyses during the final design process supports the need for abatement;
- Reasonable cost analyses indicates that the economic cost of the barrier(s) will not exceed the guidelines;
- Community input regarding desires, types, heights, and locations of barriers has been solicited by the MBBA;
- Preferences regarding compatibility with adjacent land uses, particularly as addressed by officials having jurisdiction over such land uses has been noted;
- Safety and engineering aspects as related to the roadway user and the adjacent property owner have been reviewed; and
- Any other mitigating circumstances found in Section 17-4.6.1 of the PD&E manual have been analyzed.

4.1.6.3 No Action Alternative

Predicted noise levels resulting during the design year (2030) for the No Action alternative generally show no change from existing levels. The majority of noise sensitive sites are not predicted to experience any noise level increases as a result of the 2030 design year, No Action alternative. The lack of increases along Alternative B is due to identical traffic volumes (LOS C) used for the current year 2007 and 2030 design year No Action alternative. The lack of increase in noise levels along the other alternatives is due to the secluded nature of these alternatives in undeveloped locations.

4.1.7 Cultural Resources

The criteria used to determine the significance of impact on cultural resources include the effects on NRHP eligibility, future research potential, or suitability for religious or traditional uses. An impact could be significant if it resulted in the physical alteration, destruction, or loss of a resource listed or eligible for listing on the NRHP.

4.1.7.1 Proposed Action

In compliance with Section 106 of the NHPA, Eglin CR has completed the necessary surveys and fieldwork of the site evaluations, specifically for Alternative A (Proposed Action). Three parcels, totaling 103 acres required cultural resources survey. Eight sites were tested and evaluated for eligibility for NRHP nomination. Two known archaeological sites that may be threatened with adverse effect have been evaluated as eligible for NRHP nomination.

As mentioned in Section 1.2 and shown on **Figure 1.2-2**, the MBBA Connector will be constructed in a phased approach in compliance with the CIP. As a result of this phased approach, the cultural resource work will also be conducted consistent with the construction timeline. Results of the findings are as follows:

Phase 1 (Mid-Bay Bridge to Range Road): This portion of the proposed project corridor has been surveyed for cultural resources. These reports have been reviewed and SHPO concurrence has been received and documented. There are no cultural resources in this section that will be impacted by project activities therefore further consultation with the SHPO or Tribes on this section is not required.

Phase 2 (Range Road to SR 285): Cultural resource surveys previously conducted in this area located eight archaeological sites containing deposits that supported a potential eligibility determination for inclusion in NRHP. Due to the possibility of impact to these resources from construction activities, further evaluation was required in order to make a final determination of eligibility. The results of the investigations indicate that four of the sites are eligible and four do not meet the criteria of eligibility (**See Appendix E, Table E-1**). The Draft Report of Findings is currently under review by Eglin CR and indicates that 8OK427, an eligible resource lies within the corridor alignment. The final report will be sent to the SHPO for concurrence and a letter describing the work and findings will be sent to the Tribes. The SHPO and Tribal responses will be carefully considered during the consultation process. This portion of the corridor should be designed to avoid eligible resources. If resources are avoided a notice of "No Adverse Effect" will be sent to the SHPO and Tribes. If resources cannot be avoided data recovery will be required. An MOA with the data recovery plan for site 8OK427 will specify requirements to be followed during the course of the project activities to avoid impacts to resources. This MOA will be submitted and reviewed by the SHPO and Tribes.

Phase 3 (SR 285 to SR 85): Archaeological surveys previously conducted in this portion of the proposed project area located resources, one of which 8OK900, will be impacted by planned activities. If this resource cannot be avoided during construction of the Connector, data recovery will be required. This data recovery plan will also be included in the MOA.

Summary: Eglin CR will conduct SHPO and Tribal Consultation regarding the resource concerns in Phases 2 & 3 of the project consistent with the construction phase timeline. An MOA, as required, and in compliance with 36 CFR 800. 5 & 800.6, is currently in process to cover expected impacts to resources in all Phases of the project construction. This document when complete will be signed by Eglin, MBBA, SHPO and other consulting parties before the construction of Phase 2 and Phase 3 begin. Please refer to Appendix E for a general list of Section 106 contingency actions and sites involved.

As a result of the survey and testing programs, a determination of effect will be made in consultation with the SHPO and Tribes. If any eligible sites are threatened with adverse effect, mitigation in the form of data recovery will be required. In cases where preservation is not possible, data recovery preserves the critical data regarding the site that would otherwise be lost for future generations.

If unexpected discoveries, such as Native American graves or lost historic cemeteries, are encountered during construction of the Mid-Bay Bridge Connector, all construction activity will cease immediately and Eglin CR will be contacted at (850) 882-8459. They will notify the Florida SHPO within 24 hours at (850) 245-6333 to begin procedures outlined in Chapter 872, F.S. (Florida's Unmarked Burial Law).

4.1.7.2 Alternative C

For Alternative C, impacts would be similar to those described under the Proposed Action. Compliance with Section 106 of the NHPA will be followed.

4.1.7.3 No Action Alternative

For the No Action alternative, baseline conditions would not change and no impacts would occur to cultural resources in the Mid-Bay Bridge Connector area.

4.2 HAZARDOUS MATERIALS AND WASTES MANAGEMENT

Construction of the interchange would involve the use of hazardous materials (e.g., asphalt, fuels, paint, etc.) and generation of solid wastes. In order to determine significance, the following were considered: the type and overall quantity of material or waste being generated; the duration of a particular activity using hazardous materials or generating solid and hazardous waste; the potential for releases during handling, transport, storage, treatment, and disposal activities; and the reduction, minimization or cleanup of hazardous materials or wastes. An impact would be significant if the quantities of any solid or hazardous waste generated by the action exceeded regulatory limits or existing transport or disposal capabilities, or if the use of additional hazardous materials or generation of hazardous wastes would have a detrimental impact on worker health and safety. Small increases would result in an insignificant impact. A beneficial impact would occur if the types or quantities of hazardous materials or wastes would be reduced or eliminated, or if the potential for leaks, spills, or exposure to hazardous substances would be reduced as a result of the action (USAF, 1998).

4.2.1 Proposed Action

Hazardous materials would be used by the contractor during the construction of the roadway. Typical hazardous materials used would be asphalt, fuels for equipment, paints, and cleaning compounds for equipment and the facility. Standard materials would be used for construction and would not pose any unusual or substantial threat to human health or the environment. The contractor would be responsible for properly storing, transporting, and using the materials according to applicable regulations. Subsequent to construction, negligible amounts of hazardous materials would be used. Potential uses include paint for striping the road and cleaning compounds. The use of hazardous materials would have an insignificant impact on the environment, and would not adversely affect the health and safety of workers or the public.

Any hazardous wastes (e.g., waste adhesives and paint wastes) generated during construction would be handled by the contractor in accordance with applicable federal and state laws and regulations. Negligible amounts of similar types of hazardous waste produced during construction would be generated during maintenance of the road. Consequently, handling and disposal of hazardous wastes in accordance with applicable requirements would not significantly impact the environment, nor affect the health and safety of workers or the public.

The construction of the Proposed Action would temporarily increase the amount of solid waste generated in the Mid-Bay Bridge Connector area. Debris from the cutting of trees, brush, and soils would be generated. The solid waste generated by the Proposed Action would be handled by the contractor and would not affect the Eglin AFB solid waste management programs.

The contractor would be required to take the construction debris to a landfill that would accept the debris. Adequate landfill space is available in the area for construction debris. Subsequent to construction of the interchange, minimal solid waste would be generated during maintenance of the road. Consequently, no long-term impact involving solid waste would occur under the Proposed Action (USAF, 1998).

As shown in **Figure 3.4-1** and summarized in **Table 3.4-1**, there are no active hazardous waste generator sites/locations in the Mid-Bay Bridge Connector area. If previously undetected hazardous waste sites/locations are unearthed during construction, all excavation activities in the immediate vicinity of the contaminated site will be suspended. The MBBA will develop a plan to investigate the site of contamination and to determine what corrective measures, if any, may be required to safeguard public health and the environment.

As seen in **Figure 3.4-1**, it has been determined that the Proposed Action will be located in an area that is considered probable for UXO occurrences. Therefore, the MBBA, in consultation with Eglin's safety office, will be responsible for funding and conducting surveys for UXO to further identify the potential and subsequently clear the corridor for UXO hazards. After an intensive sweep of the corridor using ground penetrating radar, no UXO were encountered. In compliance with the ESS process, the MBBA will ensure any and all UXO hazards will be "cleared" prior to the commencement of construction activities associated with the Mid-Bay Bridge Connector.

4.2.2 Alternative C

Alternative C would have similar hazardous materials and hazardous waste generated during construction as well as the potential of occurrence with UXO. Alternative C will have less potential of occurrence with UXO along College Boulevard. North between SR 20 and College Boulevard, the potential of occurrence will be generally equal to the Proposed Action.

4.2.3 No Action Alternative

For the No Action alternative, additional hazardous materials and wastes will not be generated and UXO potential would remain the baseline condition. Therefore, no impacts and no potential survey and cleanup would result from the No Action alternative.

4.3 LOCAL COMMUNITY

This section addresses potential impacts to the local community including socioeconomics, environmental justice, land use and aesthetics, and transportation.

4.3.1 Socioeconomic

Significance criteria for socioeconomic resources are determined for each ROI by analyzing long-term fluctuation in elements such as population and employment within that ROI. A significant impact would be based on an increase or decline of projected employment and/or an increase or decline in income. In this case, increases in employment and income would be considered beneficial.

4.3.1.1 Proposed Action

Implementing the Proposed Action is not expected to substantially impact social or economic resources, including population, income, and employment within the Eglin AFB region of influence. No impacts to population from construction activities would be expected. Persons already living in the region would perform construction work related to the Proposed Action. Therefore, no increase in population would be expected.

Small beneficial impacts to local employment and income from construction under the Proposed Action could occur. Local contractors furnishing construction services for the Proposed Action may provide insignificant increases in construction employment for local workers. Increases in construction employment and expenditures would lead to insignificant but beneficial impacts to the overall income of the area.

The Proposed Action would have a beneficial effect on the local construction economy. Total projected construction expenditures associated with the Proposed Action are estimated to be in excess of $8 million.

4.3.1.2 Alternative C

Alternative C would have similar benefits on socioeconomic resources as it follows generally the same alignment through Eglin AFB as the Proposed Action. It will provide short and long-term benefits for commuters as the overall LOS is predicted to improve. However, Alternative C would have short-term impacts along College Boulevard as it tends to impact the local commuters as well as impede, at least during construction, the Northwest Florida State College faculty and students and the local services it provides to the general public.

4.3.1.3 No Action Alternative

The No Action alternative would remain the status quo and no impacts would result. Consequently, no benefits would result in the temporary local employment opportunities from the construction related activities and local income generated from areas restaurants, hotels, and fueling facilities. Under the No Action alternative, vehicular congestion will continue to increase and traffic conditions will worsen. Avoidable impacts including unsafe traffic conditions and aggravation of environmental conditions including noise, air, and water quality will occur. Without an improvement to the current transportation system, the local community as well as Eglin AFB personnel will have a significant increase in emergency response times for both on and off base situations including potential threats to national security.

4.3.2 Environmental Justice

Environmental justice impacts include "ecological, cultural, human health, economic, or social impacts when interrelated to impacts on the natural or physical environment." (USAF, 1997). A significant environmental justice impact would be a serious or long-term health, environmental, cultural, or economic effect that disproportionately affected a nearby minority or low-income population, rather than all nearby residents. An insignificant environmental justice impact would be a minor or short-term health, environmental, cultural, or economic effect that disproportionately affected a nearby minority or low-income population. No environmental justice impacts would occur if the environment was not affected, or if no disproportionate effects on minority or low-income populations would occur (USAF, 1998).

4.3.2.1 Proposed Action

Under the Proposed Action, insignificant short-term air quality and noise impacts have been predicted for the areas near the construction activities. However, there would not be disproportionate impacts to any nearby low-income or minority populations, and therefore no environmental justice impacts would occur. In addition, the Proposed Action will not sever, fragment, or otherwise negatively impact the cohesion of any low-income or minority community. Since no adverse impacts to environmental justice have been identified, no mitigation measures are necessary.

4.3.2.2 Alternative C

For Alternative C, impacts would be similar to those described under the Proposed Action; thus, no environmental justice impacts would occur.

4.3.2.3 No Action Alternative

Under the No Action alternative, environmental justice impacts would not change from existing conditions.

4.3.3 Land Use and Aesthetics

Land use impacts would be significant if there was a long-term effect on adjacent land uses caused by foreclosing the existing use of the land, or the adjacent land is degraded to the extent that it can no longer be used for its current or intended use. Insignificant impacts would occur if some noticeable degradation occurred or if there were minor, short-term prohibitions on the use of nearby lands. No impact would result if no noticeable change in land use occurred.

The significance criteria for aesthetic impacts were based on the perception of the degree of acceptability of changes to the physical characteristics of the landscape. A significant impact would involve strong disapproval by many individuals, whereas an insignificant impact would be minimal disapproval, or strong disapproval by some individuals. No impact would occur if there was negligible disapproval, or moderate disapproval by some individuals.

4.3.3.1 Proposed Action

There would not be a significant impact to land use as a result of the Proposed Action. The majority of the Mid-Bay Bridge Connector area lies within the federally owned property at Eglin AFB (HDR, 2003e). Using this area for the Proposed Action would be considered insignificant given the benefits to the community as described in the Purpose and Need section and the low to no impacts to Eglin AFB and its overall missions. Therefore, Eglin has determined through early planning and coordination with the MEC that the land uses necessary to support the primary mission of Eglin AFB and the AAC in the testing and evaluation of non-nuclear munitions, electronic combat systems, navigation/guidance systems, and training, will not be significantly impacted. The Proposed Action will provide an overall land use benefit to Eglin by creating a definitive (fenced) southern border and a potential buffered area between Eglin and the surrounding communities. Even with the construction of the overpasses at the intersections, there would be insignificant aesthetic impacts. Construction activity would occur over twelve months or more. The amount of dust generated by the construction activity would be short-term and not be expected to degrade visibility in the Mid-Bay Bridge Connector area. A variety of BMPs would be used to maintain slightly moist soil conditions during the interchange construction; this would lessen the potential for any generation and transport of fugitive dust emissions in the Mid-Bay Bridge Connector area and reduce adverse aesthetic impacts.

In addition, several residents representing the Chardonnay Estates HOA have voiced concerns over visual impacts resulting from the proximity of the Proposed Action to their subdivision. Responding to their concerns, the MBBA has initiated several meetings aimed at reaching an acceptable visual solution. As a result of these meetings, the MBBA has committed to providing a vegetated buffer between the Proposed Action and the subdivisions property boundary. The Chardonnay Estates HOA has accepted this offer and agrees it will provide not only an aesthetically pleasing solution but also serve as a noise abatement measure.

4.3.3.2 Alternative C

Alternative C would have similar insignificant impacts on land use and aesthetics as the Proposed Action. Because Eglin and the MBBA have so closely planned and coordinated these corridors with the MEC and the public, impacts to land use will be insignificant.

4.3.3.3 No Action Alternative

Under the No Action alternative, land use and aesthetics would remain in the existing conditions.

4.3.4 Transportation

Transportation impacts would be significant if the projected peak traffic volume generated by the Proposed Action exceeded the capacity of the roadway. Impacts would be insignificant if the LOS stayed the same or only slightly decreased, and would be beneficial if the LOS was improved.

4.3.4.1 Proposed Action

During construction of the Proposed Action, additional vehicle trips would be generated in and around the Proposed Action by vehicles transporting workers, material, and equipment to the proposed site. This additional loading of local roadways would contribute to the area's existing traffic congestion, but would be a short-term insignificant impact.

Traffic control plans would be implemented to minimize delays and congestion during the construction. Nevertheless, those traveling to and from Eglin AFB and the general Niceville area as well as tourist traffic using the Mid-Bay Bridge would experience some inconvenience and delays during construction. A BMP to lessen the short-term traffic impacts, and reduce the cumulative impacts of the Mid-Bay Bridge Connector when considered with the other area construction work, would be to avoid peak-hour entry and departure of construction and worker vehicles on the major arterials that service the area. The Mid-Bay Bridge Connector design and sequencing would be used to minimize traffic and infrastructure impacts during construction of the proposed service roads and related access controls, including delayed response times for emergency vehicles (HDR, 2002c).The completed Proposed Action would provide a significant benefit to the area by alleviating the current congestion along the already heavily used transportation network.

4.3.4.2 Alternative C

Alternative C will produce similar impacts to the transportation network as the Proposed Action. A comparison regarding LOS is shown in **Table 4.3.4.2-1**. It provides a quantitative analysis of how the roads will function over time. As seen in the table, the Proposed Action and Alternative C would produce beneficial LOS through the year 2030.

Table 4.3.4.2-1: Alternatives LOS Matrix

	SEGMENTS	YEAR		
		2010	2020	2030
PROPOSED ACTION	MID-BAY BRIDGE TO SR 20	C	C	C
	SR 20 TO COLLEGE	C	C	C
	COLLEGE TO SR 85	C	C	C
ALTERNATIVE C	MID-BAY BRIDGE TO SR 20	C	C	C
	SR 20 TO COLLEGE BLVD	C	C	C
	COLLEGE BLVD. TO SR 85	C	C	C
NO ACTION ALTERNATIVE	MID-BAY BRIDGE TO SR 20 (ALONG WHITE POINT ROAD)	E	F	F
	SR 20 FROM WHITE POINT ROAD TO SR 85	C	E	E
	SR 85 FROM SR 20 TO PROPOSED CONNECTOR	D	D	E

4.3.4.3 No Action Alternative

Under the No Action alternative, congestion in the area will continue to increase and subsequently increase the traffic delay and decreasing response times for base and emergency personnel. **Table 4.3.4.2-1** shows most of the roads approaching or reaching failure by 2010.

4.3.5 Utilities

Impacts to utilities would be considered significant or possibly substantial if services were disrupted for long periods of time. Additionally, impacts that would disrupt the ability of the NVOC wastewater treatment facility to dispose of their effluent within their currently permitted spray-field area would be considered significant or possibly substantial. Through early planning and coordination with the utility companies, interruptions would be short-term and considered insignificant. The utilities would be located or relocated along or adjacent to the existing ROW to minimize disturbance to the public and efforts would be made to reconfigure or relocate the NVOC spray-field area.

4.3.5.1 Proposed Action

There would be very limited interruptions in services as a result of the Proposed Action. Services in close proximity to residential or commercial areas would be temporarily impacted by scheduled interruptions in service as a result of construction activities. Any impacts to the NVOC spray-fields located just east of SR 285 and north of College Boulevard will be mitigated prior to or concurrently with the construction activities associated with the Mid-Bay Bridge

Connector. CHELCO will relocate overhead power lines within the Mid-Bay Bridge Connector and SR 20 interchange to an area east and adjacent to the proposed corridor. This action is being coordinated to have very limited interruptions in service to the public.

4.3.5.2 Alternative C

Alternative C would have similar impacts in the SR 20 interchange location and rural segments of the corridor and slightly higher occurrences of utility interruptions around the residential and commercial areas around College Boulevard. However, these interruptions would be temporary and scheduled to minimize adverse impacts to the public. The NVOC spray-field discussed above would be avoided by Alternative C.

4.3.5.3 No Action Alternative

There would be no impacts to utilities or the NVOC spray-fields as a result of the No Action alternative.

4.4 CONSISTENCY WITH TRANSPORTATION PLAN

The Mid-Bay Bridge Connector is included in the Okaloosa-Walton LRTP "*Cost Feasible Plan*" as a new four-lane toll facility from the Mid-Bay Bridge to SR 85. The LRTP was approved on May 7, 2007 (Quinn, 2007).

4.5 RELATIONSHIPS BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND LONG-TERM PRODUCTIVITY

The Proposed Action would involve clearing and grubbing vegetation, including trees from the ROW within the Mid-Bay Bridge Connector area. The use of this habitat by wildlife would be lost. Up to 47.22 acres of wetlands could be affected as part of the Proposed Action, although less than this amount would actually be filled. This loss would be offset with compensating wetlands as agreed upon by the USACE and the NWFWMD/FDEP. Mitigation requirements will be determined during the detailed design of the Mid-Bay Bridge Connector. Runoff will be collected in roadside ditches/swales and conveyed to their respective stormwater treatment facility. Construction of the roadside ditches/swales and stormwater treatment ponds would prevent long-term degradation of wetlands next to the Mid-Bay Bridge Connector (HDR, 2003). The Proposed Action will not interfere with the objectives of Eglin's *Integrated Natural Resource Management Plan, 2007* and has been developed and designed to be consistent with Eglin AFB and its missions. Therefore, implementing the Proposed Action is not expected to degrade the productivity of the area

4.6 CUMULATIVE IMPACTS

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

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.

For this project, potential cumulative impacts will be addressed for the two build alternatives carried forward for detailed analysis: the Proposed Action and Alternative C.

4.6.1 Past and Present Actions Relevant to the Proposed Action and Alternative

Past actions relevant to the Proposed Action include the construction of the Mid-Bay Bridge. The location of the bridge terminus along the north end dictated the tie in (or start point) of the Proposed Action. The construction of the Mid-Bay Bridge also increased traffic along SR 293 (White Point Road). The placement of the bridge resulted in aggravated traffic conditions which are evident today. As a result, to relieve the traffic congestion and fully meet the objectives discussed in Section 1.4, the Proposed Action is proposed to be located on Eglin AFB property.

4.6.2 Reasonably Foreseeable Future Actions

There are a few large projects planned for the area overlapping with the Mid-Bay Bridge project. These projects are noted below and constitute the known reasonably foreseeable projects at this time.

Reasonably foreseeable future actions in the project area include the construction of a parallel two-lane sister span to the existing Mid-Bay Bridge, the widening of SR 20 just east of White Point Road to the Walton County line, and a new corridor through Eglin AFB from SR 87 in Santa Rosa County to US 331 in Walton County.

The construction of a parallel two-lane sister span to the Mid-Bay Bridge is planned for some time after the year 2010. This action, in conjunction with the Proposed Action or Alternative C, would have beneficial effects on transportation along SR 293 by increasing the level of service across the Mid-Bay Bridge.

Widening of SR 20 is planned and would occur beneath an interchange proposed for the Mid-Bay Bridge project. The widening would occur within existing ROW. Potential environmental impacts of the project were addressed in a FDOT Categorical Exclusion (a NEPA document prepared to address environmental impacts of a project that are believed to be minor in nature).

The Northwest Florida Transportation Corridor Authority (NWFTCA) is currently studying an alignment from SR 87 in Santa Rosa County to US 331 in Walton County. Scoping, environmental planning, and early coordination with Eglin AFB, other state and local governments, and the public are currently underway. Design, ROW acquisition, and construction schedules have not been finalized. This action, in conjunction with the Proposed Action or Alternative C, would have beneficial effects on transportation along SR 293 by increasing the level of service across the region.

The NWFTCA project is still in its early planning stages, so specific impacts are not yet known. However, this EA will evaluate the type of cumulative impacts that could occur from the NWFTCA project in conjunction with the Mid-Bay Bridge project. Area projects, such as the NWFTCA project and other current and planned projects with federal funding or requiring federal approval (such as a Section 404 permit) will also be evaluated for potential environmental impacts in separate NEPA documents.

4.7 ANALYSIS OF CUMULATIVE IMPACTS

4.7.1 Air Quality

Because the Proposed Action or Alternative C as well as the proposed bridge expansion, SR 20 widening project, and the NWFTCA project (foreseeable future actions) are located in attainment areas, no negative cumulative impacts to air quality from transportation related or stationary sources are expected to occur.

4.7.2 Geological Resources

No cumulative effects on geological resources including soils/erosion are anticipated as a result of the Proposed Action or Alternative C and the foreseeable future actions. BMPs would be implemented for each construction project as required by federal and state regulations.

4.7.3 Water Resources

Cumulative effects to water resources including surface water, groundwater, and floodplains are not anticipated for the Proposed Action or Alternative C, and the foreseeable future actions. Each project will increase the amount of impervious surface in the project areas and will require permits from the NWFMWD/FDEP. These permits will ensure adequate stormwater controls are incorporated into the design to prevent degradation to water quality in surface and ground waters. Although each project, with the exception of SR 20 widening, will impact floodplains, each is required to obtain no-rise certifications that require assurance that backwater elevations will not rise and increase the risk of flooding to residences or businesses.

4.7.4 Biological Resources

The cumulative impacts to biological resources resulting from the Proposed Action and its mitigation plan have been determined by the USFWS to be insignificant pursuant to their BO (Appendix B). Cumulative effects from SR 20 widening are not anticipated. However, cumulative effects to biological resources from the other foreseeable future actions cannot be cumulatively analyzed at this time based on the uncertainty of their locations. Because of the biological diversity found in and around Eglin AFB, any project, especially a large transportation project, will require careful analysis and coordination to determine their effects. A limited access road through federal property will eliminate the pressures from roadside development, thus providing reasonable assurance that impacts to wildlife and critical habitats resulting from the Proposed Action or Alternative C, and the foreseeable future actions would not be cumulatively significant.

4.7.5 Wetlands

The Proposed Action or Alternative C, and foreseeable future actions, with the exception of SR20 widening, will impact wetlands. However, bridging, using open bottom culverts (where applicable by the regulatory agencies), innovative construction techniques, and mitigation would occur through the permitting process and result in restoring or enhancing wetlands and wildlife habitats. The proponent will be responsible for obtaining all applicable wetland permits/authorizations prior to construction activities. The proponent will also be required to provide mitigation associated with wetland impacts prior to commencement of construction activities. The federal and state agencies responsible for regulating wetland impacts (USACE and NWFWMD/FDEP) will ensure that no negative cumulative impacts to wetlands will occur.

4.7.6 Noise

Noise impacts from the Proposed Action will not be significant. However, Alternative C would adversely affect several noise receptors. Foreseeable future actions could have short-term noise increases during construction but should have no perceptible long-term noise impacts.

Noise impacts from the noted foreseeable future actions have been or will be analyzed in separate NEPA documents. Noise abatement measures can and will be incorporated if the noise analysis warrants such mitigations.

4.7.7 Cultural Resources

Cumulative effects to cultural resources are not anticipated from the Proposed Action or Alternative C, and the foreseeable future actions. Section 106 investigations have been conducted to identify any resources that may be impacted by project activities. Impact to these resources will be prevented during project activities by avoidance. If avoidance is not possible data recovery will be conducted. Section 106 investigations will be required for each project noted in Section 4.6.2.

4.7.8 Hazardous Materials and Wastes Management

An environmental baseline survey has been completed for this project and found no current or historical hazardous material generators or storage sites within the Proposed Action or Alternative C corridors, and SR 20 widening. The other foreseeable future actions would require similar surveys to determine if contamination of any sort would be, or have the potential to be, encountered. The Proposed Action or Alternative C, and the NWFTCA project have a high probability of encountering contamination from UXO on Eglin AFB property. In compliance with the ESS process, the proponent will ensure any and all UXO hazards will be "cleared" prior to the commencement of construction activities. The cumulative impact of the Proposed Action or Alternative C, and the foreseeable future actions would produce an increase in solid waste generation; however, the increase would be small and limited to the timeframe of each construction project. No negative cumulative effects from hazardous materials, including UXO, and waste management are anticipated as a result of the Proposed Action or Alternative C, and the foreseeable future actions.

4.7.9 Socioeconomic

The cumulative impact of the Proposed Action or Alternative C, and the foreseeable future actions would have a beneficial impact to the local construction industry as well as short-term benefits to the local economy, especially during construction. However, while routing traffic around Niceville would alleviate traffic congestion, it could have a negative effect on some local businesses like gas stations and restaurants. The impact to businesses would be considered minimal based on the locations of interchanges along the corridor. Currently, there are no residential or business relocations anticipated as a result of the Proposed Action or Alternative C, and the foreseeable future actions. No negative cumulative socioeconomic effects from the Proposed Action or Alternative C, and the foreseeable future actions are anticipated.

4.7.10 Environmental Justice

There would be no cumulative impacts to any low-income or minority populations as a result of the Proposed Action or Alternative C, the proposed bridge expansion, and the SR 20 widening project. In addition, based on EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, cumulative impacts are not expected from the NWFTCA project. Cumulative impacts from the NWFTCA project will be analyzed in a separate NEPA document.

4.7.11 Land Use

The Proposed Action or Alternative C will be a limited access, high speed toll facility through Eglin AFB property. The cumulative impacts from residential development pressures, commercial services, and other potential land use changes to the human environment would be insignificant along the proposed corridor. However, in the event the "remnant" parcels located along the Mid-Bay Bridge and NWFTCA corridors are deemed developable, cumulative impacts to land use would occur. Remnant parcels are defined as those parcels that are severed or fragmented from current Eglin AFB property as a result of the Proposed Action or Alternative C corridor creating a southern boundary adjacent to the transportation corridor. Because land use is under local government jurisdiction, no negative cumulative effects from SR 20 widening or the proposed bridge expansion are expected. Once an alignment is chosen for the NWFTCA project, changes in land use will have to be analyzed to determine the potential cumulative impacts.

4.7.12 Transportation

The Proposed Action or Alternative C, and the foreseeable future actions would result in short-term traffic impacts in the vicinity of the major intersections along the prospective corridors. For example, traffic to this region during construction of the projects would be significantly impacted during the period when the overpasses, major intersections, and bridge to roadway abutments are under construction. Additional road construction activities would contribute an additional increment to the congestion that is being experienced (and remedied) at the Mid-Bay Bridge and toll plaza.

Although construction of the Proposed Action or Alternative C would temporarily (and adversely) affect traffic flow, the completed roadway would result in long-term benefits through enhanced traffic flow. Consequently, cumulative traffic impacts from the Proposed Action or Alternative C in conjunction with the other improvements would be considered beneficial to the community.

The use of construction-related vehicles and their impacts on noise, air quality, and traffic is unavoidable. The short-term increases in air emissions and noise during construction and the insignificant impacts predicted for other resource areas would be insignificant when considered cumulatively with other ongoing activities in the Mid-Bay Bridge Connector area.

The construction and operation activities would affect dispersed locations, not necessarily concurrently, and would not cause significant cumulative impacts.

4.7.13 Utilities

The Proposed Action or Alternative C, and the foreseeable future actions would result in short-term utility impacts during construction. As required during the early planning process, utility companies would be notified and coordination regarding relocations would be scheduled to avoid and minimize disruption in service. Therefore, no negative cumulative impacts to utilities are expected.

4.8 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

NEPA requires that environmental analysis include identification of any irreversible and irretrievable commitments of resources that would be involved in the implementation of the Proposed Action or alternatives. Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the uses of these resources have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action (e.g., extinction of a threatened or endangered species or the disturbance of a cultural site) (HDR, 2005b).

4.8.1 Proposed Action and Alternative C

The Proposed Action and Alternative C would require permanent use of ordinary construction materials, such as concrete, steel, asphalt, etc. The materials would, except for recyclable items, be irretrievably committed.

The Proposed Action and the Alternative C would irretrievably consume various types of fuels and water during the construction period. A long-term commitment of resources would occur for maintenance of the interchanges. The amounts of resource consumption to maintain the roadway and interchanges are not expected to increase significantly from current amounts used in the area.

The loss of trees, vegetation, wetlands, and wildlife habitat from clearing the land for the roadway and interchanges would be an irretrievable commitment of resources. The land that would be occupied by the roadway and interchanges ultimately could be restored as vegetation, wetlands, and wildlife habitat if the roadway and interchanges were removed in the future. Therefore, the commitment of land is not necessarily irreversible.

Although data recovery, a form of mitigation related to cultural resources, would provide knowledge pertinent to the archaeological record, impacts to cultural resources would also be considered an irretrievable commitment of resources. The Proposed Action or Alternative C will not irretrievably commit cultural resources.

The extinction of a threatened or endangered species would be considered an irretrievable commitment of resources; however, the Proposed Action or Alternative C will not irretrievably commit biological resources as analyzed in the BA and BO found in Appendix B.

4.8.2 No Action Alternative

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

CHAPTER 5

PLANS, PERMITS, AND MANAGEMENT ACTIONS

5.0 PLANS, PERMITS, AND MANAGEMENT ACTIONS

The following is a list of plans, permits, and management actions associated with the Proposed Action. The environmental impact analysis process for this EA identified the need for these requirements which were developed through cooperation between the proponent and interested parties involved in the Proposed Action. These requirements are, therefore, to be considered as part of the Proposed Action and implementation would be through the Proposed Action's initiation. The proponent is responsible for adherence to and coordination with the listed entities to complete the plans, permits, and management actions.

5.1 PLANS

- Site Design, Construction, and Utility Plans.
- SWPPP and Stormwater, Erosion, and Sedimentation Control Plan.

5.2 PERMITS

- Stormwater facility design and construction permit (62-346, FAC).
- Generic Permit for Storm Water Discharge from Construction Activities that Disturb One or More Acres of Land (NPDES permit).
- A joint application for works in the waters of Florida (FDEP/USACE).
- Permits, easements, and authorization through Eglin Real Estate, FDOT and/or Okaloosa County prior to construction.
- Storm Sewer Permit: The MBBA would be required to adhere to Phase II Municipal Separate Storm Sewer Systems (MS4) to permitting requirements.
- Coastal zone consistency determination in accordance with Florida's CZMA.
- Incidental Take Permit from FWC for Okaloosa darter.
- Gopher tortoise relocation permit, if applicable.

5.3 MANAGEMENT ACTIONS

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

5.3.1 Air Quality

Impacts will be minimized by adherence to all state and local regulations and to the FDOT *Standard Specifications for Road and Bridge Construction*. Reasonable precautions would be taken to minimize fugitive particulate emissions during ground-disturbing/construction activities in accordance with Rule 62-296, FAC.

5.3.2 Soils and Erosion

- Where applicable, rough grade slopes or use terrace slopes to reduce erosion.
- The Air Force requires inspection and maintenance of BMPs under the stormwater construction general permit.

5.3.3 Water Resources

- Permits and site plan designs would include site-specific management requirements for erosion and sediment control.
- Designation of staging and storage areas for use of construction equipment.
- Entrenched silt fencing and staked hay bales would be installed and maintained along the perimeter during construction and staging and storage areas.
- Inspection of silt fencing on a weekly basis and after rain events. Replace fencing as needed.
- Stockpiles would be removed in a timely manner.
- Waste receptacles, including dumpsters, would be covered to prevent rainwater and wildlife from entering.
- Inclusion of stormwater features designed to control runoff associated with the additional impervious surface, land clearing, grading, and excavating.
- For water quality protection, erosion control blankets/fabric and other applicable BMPs would be incorporated reduce soil erosion and prevent sedimentation from entering surface waters, floodplains, and wetlands.
- Storage of chemicals, cements, solvents, paints, or other potential water pollutants in locations where they cannot cause runoff pollution into surface waters, floodplains, and wetlands.

5.3.4 Biological Resources

- Okaloosa darter protection and monitoring, and habitat protection, monitoring, and restoration procedures to minimize impacts from all the construction activities shall be implemented.
    - An erosion and sediment control plan shall be submitted and approved by the Service prior to the start of construction. This plan is to include re-vegetation of stream banks and riparian areas, as needed.
    - Okaloosa darter populations shall be monitored pre- construction and for a minimum of five years post-construction to assess the scope of project impacts.
    - A comprehensive water quality monitoring plan shall be developed and implemented that targets road-related chemical pollutants (i.e. petroleum products) and other associated impacts (i.e. nutrients, dissolved oxygen) that may be detrimental to the darter.
    - Contractors for the road construction shall be informed about the presence of the Okaloosa darter and the importance of thorough implementation of protection measures, especially for erosion control.

- It shall be ensured that the stream crossing structures are designed and constructed to protect the streams' natural channel design, thereby reducing the long-term loss of the Okaloosa darter and its habitat.

  - Monitoring for physical changes in stream channel stability shall be implemented to assess the response of impacted streams to bridge construction.

- The potential secondary and cumulative effects of a new roadway, including threats to Okaloosa darter from new development, shall be addressed.

  - Discussions shall be facilitated with private property owners regarding easements and agreements to protect floodplain and riparian habitat and reduce threats along Okaloosa darter streams.

- It shall be ensured that the terms and conditions are accomplished and completed as detailed in this incidental take statement including completion of reporting requirements.

  - Upon locating a dead, injured, or sick individual of an endangered or threatened species, initial notification must be made to the Fish and Wildlife Service Law Enforcement Office, Clermont, Florida at (352) 429-1037 within 24 hours. Additional notification must be made to the Fish and Wildlife Services Field Office at Panama City, Florida at (850) 769-0552 within 48 hours. Care should be taken in handling sick or injured individuals and in the preservation of specimens in the best possible state for later analysis of cause of death or injury.

  - A report describing the actions taken to implement the terms and conditions of this incidental take statement shall be submitted to the Project Leader, U.S. Fish and Wildlife Service, 1601 Balboa Avenue, Panama City, Florida, 32405, within 60 days of the completion of each construction phase. This report shall include the dates of work, assessment and actions taken to address impacts to the Okaloosa darter, if they occurred.

- The MBBA will apply for a FWC Okaloosa darter incidental take permit prior to construction of Phases 2 and 3.

- The MBBA will conduct surveys for gopher tortoises in accordance with the FWC Gopher Tortoise Management Plan (adopted in 2007) and current Gopher Tortoise Permitting Guidelines.

  - As a result of the surveys, if active burrows are found within 25-feet of the Proposed Action, the following management actions will be implemented by the MBBA:

    - The MBBA will coordinate with and provide the FWC a completed gopher tortoise relocation permit application in accordance with the approved FWC Gopher Tortoise Management Plan (adopted in 2007) and current Gopher Tortoise Permitting Guidelines.

- All staging and storage areas will be sited to avoid impacts to gopher tortoise burrows and habitats.

- The MBBA will coordinate with the FWC staff, in addition to Eglin NRS and USFWS staff, during design of Phases 2 and 3 to address wildlife crossings and bridge designs.

5.3.5 Wetlands

- To the maximum extent possible, the MBBA will avoid and minimize direct and indirect disturbance of wetlands through roadway design and innovative construction techniques to include bridges (spans and open-bottom culverts, as applicable by regulations) and top-down construction.

- The MBBA will develop a mitigation plan to satisfy the requirements of the USACE and NWFWMD/FDEP.

- The MBBA will secure all environmental permits involving impacts to wetlands prior to commencement of construction activities in wetlands.

5.3.6 Noise and Aesthetics

- The MBBA will establish a vegetated buffer for the Chardonnay Estates HOA to provide aesthetic value and possible noise attenuation.

5.3.7 Cultural Resources

- All cultural resource work will be conducted according to Eglin AFB and Section 106 guidelines.

- The 96 CEG/CEVH will conduct all necessary consultations and review all reports and project plans.

- The MBBA will not begin work until all necessary consultations are complete.

- The MBBA will coordinate with the 96 CEG/CEVH at (850) 882-8459 on any change in plans.

- The MBBA conducted archaeological surveys in areas considered high probability by Eglin CR and will mitigate for site impacts by avoidance of resources and data recovery where eligible resources will be impacted by the project.

5.3.8 Hazardous Materials

- Contact the 96 CEG/CEVR if unusual soil coloration and/or odors are detected and if small arms debris is found in the construction corridor.

- Any hazardous wastes (e.g., waste adhesives and paint wastes) generated during construction would be handled by the contractor in accordance with applicable federal and state laws and regulations.

- In compliance with the ESS process, the MBBA will ensure any and all UXO hazards will be "cleared" prior to the commencement of construction activities associated with the Mid-Bay Bridge Connector.

5.3.9 Utilities

– The MBBA will coordinate and obtain all applicable permits, easements, and/or authorizations prior to the commencement of construction activities that may affect that utilities service. Those utilities include, but are not limited too, Okaloosa County, Chelco, PowerSouth (formerly Alabama Electric Co-op), Gulf Power, Embarq, Cox Communications, Verizon (formerly MCI), Eglin AFB, NVOC, and Okaloosa County Gas District

CHAPTER 6

CONSULTATIONS AND COORDINATION

6.0 CONSULTATIONS AND COORDINATION

This section lists agencies and individuals contacted during development and preparation of this EA.

Federal Agencies:

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Niceville, Florida 32578

Rick Helms
NVOC Regional WWTF
507 Highway 85 N
Niceville, Fl 32578-1011

** The SHPO and Tribes are aware of the project and have requested to review results of surveys and site testing reports. The SHPO and Tribes will be consulted on any data recovery should it be necessary.*

6.1 PUBLIC INVOLVEMENT

The public review process provides an opportunity for the public to comment on federal actions addressed in NEPA documents. A public notice was placed in the Northwest Florida Daily News announcing the availability of copies of the Draft Mid-Bay Bridge Connector EA at area libraries. A copy of the publication as it ran in the newspaper is shown in Appendix G.

Copies of the Draft EA and Draft FONSI/FONPA were made available for review at the Fort Walton Beach Public Library, 185 SE Miracle Strip Parkway, Fort Walton Beach, Florida, the Destin Public Library, 150 Sibert Avenue, Destin, Florida, the Robert L. F. Sikes Public Library 1445 Commerce Drive, Crestview, Florida, and the Niceville Public Library, 206 N. Partin Drive, Niceville, Florida. Copies were available for review from 26 September 2008 through 25 October 2008.

No public comments were received over the 30-day comment period.

Response to Comments for

RCS 07-523, Mid-Bay Bridge Connector on Eglin Air Force Base, Florida, Draft Environmental Assessment and Finding of No Significant Impact/ Finding of No Practicable Alternative

A public notice was published in the *Northwest Florida Daily News* on Sept. 26, 2008 to disclose completion of the Draft EA, selection of the preferred alternative, and request for comments during the 30-day pre-decisional comment period.

The 30-day comment period ended on Oct. 25th, with the comments required to this office not later than Oct. 28th, 2008. No comments were received during this period.

//Signed//
Mike Spaits
Public Information Manager

CHAPTER 7

LIST OF PREPARERS

7.0 LIST OF PREPARERS

HDR Engineering, Inc.
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Name/Qualifications	Contribution	Experience
Michelle Dusseau Diller Professional Engineer, FL #61663 B.S.E., Materials Science and Engineering M.S., Environmental Science (Water Resources) M.P.A., Public Affairs	Author	11 years environmental engineering including 10 years regulatory review
Matt Dimitroff Environmental Project Manager B.S., Environmental Resource Management & Planning M.P.A., Coastal Zone Studies	Author	13 years environmental science
Terry Ellis GIS Manager/Cadd A.S., Civil Engineering, Drafting, and Design	GIS/Cadd	4 Years GIS and 8 years Cadd/Design
Mick Garrett Project Manager/Senior Environmental Scientist B.S., Marine Biology	Project Manager/Technical Lead	11 years environmental science
Brian Goss Project Manager/Senior Environmental Scientist B.A., Geology M.S., Geochemistry	Technical Review	22 years environmental science
Angie Hill Administrative Assistance	Document Management	20 years
Michael Parsons Professional Engineer B.S., Civil and Environmental Engineering	Noise	10 years environmental science; 8 years noise
Josey Walker Environmental Scientist B.S., Environmental Biology M.S., Environmental Science	Author	8 years environmental science

CHAPTER 8

REFERENCES

8.0 REFERENCES

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APPENDIX A

CZMA DETERMINATION AND STATE CLEARINGHOUSE COORDINATION

APPENDIX A: CZMA DETERMINATION AND STATE CLEARINGHOUSE COORDINATION

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 consistency determination addresses the Mid-Bay Bridge Connector (Proposed Action) for the construction of a 10-mile roadway project owned, operated, and maintained by the Mid-Bay Bridge Authority (MBBA). The Proposed Action is a limited access toll facility from the north approach of the Mid-Bay Bridge to SR 85 north of Niceville **(Figure 1.1-1)** on Eglin Air Force Base (AFB), Florida.

Proposed Federal Agency Action:

Background, Purpose, and Need of Proposed Action

Background

Since the opening of the Mid-Bay Bridge in June 1993, the bridge has served the region as part of a north-south connection between I-10, Niceville, and Destin (see **Figure 1.2-1**). The connection is part of the local transportation system serving local citizens commuting to and from work and school and traveling to and from shopping and recreational activities, and as a part of a hurricane evacuation route, serving southern Okaloosa County. During the year 2001, the annual average daily traffic (AADT) volume on the bridge was 12,400; this volume exceeded the initial projection of 9,000 AADT made in the early 1990's by about 38 percent. Since that time, volumes on the bridge have continued to increase to 20,900 in 2006. It is anticipated the bridge's AADT volume will continue to increase at a steady pace for the foreseeable future; it is forecast that the bridge's AADT volume will be at least 32,200 by the year 2030.

To meet the increasing regional traffic demands that are projected for the future, the MBBA developed a comprehensive Capital Improvement Program (CIP) to include new roads for the bridge along the north and south approaches and an additional bridge to parallel the existing bridge. The CIP identifies a Proposed Action (the subject of this CZMA Consistency Determination) which will be completed in three phases shown on **Figure 1.2-2**.

- Phase 1: Mid-Bay Bridge to Range Road.
- Phase 2: Range Road to SR 285.
- Phase 3: SR 285 to SR 85.

Purpose

The purpose for the Proposed Action is to provide an alternative corridor which will improve capacity, provide for linkage to I-10, enhance safety, and establish an alternative evacuation route in the event of emergencies. The Proposed Action is included in the Okaloosa-Walton LRTP "*Cost Feasible Plan*" as a new four-lane toll facility from the Mid-Bay Bridge to SR 85. The LRTP was approved on May 7, 2007.

Need

The need for the Proposed Action has previously been defined in other project studies completed by the FDOT and the MBBA, with extensive coordination with Eglin AFB, to include the evaluation of alternative corridors. The need for this alternative corridor has been recognized for many years and was originally included in the *2015 Needs Plan* in 1987 and the *2015 Cost Feasible Plan* in 1988, and this need still exists. The current routes are congested even without emergency situations.

In 2005, the Base Realignment and Closure (BRAC) Commission chose to expand Eglin AFB's mission which is predicted to increase the population of Okaloosa County by 12,000 (7,000 Eglin family members and 5,000 government and contract employees) by Fiscal Year (FY) 10 and FY11. As a result of BRAC 2005, Eglin AFB will house the Initial Joint Strike Fighter Integrated Training Complex and be the new home of the U.S. Army's 7th Special Forces Group and the Defense Threat Reduction Agency. Appropriately, in May 2006, Eglin AFB introduced its growth management plan, *Vision 2015*. The plan outlines several initiatives which are designed to enhance the quality of life in the area. *Vision 2015* has identified the top challenge for Eglin AFB's and the region's impending growth as improved transportation. Therefore, Eglin has initiated collaboration with the neighboring communities and transportation agencies and authorities to ensure compatible growth. As a result of BRAC 2005 and *Vision 2015*, Eglin with support from their Mission Enhancement Committee and MBBA, have agreed to study a 400-foot-wide corridor that will accommodate Eglin and its mission as well as the surrounding communities' transportation needs.

Description of Proposed Action

The Proposed Action involves construction of an alternative bypass route around the eastern and northern sides of the communities of Niceville, Seminole and Bluewater Bay in Okaloosa County, Florida (Figure 2.4-1). The new 10-mile route consists of a four-lane divided facility with urban (curb and gutter) and rural cross sections and proposed structures over Rocky Creek and several smaller streams that drain to Choctawhatchee Bay. The Proposed Action will include a mainline toll plaza (either north or south of Rocky Creek) and intersections/interchanges at strategic locations throughout the corridor. Figure 2.4-1 illustrates the proposed corridor and interchange locations. It is anticipated that the proposed interchanges located at SR 20 (MB-B), SR 285 (MB-E) and SR 85 (MB-F) will be single-point urban interchanges (SPUI), while the interchanges at Lakeshore Drive (MB-A), Range Road (MB-C) and the Northeast Niceville interchange (MB-D) will be conventional diamond interchanges. The location of the Northeast Niceville interchange (MB-D) is conceptual and will be determined during design. In order to avoid impacts to Pippin Lake and surrounding wetlands, a four-lane divided urban typical section (106' minimum ROW) is proposed for the southern 1.0-mile of the Connector from the existing Mid-Bay Bridge toll plaza to north of Lakeshore Drive. The roadway includes 12' travel lanes, 4' wide bicycle lanes, a 22' wide raised grass median, curb & gutter, and an underground drainage system. The roadway will have a design speed of 45 mph. From north of Lakeshore Drive to SR 85, a four-lane divided rural typical section (202' minimum ROW) is proposed. The roadway includes 12' travel lanes, 5' paved shoulders, a 50' wide depressed grass median, and parallel ditches. The roadway will have a design speed of 60 mph from north of Lakeshore Drive to north of SR 20; and a design speed of 70 mph for the remainder of the Proposed Action northward and westward to SR 85**.**

Federal 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.

Florida Coastal Management Program Consistency Review

CZMA Determination and State Clearinghouse Coordination		
Statute	**Consistency**	**Scope**
Chapter 161 *Beach and Shore Preservation*	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 *Growth Policy; County and Municipal Planning; Land Development Regulation*	The Proposed Action would not affect local government comprehensive plans. The Proposed Action is included in the Okaloosa-Walton Long Range Transportation Plan (LRTP) "*Cost Feasible Plan*" as a new four-lane toll facility from the Mid-Bay Bridge to SR 85. The LRTP was approved on May 7, 2007.	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 *State and Regional Planning*	The Proposed Action, which occurs on federal property, would conform to the State Comprehensive Plan and associated translational plans, in regards to the Florida Water Plan.	Details state-level planning efforts. Requires the development of special statewide plans governing water use, land development, and transportation.
Chapter 252 *Emergency Management*	The Proposed Action would not affect the state's vulnerability to natural disasters. The Proposed Action would benefit 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 *State Lands*	The Proposed Action occurs primarily on federal property and therefore would not affect the state's administration of state land or public land.	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 *State Parks and Preserves*	The Proposed Action would not affect state parks, recreational areas and aquatic preserves.	Addresses administration and management of state parks and preserves.
Chapter 259 *Land Acquisition for Conservation or Recreation*	The Proposed Action occurs primarily on federal property and therefore would not affect the state's acquisition of land for conservation or recreation.	Authorizes acquisition of environmentally endangered lands and outdoor recreation lands.

Chapter 260 *Recreational Trails System*	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 *Multipurpose Outdoor Recreation; Land Acquisition, Management, and Conservation*	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 *Historical Resources*	Cultural resources (archaeological sites) are located in the vicinity of the proposed action. Consultation with the State Historic Preservation Office (SHPO) would be completed before project initiation. The 96th CEG/CEVH, Cultural Resources Branch has completed the necessary surveys, and will coordinate avoidance requirements with the SHPO. Identified resources would be managed in compliance with Federal law and Air Force regulations. Should other archaeological sites be inadvertently discovered from ground-disturbing activities, 96th CEG/CEVH, Cultural Resources Branch, would be notified immediately and further ground-disturbing activities would cease in that area. Therefore, the Proposed Action would be consistent with the state's policies concerning the protection of cultural and historical resources.	Addresses management and preservation of the state's archaeological and historical resources.
Chapter 288 *Commercial Development and Capital Improvements*	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 *Transportation Administration*	The Proposed Action would preserve the existing transportation infrastructure; enhance Florida's economic competitiveness; and improve travel choices to ensure mobility.	Addresses the state's policy concerning transportation administration.

Chapter 339 *Transportation Finance and Planning*	The Proposed Action would be owned, operated, and maintained by the MBBA as a toll facility and 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 *Saltwater Fisheries*	The Proposed Action would not affect saltwater fisheries.	Addresses management and protection of the state's saltwater fisheries.
Chapter 372 *Wildlife*	Both state- and federally-protected species occur within the vicinity of the Proposed Action. In accordance with Section 7 of the Endangered Species Act (ESA), consultation with the United States Fish and Wildlife Service (USFWS) would be completed prior to project initiation. MBBA would ensure that all activities proposed in and around threatened and endangered species would be performed in accordance with applicable USFWS guidelines. All mitigation measures resulting from the Section 7 consultation would be followed. 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 *Water Resources*	MBBA would coordinate all applicable permits in accordance with the Florida Administrative Code (FAC). General stormwater and NPDES permits would be obtained prior to any construction activities in accordance with Part IV, Chapter 373 and Chapter 403.0885, F.S., respectively. Therefore, the Proposed Action would be consistent with the state's policies concerning water resources.	Addresses the state's policy concerning water resources.
Chapter 376 *Pollutant Discharge Prevention and Removal*	The Proposed Action would not affect the transfer, storage, or transportation of pollutants.	Regulates transfer, storage, and transportation of pollutants, and cleanup of pollutant discharges.

Chapter 377 *Energy Resources*	The Proposed Action would not affect energy resource production, including oil and gas, and/or the transportation of oil and gas.	Addresses regulation, planning, and development of oil and gas resources of the state.
Chapter 380 *Land and Water Management*	The Proposed Action would not affect development of state lands with regional (i.e. more than one county) impacts. The Proposed Action would not include changes to coastal infrastructure such as capacity increases of existing coastal infrastructure, or use of state funds for infrastructure planning, designing or construction.	Establishes land and water management policies to guide and coordinate local decisions relating to growth and development.
Chapter 381 *Public Health, General Provisions*	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 *Mosquito Control*	The Proposed Action would not affect mosquito control efforts.	Addresses mosquito control effort in the state.
Chapter 403 *Environmental Control*	MBBA would take reasonable precautions to minimize fugitive particulate (dust) emissions during any ground disturbing/construction activities in accordance with FAC 62-296. General stormwater and NPDES permits would be obtained prior to any construction activities in accordance with Part IV, Chapter 373 and Chapter 403.0885, F.S., respectively. Therefore, the Proposed Action would not affect 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 *Soil and Water Conservation*	Soil disturbance would occur during construction, but would be controlled through Best Management Practices. Therefore, the Proposed Action would not affect soil and water conservation efforts.	Provides for the control and prevention of soil erosion.

Florida Department of Environmental Protection

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3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

November 19, 2008

Mr. Mick Garrett
Senior Environmental Scientist
HDR Engineering, Inc.
25 West Cedar Street, Suite 200
Pensacola, FL 32502

RE: Department of the Air Force – Draft Environmental Assessment – Mid-Bay Bridge Connector on Eglin Air Force Base – Niceville, Okaloosa County, Florida.
SAI # FL200809294452C

Dear Mr. Garrett:

The Florida State Clearinghouse has coordinated a review of the referenced 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 following state agency comments are provided for consideration in finalizing the EA.

The **Florida Fish and Wildlife Conservation Commission** (FWC) requests modification of the EA to reflect state-listed species survey and permit requirements for potential impacts to all state-listed species, as well as permitting and relocation requirements for gopher tortoises. Coordination with FWC staff, in addition to Eglin Natural Resources Section and U.S. Fish and Wildlife Service staff, is also required to address the Florida black bear/wildlife crossings and bridging designs. The FWC notes that, while staff supports reasonable and prudent measures to minimize and mitigate impacts to the Okaloosa darter, the applicant must obtain an incidental take permit from the FWC. The applicant will be required to provide conservation measures that enhance the survival potential of the darter and mitigation measures that offset impacts to the species.

The draft EA includes a federal consistency determination in accordance with section 307 of the federal Coastal Zone Management Act. The determination did not, however, address consistency with the provisions of Chapter 372, *F.S.*, one of the twenty-three statutes constituting the Florida Coastal Management Program. An evaluation of

potential impacts to all state-listed species and compliance with state-listed species permitting requirements, in accordance with Chapter 372, *F.S.*, are required for this project to be determined consistent with the Florida Coastal Management Program. The final EA should include a revised consistency determination with sufficient information regarding the potential impacts to, and protection measures for, all state-listed species protected under Chapter 372, *F.S.* Provided the recommendations in the enclosed FWC letter are incorporated as conditions of the final EA and Finding of No Significant Impact, the FWC can concur that the project is consistent with Chapter 372, *F.S.*

The **Northwest Florida Water Management District** (NWFWMD) advises that project Alternative C potentially affects 39.2 acres of 100-year floodplain, several tributaries to Choctawhatchee Bay and 50.66 acres of wetlands. The Proposed Action may affect 39.8 acres of 100-year floodplain, several tributaries to Choctawhatchee Bay and 42.77 acres of wetlands. Every effort should be made to protect floodplain resources and functions, including spanning the floodplains sufficiently to minimize riparian impacts and maintain hydrologic connectivity. For further information, please refer to the enclosed NWFWMD memorandum.

The **Florida Department of Environmental Protection** (DEP) Northwest District Office in Pensacola notes that an Environmental Resource Permit (ERP) will be required for both stormwater management and wetland impacts. The ERP applicant will be required to eliminate or reduce the proposed wetland resource impacts of roadway construction to the greatest extent practicable in accordance with the following:

- Minimization should emphasize avoidance-oriented corridor alignments, wetland fill reductions via pile bridging and steep/vertically retained side slopes, and median width reductions within safety limits.
- Wetlands should not be displaced by the installation of stormwater conveyance and treatment swales; rather, compensatory treatment in adjacent uplands is the preferred alternative.
- After avoidance and minimization have been exhausted, mitigation must be proposed to offset the adverse impacts of the project to existing wetland functions and values. Significant attention must be given to forested wetland systems, impacts to which are difficult to mitigate.
- The cumulative impacts of concurrent and future road improvement projects in the vicinity of the subject project should also be addressed.

In general, DEP recommends that transportation improvement projects not infringe upon environmentally sensitive areas such as flood zones, rare or endangered species' habitats, wetlands, or natural drainage courses, which should be preserved for their environmental and aesthetic significance. Rocky Creek, Long Creek, Turkey Creek and other stream

systems – which eventually connect to Rocky Bayou and Choctawhatchee Bay – are located in the project area. Rocky Bayou has been designated an Aquatic Preserve, Outstanding Florida Waters and Class II shellfish harvesting waters. A large portion of Choctawhatchee Bay is also designated Class II shellfish harvesting waters. The designations thus reflected in Chapters 253, 258, 373, and 403, *F.S.*, afford the highest level of state protection to the downstream estuarine systems of Rocky Bayou Aquatic Preserve and Choctawhatchee Bay. For further information on permitting requirements under Chapter 62-346, *Florida Administrative Code*, please contact Mr. Lee Marchman, NWFWMD, at (850) 921-2986 or Mr. Cliff Street, DEP, at (850) 595-8300, ext. 1135.

Based on the information contained in the draft EA and the enclosed state agency comments, the state has determined that the proposed federal activity *can* be consistent with the Florida Coastal Management Program, if the issues identified by the reviewing agencies are addressed in the final EA, Finding of No Significant Impact and ERP applications. Final agency action on the ERP application will constitute the State of Florida's final federal consistency decision. The state's future concurrence with the project will depend upon adequate resolution of the issues identified in this letter and in subsequent permit reviews.

Thank you for the opportunity to review the proposed project. Should you have any questions regarding this letter, please contact Ms. Lauren P. Milligan at (850) 245-2170.

Yours sincerely,

Sally B. Mann

Sally B. Mann, Director
Office of Intergovernmental Programs

SBM/lg/lm
Enclosures

cc: Larry Chavers, Eglin AFB
Mary Ann Poole, FWC
Ted Hoehn, FWC
Darryl Boudreau, DEP, Northwest District
Larry O'Donnell, DEP, Northwest District
Duncan Cairns, NWFWMD

Project Information	
Project:	FL200809294452C
Comments Due:	11/03/2008
Letter Due:	11/25/2008
Description:	DEPARTMENT OF THE AIR FORCE - DRAFT ENVIRONMENTAL ASSESSMENT - MID-BAY BRIDGE CONNECTOR ON EGLIN AIR FORCE BASE - NICEVILLE, OKALOOSA COUNTY, FLORIDA.
Keywords:	USAF - DEA, MID-BAY BRIDGE CONNECTOR ON EGLIN AFB - OKALOOSA CO.
CFDA #:	12.200

Agency Comments:

WEST FLORIDA RPC - WEST FLORIDA REGIONAL PLANNING COUNCIL

The WFRPC supports all recommendations made by the USFWS in regards to rare, threatened or endangered species. Avoidance and minimization should be implemented in all phases of project construction and wetland areas should be spanned as much as possible. Alternative stormwater practices should be explored as well.

OKALOOSA - OKALOOSA COUNTY

The Okaloosa County Department of Growth Management has offered a couple of edits to the DEIS Tables and Figures to improve clarity.

OTTED - OFFICE OF TOURISM, TRADE AND ECONOMIC DEVELOPMENT

No Comments Received

COMMUNITY AFFAIRS - FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS

DCA has reviewed this DEA and found the project consistent with the Okaloosa County Comprehensive Plan and has no concerns or comments.

FISH and WILDLIFE COMMISSION - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

The FWC requests modification of the EA to reflect state-listed species survey and permit requirements for potential impacts to all state-listed species, as well as permitting and relocation requirements for gopher tortoises. Coordination with FWC staff, in addition to Eglin Natural Resources Section and U.S. Fish and Wildlife Service staff, is also required to address the Florida black bear/wildlife crossings and bridging designs. The FWC notes that, while staff supports reasonable and prudent measures to minimize and mitigate impacts to the Okaloosa darter, the applicant must obtain an incidental take permit from the FWC. The applicant will be required to provide conservation measures that enhance the survival potential of the darter and mitigation measures that offset impacts to the species. The draft EA includes a federal consistency determination in accordance with section 307 of the federal CZMA. The determination did not, however, address consistency with the provisions of Chapter 372, F.S., one of the 23 statutes constituting the Florida Coastal Management Program. An evaluation of potential impacts to all state-listed species and compliance with state-listed species permitting requirements, in accordance with Chapter 372, F.S., are required for this project to be determined consistent with the Florida Coastal Management Program. The final EA should include a revised consistency determination with sufficient information regarding the potential impacts to, and protection measures for, all state-listed species protected under Chapter 372, F.S. Provided the recommendations in the enclosed FWC letter are incorporated as conditions of the final EA and FONSI, the FWC can concur that the project is consistent with Chapter 372, F.S.

STATE - FLORIDA DEPARTMENT OF STATE

No Comment/Consistent

TRANSPORTATION - FLORIDA DEPARTMENT OF TRANSPORTATION
No Comments Received
ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
The DEP Northwest District Office in Pensacola notes that an Environmental Resource Permit (ERP) will be required for both stormwater management and wetland impacts. The ERP applicant will be required to eliminate or reduce the proposed wetland resource impacts of roadway construction to the greatest extent practicable. In general, DEP recommends that transportation improvement projects not infringe upon environmentally sensitive areas such as flood zones, rare or endangered species' habitats, wetlands, or natural drainage courses, which should be preserved for their environmental and aesthetic significance. Rocky Creek, Long Creek, Turkey Creek and other stream systems - which eventually connect to Rocky Bayou and Choctawhatchee Bay - are located in the project area. Rocky Bayou has been designated an Aquatic Preserve, Outstanding Florida Waters and Class II shellfish harvesting waters. A large portion of Choctawhatchee Bay is also designated Class II shellfish harvesting waters. The designations thus reflected in Chapters 253, 258, 373, and 403, F.S., afford the highest level of state protection to the downstream estuarine systems of Rocky Bayou Aquatic Preserve and Choctawhatchee Bay. For further information on permitting requirements under Chapter 62-346, Florida Administrative Code, please contact Mr. Lee Marchman, NWFWMD, at (850) 921-2986 or Mr. Cliff Street, DEP, at (850) 595-8300, ext. 1135.
NORTHWEST FLORIDA WMD - NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
The NWFWMD advises that project Alternative C potentially affects 39.2 acres of 100-year floodplain, several tributaries to the Choctawhatchee Bay and 50.66 acres of wetlands. The Proposed Action may affect 39.8 acres of 100-year floodplain, several tributaries to the Choctawhatchee Bay and 42.77 acres of wetlands. Every effort should be made to protect floodplain resources and functions, including spanning the floodplains sufficiently to minimize riparian impacts and maintain hydrologic connectivity. The proposed project would require stormwater permitting in accordance with the Environmental Resource Permitting program, per Chapter 62-346, F.A.C., and wetland impacts will require mitigation in accordance with Section 373.4137, F.S. For further information, please refer to the enclosed NWFWMD memorandum.

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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Office of Policy and Stakeholder Coordination
Mary Ann Poole
Director
(850) 410-5272
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Managing fish and wildlife resources for their long-term well-being and the benefit of people.

620 South Meridian Street
Tallahassee, Florida
32399-1600
Voice: (850) 488-4676
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(800) 955-8771 (T)
(800) 955-8770 (V)
MyFWC.com

November 12, 2008

RECEIVED
NOV 17 2008
DEP Office of Intergovt'l Programs

Ms. Lauren Milligan, Clearinghouse Coordinator
Florida State Clearinghouse
Florida Department of Environmental Protection
3900 Commonwealth Boulevard, Mail Station 47
Tallahassee, FL 32399-3000

Re: SAI #FL200809294452C, Department of the Air Force, Draft Environmental Assessment, Mid-Bay Bridge Connector on Eglin Air Force Base, Okaloosa County, Florida

Dear Ms. Milligan:

The Division of Habitat and Species Conservation, Habitat Conservation Scientific Services Section, of the Florida Fish and Wildlife Conservation Commission (FWC) has coordinated agency review of the Draft Environmental Assessment (EA), Mid-Bay Bridge Connector and provides the following comments and recommendations in accordance with the Coastal Zone Management Act/Florida Coastal Management Program and the National Environmental Policy Act.

Project Description

The Mid-Bay Bridge Connector involves construction of an alternative bypass route around the eastern and northern sides of the communities of Niceville, Seminole, and Bluewater Bay in Okaloosa County, Florida. The proposed new road would connect the north approach of the Mid-Bay Bridge to State Road 85 north of Niceville. The new ten-mile route consists of a four-lane divided facility with urban (curb and gutter) and rural cross sections and proposed structures over Rocky Creek and several smaller streams that drain to Choctawhatchee Bay. The new road is proposed by the Mid Bay Bridge Authority (MBBA) in cooperation with the Mission Enhancement Committee (MEC) of Eglin Air Force Base.

Potentially Affected Resources

The proposed road may have direct and indirect impacts upon the listed species identified in Table 1. These species are known to occur in the vicinity to the road corridor. The U.S. Fish and Wildlife Service (USFWS) and U.S. Air Force concluded their consultation under Section 7 of the Endangered Species Act. The USFWS Biological Opinion indicated that the Okaloosa darter, eastern indigo snake, flatwoods salamander, red-cockaded woodpecker, and bald eagle (the latter not protected under the Endangered Species Act, but protected under the Bald and Golden Eagle Protection Act) are the federally protected species that are likely to occur within the Mid-Bay Bridge Connector corridor. The Air Force and USFWS have determined that only one federally listed species, the Okaloosa darter, may be adversely impacted by the Proposed Action. The Okaloosa darter is also listed by Florida as Endangered. In addition to the federally protected species, which Florida also lists, the EA indicates that the area supports the gopher tortoise and the Florida black bear (both state-listed as threatened).

Issues and Recommendations

The draft EA indicates that some field reconnaissance surveys have already been conducted for the various state and federally listed species; however, these have not been provided to the FWC for consideration and are not part of the appendices to the draft EA. We recommend that the applicant modify the final EA to reflect state-listed species survey and permitting requirements. General state-listed species survey requirements are as follows:

1. The applicant will coordinate with the FWC to obtain the current survey protocols for all listed species that may occur within the road corridor or could be affected by the roadway prior to conducting detailed surveys for the road right-of-way (ROW).
2. The results of those detailed surveys will be provided to FWC and coordination will occur with FWC on appropriate impact mitigation methodologies, as authorized by Article IV, Sec. 9, Fla. Constitution; Section 379.229, Florida Statutes (F.S.) (formerly Section 372.072, F.S.); and Rule 68A-27, Florida Administrative Code (F.A.C.; formerly Rule 39-27, F.A.C).

Gopher tortoise
The draft EA indicates that no gopher tortoises or active burrows were located within the Proposed Action corridor; however, the Proposed Action crosses many areas that would provide suitable habitat for gopher tortoises in the area. The EA provides no documentation of the methodologies used to conduct the surveys or maps that indicate where the surveys occurred.

The draft EA also indicates that the MBBA would be responsible for applying for relocation permits in accordance with FWC guidelines. It states that in the event that construction personnel come into contact with a gopher tortoise, all activities will cease until the animal has moved away from the area. The applicant has proposed avoidance and minimization procedures which include:

- Surveys for gopher tortoises and burrows will be conducted within the proposed alignment prior to construction.
- Gopher tortoise burrows will be avoided by a minimum of 25 feet if possible.
- All relocations would be performed in accordance with FWC permit requirements.
- All staging and storage areas will be sited to avoid impacts to gopher tortoise habitat.

The draft EA information, stated above, incorrectly interprets FWC requirements for addressing potential impacts to gopher tortoises and gopher tortoise permitting. Information on the gopher tortoise and permitting can be found on our agency's website at http://myfwc.com/permits/Protected-Wildlife/permits.html#gophertortoise. While we generally support the proposed avoidance and minimization procedures, we recommend that the final EA contain the following language, which also will serve as a condition during the construction phase of the project:

1. The applicant will conduct surveys for gopher tortoises (*Gopherus polyphemus*), in accordance with the FWC approved Gopher Tortoise Management Plan

(adopted in 2007) and current Gopher Tortoise Permitting Guidelines. A burrow survey covering a minimum of 15% of the potential gopher tortoise habitat to be impacted by development is required in order to apply for a relocation permit. Immediately prior to capturing tortoises for relocation, a 100% survey is required to effectively locate and mark all potentially occupied tortoise burrows and to subsequently remove the tortoises. Burrow survey methods are outlined in Appendix 4, Methods for Burrow Surveys on Development (Donor) and Recipient Sites. Surveys must be conducted within 90 days of when an application is submitted to FWC. However, surveys shall not be conducted within 30 days of any ground disturbance or clearing activities on the donor site. All surveys completed by authorized agents or other permittees are subject to field verification by FWC. The gopher tortoise surveys should be conducted during the months of April through October.

2. A permit is not required for activities which occur more than 25 feet from a gopher tortoise burrow entrance, provided that such activities do not harm gopher tortoises or violate rules protecting gopher tortoises. Examples of such violations noted in the past by FWC include, but are not limited to, killing or injuring a tortoise more than 25 feet away from its burrow; harassing a tortoise by blocking access to its burrow, and altering gopher tortoise habitat to such an extent that resident tortoises are taken.
3. The applicant will coordinate with and provide FWC a completed gopher tortoise relocation permit application in accordance with the FWC approved Gopher Tortoise Management Plan and Gopher Tortoise Permitting Guidelines. This permit application will provide information on the location for on-site recipient areas and any off-site FWC approved recipient site, as well as, appropriate mitigation contributions.
4. Any commensal species observed during the burrow excavations that are listed by the USFWS or FWC will be relocated in accordance with the applicable guidelines for that species.
5. All staging and storage areas will be sited to avoid impacts to gopher tortoise burrows and habitat.

Citations: Article IV, Sec. 9, Fla. Const.; Section 379.229, F.S. (formerly Section 372.072, F.S.); and Rule 68A-27.004, F.A.C (formerly Rule 39-27, F.A.C).

Florida black bear

The Proposed Action area is within the Primary Range of the Eglin population of the Florida black bear. There is a high potential for impacts to the Florida black bear as the Proposed Action would create a new high-speed corridor through a large expanse of undeveloped land. Vehicular deaths are now the number one killer of Florida black bears. The Proposed Action would include fences along the entire roadway that would not only delineate a new southern boundary for Eglin AFB, but would also enable wildlife to cross the roadway at natural and secure locations. In addition to this, wetlands and streams would be spanned sufficiently to include the riparian areas to promote wildlife movement potential. In the event that construction personnel come into contact with a black bear, all activities would cease until the animal has moved away from the area. The applicant has proposed avoidance and minimization procedures, which include:

- All wetlands and their associated riparian areas where Florida black bear activity is known or likely to occur, as determined by the Eglin's Natural Resources Section, would be bridged or spanned to accommodate terrestrial passages for wildlife movement.
- Fences on the north and eastern boundaries of the roadway would be installed to avoid and minimize vehicular deaths. All wetlands and their associated riparian areas where black bear activity is known or likely to occur, as determined by the Eglin NRS, will be bridged or spanned to accommodate terrestrial passages for wildlife movement. This along with fences on the north and eastern boundaries of the roadway will not only delineate a new southern boundary for Eglin AFB, it will enable wildlife to cross the roadway at natural and secure locations.

We recommend that the final EA contain the requirement that coordination with FWC staff, in addition to Eglin NRS and USFWS staff, occur to address the wildlife crossings and bridging designs.

Citations: Article IV, Sec. 9, Fla. Const.; Section 379.229, F.S. (formerly Section 372.072, F.S.); and Rule 68A-27.004, F.A.C. (formerly Rule 39-27, F.A.C).

Okaloosa darter

The Proposed Action would cross several streams that contain the state/federally endangered Okaloosa darter. A depiction of the Okaloosa darter streams that the proposed roadway would cross is found on page 3-15 of the draft EA. Okaloosa darter habitat is sensitive to a variety of disturbances. Habitat loss or degradation has occurred from several factors, including siltation, several small impoundments, and possibly domestic pollution. Erosion can increase siltation and imperil the darter's habitat, and its range has also been reduced by habitat modification and encroachment by the brown darter. The USFWS has issued its Biological Opinion regarding incidental take of the Okaloosa darter. The Biological Opinion identifies a list of conservation measures (page B-10-12) and reasonable and prudent measures (page B-38-40) that must be undertaken by the applicant to minimize or compensate for the project effects on the Okaloosa darter.

While we support the reasonable and prudent measures, the applicant is nevertheless still required to obtain an incidental take permit from the FWC. One of the key issues that must be addressed before an incidental take permit can be issued is: Do the conservation measures that will be provided enhance the survival potential of the darter? A second involves what mitigative measures will be provided to offset the impacts to the species.

Citations: Article IV, Sec. 9, Fla. Const.; Section 379.229, F.S. (formerly Section 372.072, F.S.); and Rule 68A-27.003, F.A.C. (formerly Rule 39-27, F.A.C).

Many of the reasonable and prudent measures identified for the Okaloosa darter will also benefit the other listed aquatic species that may occur in the Proposed Action area. Consideration should also be given to these species that may be present in the adjacent wetlands and aquatic areas during planning for drainage retention and treatment facilities. Drainage retention and treatment facilities should be located away from the wetlands to avoid possible impacts to these aquatic species.

The consistency determination in the draft EA did not assess impacts to State wildlife resources in accordance with Chapter 372 F.S. (now Chapter 379, F.S.) The applicant

will need to conduct an evaluation of potential impacts to all State listed species in accordance with Chapter 372, F.S., and comply with State-listed species permitting requirements in order for this project to be consistent with the Florida Coastal Management Program. Further, future federal permits will be subject to review for consistency with the Florida Coastal Management Program, which will include an evaluation of consistency with Chapter 372, F.S. Provided the recommendations in this letter are incorporated as conditions of the Final EA and Finding of No Significant Impact, the FWC can concur that the project is consistent with Chapter 372, F.S. If you or your staff would like to coordinate further on the recommendations contained in this report, please contact me at 850-410-5272, or email me at maryann.poole@MyFWC.com, and I will be glad to help make the necessary arrangements. If your staff has any specific questions regarding our comments, I encourage them to contact Theodore Hoehn at 850-488-3831 or by email at ted.hoehn@myFWC.com.

Sincerely,

Mary Ann Poole

Mary Ann Poole, Director
Office of Policy and Stakeholder Coordination

map/th
Mid-Bay_Bridge Connector_1766
ENV 1-3-2
cc: Mike Garrett, HDR
Gail Carmody, USFWS-PC

Ms. Lauren Milligan
Page 6
November 12, 2008

Table1

State and Federally Listed Species

Common Name	Scientific Name	State Listed	Federal Listed
Fish			
Okaloosa darter	*Etheostoma okaloosae*	Endangered	Endangered
Gulf sturgeon	*Acipenser oxyrinchus desotoi*	Species of Special Concern	Endangered
Amphibians and Reptiles			
Eastern indigo snake	*Drymarchon corais couperi*	Threatened	Threatened
Flatwoods salamander	*Ambystoma cingulatum*	Threatened	Threatened
Gopher frog	*Rana capito*	Species of Special Concern	
American alligator	*Alligator mississippiensis*	Species of Special Concern	Threatened
Gopher tortoise	*Gopherus polyphemus*	Threatened	
Alligator snapping turtle	*Macroclemys temminckii*	Species of Special Concern	
Birds			
Bald eagle	*Haliaeetus leucocephalus*	Not Listed*	Not Listed *
Red-cockaded woodpecker	*Picoides borealis*	Species of Special Concern	Endangered
Wood Stork	*Mycteria Americana*	Endangered	Endangered
Mammals			
Florida black bear	*Ursus americanus floridanus*	Threatened	

* Covered by the federal Bald and Golden Eagle Protection Act and the State's Bald Eagle Management Plan (see http://myfwc.com/imperiledspecies/plans/Eagle_Plan_April_2008.pdf)

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
Project Review Form

TO: **State Clearinghouse**
Department of Environmental Protection
3900 Commonwealth Boulevard, MS 47
Tallahassee, FL 32399-3000

RECEIVED
OCT 2 8 2008
DEP Office of
Intergovt'l Programs

DATE: **October 28,2008**

SUBJECT: Project Review: **Intergovernmental Coordination**
Title: **Department of the Air Force – Draft Environmental Assessment – Mid-Bay Bridge Connector on Eglin Air Force Base – Niceville, Okaloosa County,FL**
SAI #: **FL200809294452C**

The District has reviewed the subject application and attachments in accordance with its responsibilities and authority under the provisions of Chapter 373, Florida Statutes. As a result review, the District has the following responses:

ACTION

____ No Comment.

____ Supports the project.

____ Objects to the project; explanation attached.

____ Has no objection to the project; explanation optional.

___ Cannot evaluate the project; explanation attached.

____ Project requires a permit from the District under____.

DEGREE OF REVIEW

__x__ Documentation was reviewed.

____ Field investigation was performed.

____ Discussed and/or contacted appropriate office about project.

____ Additional documentation/research is required.

__x__ Comments attached.

SIGNED Maria Culbertson

Duncan Jay Cairns
Chief, Bur. Env. & Res. Plng.

Mid Bay Bridge Connector

Alternative C

The Draft Environmental Assessment prepared by the Mid-Bay Bridge Authority reveals there are 39.2 acres of potential 100-year floodplain impacts for the proposed roadway.

The placement of significant new impervious surface could result in a substantial increase in the volume of stormwater runoff. This could result in offsite impacts such as additional flooding. Direct impacts to the floodplain in the location of proposed roadway could further exacerbate the situation though the reduction of existing floodplain storage. Efforts should be made to protect floodplain resources and capacity and to prevent offsite flooding within the project area.

Floodplain functions that could be diminished within the project area include water storage and flood attenuation, water quality protection and improvement, environmental resiliency, wetland and transitional habitat, and associated economic and environmental benefits.

As stated in the Draft Environmental Assessment, efforts should be made to protect floodplain resources and functions, including spanning the floodplains sufficiently to include the riparian areas to minimize such impacts. To the degree possible, hydrologic connectivity and integrity should be maintained.

The proposed project crosses several tributaries to the Choctawhatchee Bay. Receiving waters include sensitive wetland habitats.

Construction and long-term operation of the roadway would generate NPS pollution and impact receiving waterbodies and wetlands and has the potential to increase the volume of stormwater runoff. The alignment of the could cause further wetland impacts, fragmentation, hydrologic alteration, and associated water quality impacts. Appropriate stormwater attenuation and treatment systems and best management practices should be employed to prevent point and nonpoint source pollution and other potential impacts to watershed and groundwater resources associated with road construction, operation, and maintenance.

Project work would require stormwater permitting in compliance with the Environmental Resource Permitting program, per Chapter 62-346, F.A.C.

In a detailed onsite analysis, it should be determined whether any wells would be impacted by construction. Appropriate measures should be taken to protect and/or abandon wells as necessary. Well abandonment, if required, would be subject to permitting by the District in accordance with Chapter 40A-3, F.A.C.

The Draft Environmental Assessment prepared by the Mid-Bay Bridge Authority reveals there are 50.66 acres of wetland impacts for the proposed roadway.

The alignment of the roadway has the potential to impact wetlands along the proposed corridor and will increase the likelihood of adverse secondary impacts on wetland functions (including but not limited to habitat, floodwater storage and attenuation, and water quality treatment). Mitigation alternatives may prove to be limited and expensive.

Wetland impacts associated with this alternative will require mitigation in accordance with Section 373.4137, Florida Statutes

Mid Bay Bridge Connector

Proposed Action

The Draft Environmental Assessment prepared by the Mid-Bay Bridge Authority reveals there are 39.8 acres of potential 100-year floodplain impacts for the proposed roadway.

The placement of significant new impervious surface could result in a substantial increase in the volume of stormwater runoff. This could result in offsite impacts such as additional flooding. Direct impacts to the floodplain in the location of proposed roadway could further exacerbate the situation though the reduction of existing floodplain storage. Efforts should be made to protect floodplain resources and capacity and to prevent offsite flooding within the project area.

Floodplain functions that could be diminished within the project area include water storage and flood attenuation, water quality protection and improvement, environmental resiliency, wetland and transitional habitat, and associated economic and environmental benefits.

As stated in the Draft Environmental Assessment, efforts should be made to protect floodplain resources and functions, including spanning the floodplains sufficiently to include the riparian areas to minimize such impacts. To the degree possible, hydrologic connectivity and integrity should be maintained.

The proposed project crosses several tributaries to the Choctawhatchee Bay. Receiving waters include sensitive wetland habitats.

Construction and long-term operation of the roadway would generate NPS pollution and impact receiving waterbodies and wetlands and has the potential to increase the volume of stormwater runoff. The alignment of the could cause further wetland impacts, fragmentation, hydrologic alteration, and associated water quality impacts. Appropriate stormwater attenuation and treatment systems and best management practices should be employed to prevent point and nonpoint source pollution and other potential impacts to watershed and groundwater resources associated with road construction, operation, and maintenance.

Project work would require stormwater permitting in compliance with the Environmental Resource Permitting program, per Chapter 62-346, F.A.C.

In a detailed onsite analysis, it should be determined whether any wells would be impacted by construction. Appropriate measures should be taken to protect and/or abandon wells as necessary. Well abandonment, if required, would be subject to permitting by the District in accordance with Chapter 40A-3, F.A.C.

The Draft Environmental Assessment prepared by the Mid-Bay Bridge Authority reveals there are 42.77 acres of wetland impacts for the proposed roadway.

Realignment of the roadway has the potential to impact wetlands along the proposed corridor and will increase the likelihood of adverse secondary impacts on wetland functions (including but not limited to habitat, floodwater storage and attenuation, and water quality treatment). Mitigation alternatives may prove to be limited and expensive.

Wetland impacts associated with this alternative will require mitigation in accordance with Section 373.4137, Florida Statutes.

FEB.21.2000 16:44 #0008 P.001 /003

OK 99-10-3-08

West Florida Regional Planning Council

Bill Roberts, Chairman
Bill Dozier, Vice-Chairman

Terry A. Joseph, Executive Director

FAX TRANSMITTAL (S) **Total # of Pages (including cover) 3**

TO: STATE CLEARINGHOUSE ▪ FAX: (850) 245-2190/(850) 245-2189
Phone: 850-245-2161

DATE: Monday, November 17, 2008

FROM: John Gallagher, Director, Housing & Homeland Security & Emergency Mgmt.
John.Gallagher@wfrpc.org

SUBJECT: State Clearinghouse Review(s) Fax Transmittals:

SAI #	Project Description	RPC #
FI.200809294452C	Draft Environmental Assessment, Mid-Bay Bridge Connector, Eglin AFB	OK 99-10-3-08

	No Comments – Generally consistent with the WFSRPP
X	Comments Attached

If you have any questions, please call.

P.O. Box 11399 • Pensacola, FL 32524-1399 • P: 850.332-7976 • 1.800.226.8914 • F: 850.637-1923
4081 East Olive Road, Suite A; Pensacola, FL 32514
651 West 14th Street, Suite E • Panama City, FL 32401 • P: 850.769.4854 • F: 850.784.0456
www.wfrpc.org

FEB.21.2000 16:44 #0008 P.002 /003

OK 99 10-3-08

West Florida Regional Planning Council

Bill Dozier, Chairman
Cindy Frakes, Vice-Chairman

Terry A. Joseph, Executive Director

MEMORANDUM

To: Laura Milligan, Florida State Clearinghouse, Florida State Clearing House, Florida Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station 47, Tallahassee, FL 32399-3000.

From: Mary F. Gutierrez, Environmental Planner, West Florida Regional Planning Council MFG 11/17/08

Date: Monday, November 17, 2008

Subject: Mid-Bay Bridge Connector/RCS: 07-523; RPC# OK99-10-3-08

The proposal is for the construction of a connector road, the Mid-Bay Bridge Connector, to provide an alternative corridor, which will improve capacity, provide for partial linkage to Interstate 10 (I-10), enhance safety, and establish an alternative evacuation route in the event of emergencies.

The need for the Mid-Bay Bridge Connector has previously been defined in other project studies completed by the Florida Department of Transportation (FDOT) and the Mid-Bay Bridge Authority (MBBA).

The Council supports all recommends made by the U.S. Fish and Wildlife Service in regards to rare, threatened, or endangered species.

Avoidance and minimization should be implemented in all phases of the construction of the potential project. Areas should be spanned as much as possible as opposed to the placement of culverts. Surface water discharges should be avoided. Alternative stormwater practices should be explored as opposed to traditional practices.

P.O. Box 11399 • Pensacola, FL 32524-1399 • P: 850.332.7976 • 1.800.226.8914 • F: 850.623.1923
661 West 14th Street, Suite E • Panama City, FL 32401 • P: 850.769.4854 • F: 850.784.0456
www.wfrpc.org

FEB.21.2000 16:45 #0008 P.003 /003

~~FL000~~ - OK 99-10-3-08

Department of Growth Management

Planning and Zoning Division
1804 Lewis Turner Blvd Suite 200
Ft Walton Beach, FL 32547

State of Florida

October 8, 2008 2000

Mr. John Gallagher
West Florida Regional Planning Council
P.O. Box 11399
Pensacola, FL 32524-1399

Re: SAI# FL200809294452C Draft Environmental Assessment Mid-Bay Bridge Connector

Dear Mr. Gallagher:

The Okaloosa County Growth Management Department has reviewed the above-referenced Draft Environmental Assessment and would like to offer the following comments:

1. An additional column titled "Species" has been added to the portion of Table 3.3.4.3-1 which appears on page 3-23. This column only appears on the second half of the table, and is not present on the first half of the table which begins on page 3-22. It seems to have appeared when the table went from one page to the next. Looking at the contents of the column, it is apparent that it makes no sense. In addition, the title of the table, "Federal, State, and Species of Special Concern Recorded in the Proposed Mid-Bay Bridge Connector Area" is not entirely accurate; it should read "Federal and State Endangered and Threatened Species, and State-Listed Species of Special Concern, Recorded in the Proposed Mid-Bay Bridge Connector Area".

2. What classification systems (FLUCFCS, etc) were used for Figures 3.5.3.1-1 and 3.5.3.1-2? This should be noted on the figures themselves, or explained in the preceding discussion on pages 3-45 and 3-46.

Thank you very much for the opportunity to review the Draft EA for the Mid-Bay Bridge Connector. If you have any questions regarding these comments, or if I may be of further assistance, please do not hesitate to contact me at 850-651-7524, via email at ekampert@co.okaloosa.fl.us or at the address that appears at the head of this letter.

Sincerely,

Elliot L. Kampert, AICP
Growth Management Director

COUNTY: OKALOOSA
SCH- USAF- EG
2008-06685

DATE: 9/26/2008
COMMENTS DUE DATE: 11/4/2008
CLEARANCE DUE DATE: 11/25/2008
SAI#: FL200809294452C

MESSAGE:

STATE AGENCIES	WATER MNGMNT. DISTRICTS	OPB POLICY UNIT	RPCS & LOC GOVS
COMMUNITY AFFAIRS	NORTHWEST FLORIDA WMD		
ENVIRONMENTAL PROTECTION			
FISH and WILDLIFE COMMISSION			
OTTED			
X STATE			
TRANSPORTATION			

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:

_ **Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.**

X **Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.**

_ **Outer Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.**

_ **Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.**

Project Description:

DEPARTMENT OF THE AIR FORCE - DRAFT ENVIRONMENTAL ASSESSMENT - MID-BAY BRIDGE CONNECTOR ON EGLIN AIR FORCE BASE - NICEVILLE, OKALOOSA COUNTY, FLORIDA.

To: Florida State Clearinghouse

AGENCY CONTACT AND COORDINATOR (SCH)
3900 COMMONWEALTH BOULEVARD MS-47
TALLAHASSEE, FLORIDA 32399-3000
TELEPHONE: (850) 245-2161
FAX: (850) 245-2190

EO. 12372/NEPA
☑ No Comment
☐ Comment Attached
☐ Not Applicable

Federal Consistency
☑ No Comment/Consistent
☐ Consistent/Comments Attached
☐ Inconsistent/Comments Attached
☐ Not Applicable

From:
Division/Bureau: Historical Resources / Historic Preservation
Reviewer: WB Yates / Laura A. Kammerer Deputy SHPO
Date: 11/6/08 / 11.7.2008

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APPENDIX B

ENDANGERED SPECIES ACT SECTION 7 CONSULTATION

APPENDIX B: ENDANGERED SPECIES ACT SECTION 7 CONSULTATION

Mid-Bay Bridge Connector Road
Mid-Bay Bridge Authority
Eglin Air Force Base
Okaloosa County, Florida

Biological Opinion
September 16, 2008

Prepared by:
U.S. Fish and Wildlife Service
1601 Balboa Avenue
Panama City, FL

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ACRONYMNS

Act	Endangered Species Act
AFB	Air Force Base
BA	Biological Assessment
BMPs	Best Management Practices
BRAC	Base Realignment
Eglin AFB	Eglin Air Force Base
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
GCPEP	Gulf Coastal Plain Ecosystem Partnership
huc	Hydrologic Unit
MBBA	Mid-Bridge Bay Authority
mph	Miles per hour
NRB	Natural Resource Branch
NPDES	National Pollution Discharge Elimination
PD&E	Project Development and Environment
ROW	Right-of-Way
Service	U.S. Fish and Wildlife Service
SWIM	Surface Water Improvement and Management
USGS	U.S. Geological Survey

United States Department of the Interior

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September 16, 2008

Mr. Stephen M. Seiber
Chief, Natural Resources Branch
96th CEG/CEVSN
501 DeLeon Street, Suite 101
Eglin Air Force Base, Florida 32542-5133

Re: FWS Log No. 2008-F-0230
Agency: Eglin Air Force Base
Project Title: Mid-Bay Bridge Connector Road
Location: Eglin AFB, FL
Ecosystem: NE Gulf
County: Okaloosa County, FL

Dear Mr. Seiber:

This letter transmits the Fish and Wildlife Service's (Service) biological opinion (BO) for actions to be taken during construction of a new road alignment, in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.) Your letter requesting formal consultation was received on May 9, 2008. Our BO is based on information provided in the biological assessment (BA) that accompanied your letter, your responses to our requests for additional information, Service investigations in the project area, discussions with experts in the field, and other sources of information. A complete administrative record of this consultation is on file at the Service's Panama City, Florida field office.

This biological opinion refers only to the potential effects of the proposed connector road on the federally endangered Okaloosa darter (*Etheostoma okaloosae*). Table 1 identifies other federally listed species occurring within the Action Area. Provided that all proposed avoidance and minimization measures are followed, the Service concurs with Eglin's determination that road construction activities are not likely to adversely affect the flatwoods salamander (*Ambystoma*

bishopi) and Eastern indigo snake (*Drymarchon corais couperi*), and have no effect on the red-cockaded woodpecker (*Picoides borealis*). These species will not be discussed further in this BO.

Table 1. Other Federally Protected Species Evaluated for Effects.

Species	Present in Action Area	Effects Determination
Eastern indigo snake	Yes	Not Likely to Adversely Affect
Flatwoods salamander	Yes	Not Likely to Adversely Affect
Red-cockaded woodpecker	Yes	No Effect

An assessment was also made for the bald eagle (*Haliaeetus leucocephalus*), protected under the Bald and Golden Eagle Protection Act of 1940 (16 U.S.C. 668-668c). A bald eagle nest was documented in the Rocky Creek area from 1997-1999, with no occurrences since that time. Compliance with National Bald Eagle Management Guidelines is recommended if bald eagles nest within the project vicinity prior to or during construction.

Consultation History

May 30, 2007 — Eglin Natural Resource Branch (NRB) and the Mid-Bay Bridge Authority (MBBA) describe the proposed connector road to the Service. Potential impacts to protected species were discussed.

November 19, 2007 — Project was presented to natural resource agencies for discussion of resource impacts.

May 9, 2008 — The Service receives Eglin's request dated May 7, 2008, to initiate formal consultation.

May 9, 2008 — Eglin NRB provides the Service with a BA (FWS No. 2008-F-0230).

May 21, 2008 — The Service requests additional information from Eglin NRB.

June 3, 2008 — Bill Tate, Service fish biologist, attended a field review of potential restoration sites for the Okaloosa darter.

June 5, 2008 — Conference call was held between Eglin NRB, agents for the MBBA, and the Service to discuss the project.

June 27, 2008 — Additional information is provided to the Service by the MBBA.

July 9, 2008 — The Service provides recommendations to the MBBA on restoration projects to benefit the Okaloosa darter.

July 21, 2008	Additional information on the mitigation plan is provided to the Service by the MBBA.
July 25, 2008	The Service acknowledges initiation of formal consultation.
September 5, 2008	Draft BO sent to Eglin.
September 16, 2008	Final BO sent to Eglin.

BIOLOGICAL OPINION

DESCRIPTION OF PROPOSED ACTION

The Mid-Bay Bridge Authority (MBBA) proposes to construct a new alternative road corridor from the north approach of the Mid-Bay Bridge to SR 85 north of Niceville across Eglin Air Force Base (AFB), Florida. The new 10-mile bypass route would consist of a four-lane, divided, limited access toll facility, with both urban and rural typical sections. It would include bridge structures over streams inhabited by the Okaloosa darter. The corridor crosses Rocky Creek, West Long Creek (a tributary of Rocky Creek), East Turkey Creek, Shaw Still Branch (a tributary of Swift Creek), Swift Creek, Fox Head Branch (a tributary of Swift Creek), and Mill Creek. A mainline toll plaza will be located either just north or south of Rocky Creek. Interchanges are proposed at SR 20, SR 285, SR 85, Lakeshore Drive, Range Road, and in Northeast Niceville (location to be determined during design). **Figure 1** depicts the proposed corridor and interchange locations.

A four-lane urban typical section with a 106-foot right-of-way (ROW) is proposed for the southern 1.0 mile of the connector from the existing Mid-Bay Bridge toll plaza to north of Lakeshore Drive. This section will have 12-foot travel lanes, 4-foot bicycle lanes, a 22-foot raised grass median, curb and gutter, and an underground drainage system. The design speed is 45 miles per hour (mph). A four-lane rural typical section with a 202-foot ROW is proposed from north of Lakeshore Drive to SR 85. This section will have 12-foot travel lanes, 5-foot paved shoulders, a 50-foot wide depressed grass median, and parallel ditches. The design speed is 60 mph from north of Lakeshore Drive to north of SR 20, and 70 mph north of SR 20 to SR 85.

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Figure 1. Location of the Mid-Bay Connector Road and interchanges.

Purpose and Need

The purpose of the Mid-Bay Bridge Connector is to provide an alternative corridor to improve traffic capacity, provide linkage to I-10, improve safety, and establish an alternative evacuation route for hurricanes and other regional emergencies. Previous traffic studies determined the need for an alternative corridor because of a failing Level of Service (F) along existing major roads: SR 20 Rocky Bayou Drive to White Point Road; and Government Boulevard (SR 85 South) to SR 285.

In 2005, the Base Realignment and Closure Commission (BRAC) expanded Eglin's military mission. As a result, 12,000 base personnel and their families will be added to the population of

Okaloosa County by Fiscal Year 2011. In May 2006, Eglin held a growth management summit, *Vision 2015*, which identified transportation as the top challenge with the region's impending growth. Eglin began collaboration with neighboring communities, transportation agencies, and transportation authorities to address existing and future traffic needs. Eglin agreed to study a 122-meter (400-foot) wide corridor that would accommodate Eglin and its mission as well as the communities' transportation needs. The Mid-Bay Bridge Connector will be designed to meet the following needs:

- Provide a solution to the traffic needs of the area by improving capacity as defined in the original Project Development and Environment (PD&E) study completed by the Florida Department of Transportation (FDOT).
- Avoid major residential and commercial service impacts to areas along White Point Road, north of SR 20, and along College Boulevard.
- Eliminate aggravated traffic conditions along White Point Road and College Boulevard.
- Be consistent with the public's overall comments.
- Create a regional transportation system that Eglin can use to optimize their mission needs with increased mobility to Eglin ranges north and east of Niceville.
- Establish a practicable alternative to access I-10 during hurricane evacuations or other emergencies.
- Decrease response time for base personnel during mission activities and potential security threat situations.
- Improve and enhance the operation and safety of the regional transportation network.
- Support a key objective of having the connector road serve as a definitive boundary for the Eglin range.

Action Area

The Service has described the Action Area to include all areas which would be affected directly or indirectly by the proposed action and not merely the immediate area directly impacted by the action. The impact radius for roads is variable, depending on the ecological factor under consideration and the habitat the road traverses (Forman et al. 2003). For example, sediment can affect stream habitat and fish populations for downstream distances greater than 3,000 feet from a road or bridge. Effects on wildlife from traffic disturbance, noise, and vibrations can extend to over 1,000 feet. Other broad-scale ecological landscape effects (habitat fragmentation, disrupted wildlife movement corridors, human access impacts) can extend beyond 3,000 feet. The Action Area for this biological opinion is 1,000 feet on either side of the corridor, plus the downstream 16-digit hydrologic unit (huc) code watershed where the road crosses streams. The use of innovative environmentally-

sensitive bridge construction techniques and other conservation measures are expected to minimize the zone of influence for the project. The Action Area encompasses 7,352 acres and is shown in **Figure 2**.

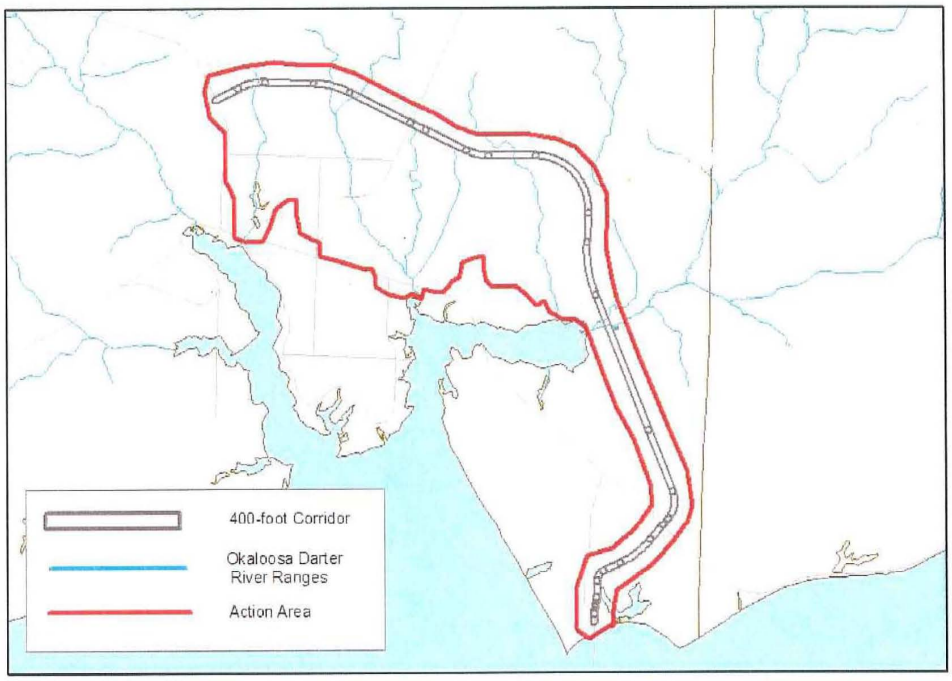

Figure 2. The Action Area for the Mid-Bay Bridge Connector Road.

Conservation Measures

Conservation measures are actions to benefit or promote the recovery of a listed species that are included by the Federal agency as an integral part of the proposed action. These actions will be taken by the Federal agency or applicant and serve to minimize or compensate for project effects on the listed species. The BA states that the MBBA will implement the following avoidance and minimization measures to reduce impacts:

1. All Okaloosa darter stream crossings (Rocky Creek, Long Creek, East Turkey Creek, Shaw Still Branch, Swift Creek, Fox Head Branch, and Mill Creek) will be bridged.

2. Bridges will span adjacent riparian areas and wetlands and be of sufficient length to accommodate terrestrial wildlife crossings.

3. Bridge design will span the streams' bankfull width plus 10 percent to avoid placing bridge piles directly in the stream channel.

4. Bridges will be designed to maintain water quality by eliminating discharge into surface waters.

5. Water quality will be maintained by capturing and conveying stormwater runoff to adjacent floodplains or stormwater treatment facilities, where applicable.

6. Bridge construction will be accomplished by top-down construction to reduce sedimentation, and avoid damage to sensitive areas by heavy equipment. Top-down construction is a sequential approach beginning with construction of the first bent, cap, and span. The crane then works off the first span to construct the second span, and repeats this process until the final span is set. Ground disturbance should be limited to the bridge piles. A typical bridge profile is shown in **Figure 3**.

7. Staging and storage areas will be located inside the 122-meter (400-foot) wide study corridor, and outside of any environmentally sensitive areas. These sensitive areas include threatened, endangered, or rare species habitats, as well as areas where erosion and sedimentation may have adverse impacts to water resources, such as wetlands, steepheads, or other karst areas.

8. During construction and in compliance with the National Pollution Discharge Elimination System (NPDES), all of the applicable best management practices (BMPs) will be employed to minimize impacts to wetlands, surface water, and soils.

9. Stormwater management will be determined in consultation with the Northwest Florida Water Management District and/or the Florida Department of Environmental Protection during their permitting process.

10. To further our scientific understanding of the Okaloosa darter and the effects of transportation projects, the Mid-Bay Bridge Authority will address basic data needs. One study will examine the population genetics of Okaloosa darters within the smaller watersheds of the Boggy and Rocky Bayou drainages. Monitoring Okaloosa darter populations, water quality, and stream channel stability is also proposed.

11. To assure protection of the Okaloosa darter, the Mid-Bay Bridge Authority will provide for future habitat restoration projects on Eglin AFB as well as in the approximately 4 percent of its habitat outside of Eglin, in the communities of Niceville and Valparaiso in Okaloosa County. Potential projects have been identified as follows:

    - Implementing a project on Swift Creek south of SR 190 to assess stream/tributary conditions and protect the riparian areas.

- Implementing a project on Swift Creek at the abandoned railroad crossing off of SR 285 to remove an impoundment and restore natural stream channel.
- Reconnecting the Shaw Still Branch population with Swift Creek by removing beavers, assessing water quality inputs and impoundments, and developing and implementing an appropriate restoration plan.
- Restoring stream flows on East Turkey Creek downstream of Rocky Bayou Drive and controlling beavers within the sub-basin.
- Conducting a feasibility study of restoration of College Pond, followed by stream restoration if feasible.
- Rebuilding the Anderson Pond impoundment to an off-line structure and reconnecting the isolated Okaloosa darter population with the Turkey Creek population.
- Reconnecting Mill Creek Okaloosa darter populations to Boggy Bayou by converting two impoundments on the Eglin Eagle golf course to off-line impoundments; new stream channel would need to be constructed around the existing lake margins to restore hydrology. Beaver management will also be implemented.
- Removing old Eglin railroad crossings culverts at Swift, Turkey, and Toms Creeks, with stream channel restoration as needed.
- Removing or replacing 31 stream crossing structures on Eglin AFB range roads that have been identified as fish passage barriers and sediment sources.
- Facilitating coordination with property owners for easements and agreements as needed.

12. To benefit other aquatic species, the Hicks Branch will be restored by replacing three road-stream crossing structures, removing beavers, and constructing stormwater treatment facilities. An open channel construction and Living Shoreline project will also be done at Lions Park.

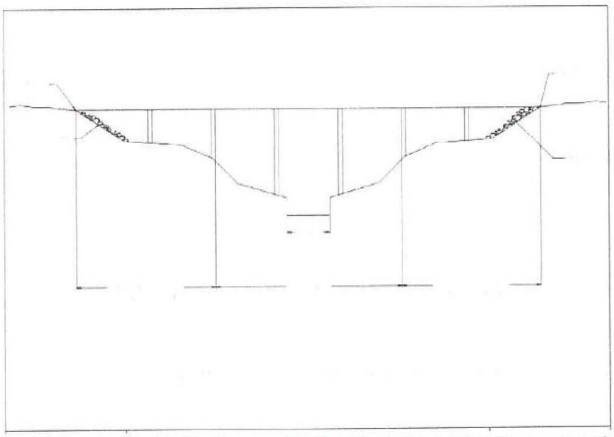

Figure 3. Typical bridge profile for Okaloosa darter stream crossings.

STATUS OF THE SPECIES/CRITICAL HABITAT

Species/critical habitat description

The Okaloosa darter, *Etheostoma okaloosae,* is a small percid fish (maximum size 49 millimeters Standard Length) with a well-developed humeral spot, a series of five to eight rows of small spots along the sides of the body, and a first anal spine longer than the second. General body coloration varies from red-brown to green-yellow dorsally, and lighter ventrally, although breeding males have a bright orange submarginal stripe on the first dorsal fin (Burkhead et al. 1992). The brown darter, *Etheostoma edwini*, is similar in size, but the blotched patterns on the sides are not organized into rows and breeding males have bright red spots on the body and fins.

Life history

Longleaf pine-wiregrass-red oak sandhill communities dominate the vegetation landscape in Okaloosa darter watershed basins. These areas are characterized by high sand ridges where soil nutrients are low and woodland fire is a regular occurrence. Where water seeps from these hills, acid bog communities of sphagnum moss (*Sphagnum* sp.), pitcher plants (*Sarracenia* sp.), and other plants adapted to low nutrient soils develop. In other areas, the water emerges from seepage springs directly into clear flowing streams where variation of both temperature and flow is moderated by the deep layers of sand. The streams support a mixture of bog moss (*Mayaca fluviatilis*), bulrush (*Scirpus etuberculatus*), golden club (*Orontium aquaticum*), burr-weed (*Sparganium americanum*), pondweed (*Potamogeton diversifolius*), spikerush (*Eleocharis* sp.), and other aquatic and emergent plants.

Okaloosa darters typically inhabit the margins of moderate to fast flowing streams where detritus, root mats, and vegetation are present. They have not been collected in areas where there is no current or in open sandy areas in the middle of the stream channel. The creeks with Okaloosa

darters are generally shaded over most of their courses. The water is cool with temperatures ranging from 68° to 72° Fahrenheit (20° to 22° Celsius) in the winter (Tate 2008 pers. comm.) to 72° to 75° Fahrenheit (22° to 24° Celsius) in the summer (Mettee and Crittenden 1977).

Okaloosa darters feed primarily on fly (Diptera), mayfly (Ephemeroptera), and caddis fly (Trichoptera) larvae (Ogilvie 1980, as referenced in Burkhead et al. 1992). The breeding season extends from late March through October, although it usually peaks in April. Spawning pairs have been videographed attaching one or two eggs to vegetation, and observed attaching eggs to woody debris and root mats (Burkhead et al. 1994; Collete and Yerger 1962). Ogilvie (1980, as referenced in Burkhead et al. 1992) found a mean of 76 ova (unfertilized eggs) and 29 mature ova in 201 female Okaloosa darters, although these numbers may under-represent annual fecundity as the prolonged spawning season is an indication of fractional spawning (i.e. eggs develop and mature throughout the spawning season). Estimates of longevity range from two to four years (Burkhead et al. 1992; Tate 2008 pers. comm.).

In 1964, a potential competitor, the brown darter (*Etheostoma edwini*), was found in the lower reaches of Swift Creek. The brown darter is a widespread species in drainages that surround the streams containing the Okaloosa darter, but had not previously been documented in any Okaloosa darter drainages. Early indications were that the brown darter may have been introduced into darter drainages from releases from bait buckets by fishermen, dispersal from Eagle Creek along the shoreline of Choctawhatchee Bay, or were simply overlooked in early collections. Recent genetics analyses of the brown darter shows high genetic structure, and little support for introductions from eastern Florida (Austin 2007 pers. comm.), supporting the theory that they were overlooked in early collections.

Population Abundance

The Service had no estimate of population size at the time of listing, though the historic range of the Okaloosa darter is fairly well documented. Relative abundance estimates were determined annually from 1987-88 to 1998 while monitoring increases in sprayfield loading at Eglin AFB. Bortone (1999) compared the relative abundance (number per sampling hour) of darter at 16 to 18 stations over 10 sampling seasons. The overall number of darters was similar over the ten year sampling effort, with the mean number of Okaloosa darters per sample (in those samples that yielded darters) slightly lower in the earlier sampling period (1987 to 1991), higher during the middle sampling years (1992 to 1997) and distinctly lower in 1998 and 1999. Bortone (1999) concluded that this may not have indicated an overall trend in the reduction in Okaloosa darters as much as it may be indicative of changes that specifically reduced preferable habitat and increased sampling effectiveness at certain sites, as several sites were altered by beaver activity while others became more rooted with undergrowth. Generally, the data do not indicate any overall major trends in decline or increase during the ten-year sampling period. (Bortone 1999).

The U.S. Geological Survey (USGS) and cooperators have surveyed between 12 and 60 sites for Okaloosa darters annually since 1995 (Jordan and Jelks 2004), primarily using visual counts in 20-m (66 ft) segments. Collectively, Jordan and Jelks' data show an almost tripling of darter numbers in 10 years time, from an average of about 20 darters per 20-m (66 ft) segment sampled in 1995 to

about 55 darters per segment in 2004. A dip in the increasing trend occurred in 2001 and 2002, which corresponded with years of regional drought conditions. Even during these years, however, darter numbers were almost double those of 1995 and 1996.

The current range-wide population, estimated by applying Jordan and Jenks (2004) study area-wide density estimate of 3.1 darters per meter (m) (3.28 feet) to our estimates of occupied stream length in each of the six Okaloosa darter basins, gives a total population estimate of 802,668 darters with an estimated 625,279 mature individuals (Service 2007). In order to expand the surveyed range of the species, 69 sites were seine surveyed in 50-m (164 ft) segments by the Service in 2004-2005 with many of those being outside the area surveyed by Jordan and Jelks (2004). Observed segment densities were transformed to local abundance estimates based upon Jordan and Jelks (2004) comparison of seine versus visual counts and depletion sampling. These surveys produced an overall density estimate of 1.28 darters per meter (3.28 feet) and an abundance estimate of 259,355 mature individuals (332,933 total individuals). Acknowledging the greater error likely associated with seine-based calculations, the latter approach provides a more conservative population estimate. For the purposes of this consultation, the more conservative approach to a population estimate will be used.

Status and distribution

The Okaloosa darter is known to occur in only six clear stream systems that drain into two Choctawhatchee Bay bayous (Boggy and Rocky) in Walton and Okaloosa counties in northwest Florida. They have only been found in the tributaries and main channels of Toms, Turkey, Mill, Swift, East Turkey, and Rocky Creeks. A map showing the extent of occurrence and known observations of Okaloosa darter is shown in **Figure 4**. Approximately 90 percent of the 457 sq. km. (176 sq. mi.) watershed drainage area is under the management of Eglin Air Force Base (Eglin AFB), and we estimate that 98.7 percent of the darter's extant range is within the boundaries of Eglin AFB. The remainder of the watershed and extant range is within the urban complex of Niceville and Valparaiso (USAF 2006).

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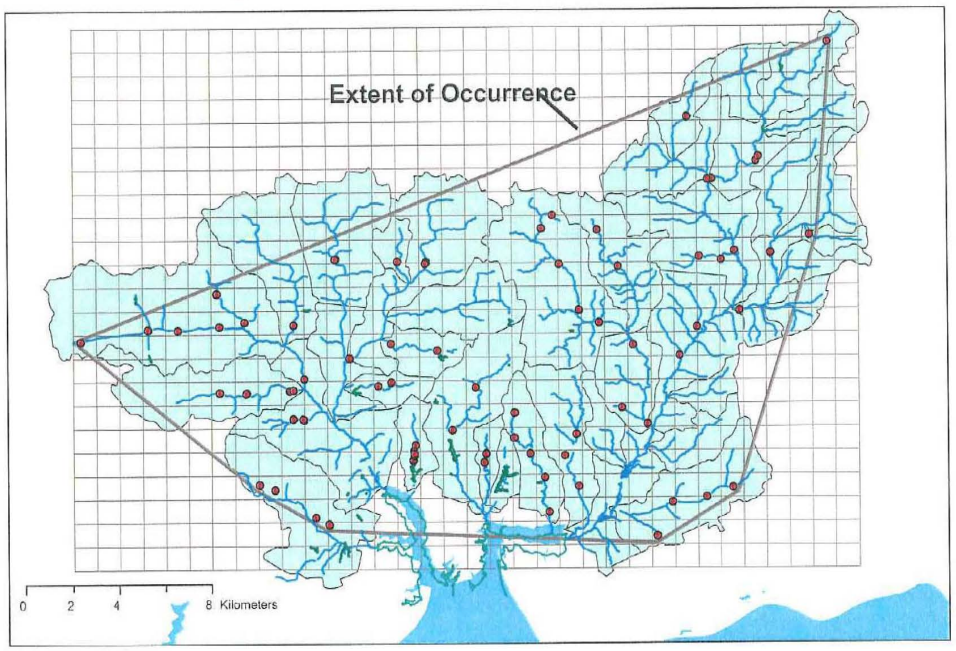

Figure 4. Extent of occurrence of the Okaloosa darter and 1-km grid used for measuring the species' area of occupancy. Red dots show where Okaloosa darters have been observed since 1998.

The Service proposed listing of the Okaloosa darter as endangered on January 15, 1973 (38 FR 1521) and listed the species as endangered under the Act on June 4, 1973 (38 FR 14678) due to its extremely limited range, habitat degradation, and apparent competition from a possibly introduced related species, the brown darter. Critical habitat has not been designated for this species. A Recovery Plan for the species was completed in 1981, and a revised Recovery Plan was completed on October 26, 1998. On June 21, 2005, the Service provided notice in the *Federal Register* that a 5-year status review was being initiated for the Okaloosa darter under the Act (70 FR 35689). The 5-year status review was completed in July 2007 (http://www.fws.gov/southeast/5yearReviews/). The Panama City Field Office has recommended downlisting the species' classification to threatened. A proposed rule for reclassifying the Okaloosa darter is expected to be published in late 2008.

The revised Recovery Plan identifies four primary recovery actions necessary for the Okaloosa darter: (1) restore and protect habitat in the six Okaloosa darter stream watersheds; (2) protect water quality and quantity in Okaloosa darter streams; (3) monitor and annually assess darter populations and habitat conditions of Okaloosa darter and brown darter, and water quality and quantity in the streams and; (4) establish a public information and education program and evaluate its effectiveness. All of these primary recovery actions have been initiated.

(1) Restore and protect habitat in the six Okaloosa darter stream watersheds.

Eglin AFB has and continues to implement an effective habitat restoration program to control erosion from roads, borrow pits, and cleared test ranges. Since 1995, Eglin has restored 317 sites covering 196.2 ha (484.8 ac) that were eroding into Okaloosa darter streams. All 38 borrow pits within Okaloosa darter drainages are now stabilized (59.3 ha; 146.5 ac) (USAF 2005). The other 279 sites (136.9 ha; 338.3 ac) included in the total are characterized as non-point sources (pollution created from larger processes and not from one concentrated point source, like excess sediment from a construction site washing into a stream after a rain) of stream sedimentation. Eglin estimates that these efforts have reduced soil loss from roughly 69,000 tons/year in darter watersheds in 1994 to approximately 3,000 tons/year in 2004 (S. Pizzolato 2005 pers. comm.). As of 2006, Eglin AFB had completed about 95 percent of the erosion control projects identified for the darter watersheds (USAF 2006). Restoration activities began earlier in the Boggy Bayou drainages, accordingly, darter numbers increased in the Boggy Bayou drainages earlier than in the Rocky Bayou drainages. Increases in darter numbers over the past 10 years generally track the cumulative area restored in that time frame (Jordan and Jelks 2004).

Many road crossing structures have been eliminated as part of Eglin's restoration activities. Of the 152 road crossings that previously existed in Okaloosa darter drainages, 57 have been eliminated, 28 in Boggy Bayou streams, and 29 in Rocky Bayou streams. Most of these were likely barriers to fish passage or problems for stream channel stability, and removing them has improved habitat and reduced population fragmentation. Of the remaining 95 road crossings, 21 are barriers to fish passage. Many of these are culverts with the downstream end perched above the stream bed, precluding the upstream movement of fish during normal and low flow conditions. Ten of the 21 barriers are of little to no adverse consequence to darter habitat connectivity because they occur on the outskirts of the current range or immediately adjacent to another barrier or impoundment. However, darters downstream of the eleven remaining barriers cannot move upstream during normal and low-flow conditions.

Impoundments may also fragment darter habitat and populations, and like road-crossing barriers to passage, many of the 32 impoundments within the darter range are located within reaches from which darters are extirpated or are near the margins of the extant range. Only three impoundments, one each in the Toms Creek, Turkey Creek, and Rocky Creek basins, separate more than 1 km (0.62 mi.) of stream from the rest of the stream network in the basin.

In FY2007, Eglin AFB restored portions of Mill Creek. Staff from the Eglin NRB, Eglin golf course, and Service determined that it was feasible to restore to free-flowing stream all impoundments upstream of Plew Lake, the largest impoundment on the system, and to remove all but one of the culverts that convey the stream underneath fairways on the golf course. The Service prepared the designs for the restoration, and Eglin AFB and Florida Fish and Wildlife Conservation Commission (FWC) secured funding for the work, which was completed in May 2007. Eglin and FWC also secured funding for removal of the abandoned railroad crossing of Little Rocky Creek and completed the removal in May 2007. These two projects eliminated five fish passage barriers and three impoundments, restoring approximately three kilometers (1.8 mi) of stream habitat. The

Service continues to work with Eglin AFB, the City of Niceville, and Okaloosa and Walton counties to restore additional habitat through the removal and replacement of road crossings and impoundments throughout the darters' range.

2) Protect water quality and quantity in the six Okaloosa darter streams.

The management plans of several agencies apply to streams in the range of the Okaloosa darter. Probably the most influential of these is Eglin's Integrated Natural Resource Management Plan (INRMP) (USAF 2007), including the Final Threatened and Endangered Species Component Plan (USAF 2006). The INRMP is updated every five years in consultation with the Service and FWC. It defines broad goals and specific objectives for natural resources on the base. The primary goal of Okaloosa darter management on Eglin AFB is to provide the highest level of capability and flexibility to the military testing and training mission while meeting the legal requirements of the Endangered Species Act, Clean Water Act, and other applicable laws. There are seven specific objectives included in the 2007 INRMP designed to meet recovery goals identified in the Recovery Plan for the species, including downlisting the darter from endangered to threatened and cooperating with the City of Niceville, Okaloosa County, and private landowners adjacent to Eglin to recover the Okaloosa darter.

In 2005, the Service, Eglin's NRB, the Nature Conservancy, and the FWC signed an agreement to cooperate in the stewardship of aquatic systems on lands of the Gulf Coastal Plain Ecosystem Partnership (GCPEP) in western Florida. GCPEP's Aquatic Team agreed to initially assign priority to strategies and projects that contribute to the recovery of the Okaloosa darter. The Service is working with GCPEP to use stream restoration techniques and management actions that have been established for Okaloosa darter watersheds on partner lands.

The Three Rivers Resource Conservation and Development Council is a non-profit organization set up to conserve the natural resources and to improve the overall economic condition of rural and urban citizens. The Council is composed of representatives from the County Commissions, Soil and Water Conservation Districts and three members at large from Escambia, Santa Rosa, Okaloosa, Walton, Bay, Washington, and Holmes counties in Florida. The Council has developed an Area Plan (2003-2008) which includes: a natural resources goal of encouraging proper management use and protection of the natural resource base; an objective to assist local military bases in conservation planning efforts; a strategy to continue a non-point source project to control erosion with Eglin AFB and; several projects funded for 2008 that will assist with Okaloosa darter restoration.

The Florida Department of Environmental Protection (FDEP) (2003) classifies all streams in the range of the Okaloosa darter as Class III waters for administration of the Clean Water Act. Class III waters are used for recreation, propagation, and maintenance of a healthy, well-balanced population of fish and wildlife. Although no streams in the darter's range are designated as impaired in FDEP's 2003 Basin Status Report, six stream segments are on the "3c planning list," which means that "enough data and information are present to determine that one or more designated uses may not be attained according to the planning list methodology." The six segments were Anderson Branch (Turkey Creek tributary), lower Turkey Creek (including South Branch near the City of Niceville landfill and the rest of the basin downstream to Boggy Bayou), Mill Creek, Shaw Still Branch (Swift

Creek Basin), Little Rocky Creek and Open Branch (Rocky Creek Basin). All six segments were considered potentially impaired using a set of three biological indicators based upon aquatic insect samples. FDEP characterized a site on South Branch near the landfill as severely limited by pollutants from the landfill (Ray 2001).

Using comparable aquatic insect sampling methods and indicators as FDEP, Service biologists sampled 42 sites in the darter's range (Thom and Herod 2005). About 26 sites appeared healthy, 4 were suspect, and 12 were impaired. Three small darter basins, Mill Creek, Swift Creek, and East Turkey Creek, had the highest percentage of impaired sites. Several sites in these three basins, plus a site on South Branch near the Niceville landfill, also had unusually high stream conductivity measurements, which is generally an indicator of degraded water quality (Thom and Herod 2005). It appears likely that the waste water treatment sprayfields located near the headwaters of East Turkey Creek and Swift Creek are adversely affecting water quality, as this is the principal non-forested land use in the area. The Okaloosa darter Recovery Plan identifies wastewater treatment sprayfields as potential sources of habitat degradation.

In 2007, the Service, along with the USGS, Loyola University, and Eglin AFB, initiated a three year research project to comprehensively assess water quality data for these two streams. Preliminary samples reflect unusually high conductivity and salinity – an indication of wastewater introduction. Water quality data will be compared to darter population status and trends information. This will enable the Service to identify problems and recommend corrective actions that will prevent future declines in Okaloosa darter populations. Elimination of stressors originating from these sprayfields will prevent continued declines in Okaloosa darter populations. It will also achieve several recovery objectives outlined in the Recovery Plan, and meet a critical delisting criterion.

The Eglin golf course dominates land use in the Mill Creek Basin. Along with West Long Creek in the Rocky Creek Basin, these are the same drainages where monitoring suggests darter numbers have been declining in recent years. As noted previously, the Service and Eglin AFB have recently completed a habitat restoration project of the portion of Mill Creek that runs through the Eglin golf course. Work is ongoing to assess causes of declines in East Turkey and West Long Creeks.

The Choctawhatchee Basin Alliance (a citizen's group), along with supporting State and Federal agencies, is implementing a program called "Breaking New Ground", which is a set of place-based air and watershed action plans for the Choctawhatchee River and Bay watershed. These plans address water quality monitoring, point- and non-point source pollution, growth management, water supply, education, and citizen involvement in all Choctawhatchee Bay watersheds, including the darter drainages. This planning effort has resulted in the funding of studies to assess point and non-point source water pollution in the basin, including darter watersheds, and is expected to continue to assist in identifying and addressing potential long term water quality and supply issues in the watershed, which is a positive step towards securing permanent protections for Okaloosa darter water quality and quantity.

3) Monitor and annually assess populations and habitat conditions of Okaloosa darter and brown darters, and water quality and quantity in the streams.

Annual population monitoring is conducted at 26 long-term monitoring sites by the USGS per the sampling methodology outlined in the Okaloosa Darter Recovery Plan (Service 1998). This methodology has evolved to counting darters using mask and snorkel visual surveys and includes collection of numerous habitat conditions including water depth and discharge, substrate type, and canopy cover. Annual monitoring has been conducted by Loyola University, New Orleans, and Service personnel on Eglin since 1995, and on private lands since 1987. For complete information, see the Service's 2007 Five Year Status Review of the Okaloosa Darter (Service 2007).

4) Establish a public information and education program and evaluate its effectiveness.

Eglin's Threatened and Endangered Species Component Plan (USAF 2006) identifies several objectives for the Okaloosa darter including the development of a public information program for threatened and endangered species on Eglin that have greater potential to be impacted by public activities. The Program would include an Air Armament Academy (A3) class (Eglin's civilian employee training program), combined with an Endangered Species Act class, informational brochures, and portable display boards with a goal of completion by 2010. These will be provided to both Eglin military users and the general public. As of December 2007, Eglin has completed two brochures and portable display boards. There is also a permanent display board in the lobby of the Natural Resources Section, known as Jackson Guard, that provides information to the public about the darter and efforts to protect and restore its habitat. The A3 class is currently being designed and is anticipated to be scheduled and presented twice a year beginning in 2008. Additionally, tours of Eglin, for military and non-government delegates, as well as the general public, frequently involve presentations of ongoing darter conservation activities.

The Recovery Plan for Okaloosa darter (Service 1998) identifies a recovery objective of downlisting, and eventually delisting, the Okaloosa darter by enabling wild populations capable of coping with natural habitat fluctuations to persist indefinitely in the six stream systems they inhabit by restoring and protecting stream habitat, water quality, and water quantity. The Okaloosa darter may be considered for reclassification from endangered to threatened when: (1) instream flows and historical habitat of stream systems have been protected through management plans, conservation agreements, easements, and/or acquisitions; (2) Eglin AFB has and is implementing an effective habitat restoration program to control erosion from roads, clay pits, and open ranges; (3) Okaloosa darter population is stable or increasing and comprised of two plus age-classes, in all six stream systems for 5 consecutive years; (4) the range of the Okaloosa darter has not decreased at all historical monitoring sites and; (5) no foreseeable threats exist that would impact the survival of the species.

Each of the above criteria for downlisting the Okaloosa darter to threatened status has been met as described below, with the exception of criteria 3, which the Service determined does not reflect the best available and most up-to-date information on the biology of the species.

(1) *Instream flows and historical habitat of stream systems have been protected through management plans, conservation agreements, easements, and/or acquisitions.*

The management plans of several agencies apply to streams in the range of the Okaloosa darter. Probably, the most influential of these is Eglin's INRMP (USAF 2007). The INRMP is updated every 5 years in consultation with the USFWS and FWC. It programmatically defines broad goals and specific objectives for natural resources on the base. For example, goals I and III of the 2007 plan read: "Maintain or restore the sustainability and biological diversity of native ecosystems where practical and consistent with the military mission", and "Maintain or restore hydrological processes in streams, floodplains, and wetlands when feasible."

Objectives under this goal that pertain to the darter include, among others, "Identify and rehabilitate 150 soil erosion sites that have the potential to impact T&E species habitat by 2011", and "Cooperate with the City of Niceville, Okaloosa County, and private landowners adjacent to Eglin to recover the Okaloosa darter", and "Annually restore two fish passage barriers from the 20 identified sites in Okaloosa darter drainages as funding allows".

In 2005, the Service, Eglin's NRB, the Nature Conservancy, and the FWC signed an agreement to cooperate in the stewardship of aquatic systems on lands of the GCPEP in western Florida. GCPEP's Aquatic Team agreed to initially assign priority to strategies and projects that contribute to the recovery of the Okaloosa darter. The Service is working with GCPEP to use stream restoration techniques and management actions that have been established for Okaloosa darter watersheds on partner lands.

The Northwest Florida Water Management District (NWFWMD) (in conjunction with the FDEP) has a Surface Water Improvement and Management (SWIM) Plan that addresses water issues in the Choctawhatchee River and Bay System, including the projected water supply needs of the coastal portions of Okaloosa and Walton counties. Protecting water-dependent endangered species and their habitats are integral components of the SWIM plan. In its water supply plan for the counties that encompass the range of the darter, the NWFWMD examines the water sources that could supply growing human water demands in the region (Bartel et al. 2000). Depending on its magnitude and spatial distribution, substantial new use of the Sand and Gravel Aquifer could diminish stream flow in the darter streams; however, the potential well fields that the NWFWMD identified are located south and west of the darter drainages.

As mentioned above, the Choctawhatchee Basin Alliance is implementing a program called "Breaking New Ground" with State and Federal partners. These place-based air and watershed action plans address water quality monitoring, point- and non-point-source pollution, growth management, water supply, education, and citizen involvement in all Choctawhatchee Bay watersheds, including the darter drainages.

(2) *Eglin AFB has and is implementing an effective habitat restoration program to control erosion from roads, clay pits, and open ranges.*

Eglin AFB has implemented a habitat restoration program to control erosion since 1995 as described in the first recovery actions given above. These actions have resulted in identifiable increases in darter numbers and occupied range.

(3) *Okaloosa darter population is stable or increasing and comprised of two plus age-classes, in all six stream systems for 5 consecutive years.*

Annual population monitoring by USGS has detected young-of-the-year and adult fish in all six stream systems for the past five years (USFWS 2007). As identified in our 2007 5-year review of the Okaloosa darter (USFWS 2007), monitoring has shown that natural variation coupled with sample method, seining versus visual survey, might result in a variation greater than 1.75 while still maintaining a stable or increasing trend. Therefore, the Service has found that the operational definition of "stable or increasing" may no longer reflect the best available science. Current estimates of Okaloosa darter numbers have instead been calculated using two different methods of standardizing monitoring and survey data. Using visual survey methods in 28 20m (66 ft) segments of stream, encompassing the six principal basins, a study area-wide density estimate was then applied to the known occupied stream length for a total population estimate of 802,668 darters (USFWS 2007). A population estimate based on seine samples which transformed density estimates to local abundance estimates based upon (Jordan and Jelks 2004; Jordan et al. 2008) comparison of seine versus visual counts and depletion sampling, calculated a 2004 - 2005 population estimate of 259,355 mature darters (332,933 total darters)(USFWS 2007).

The long-term trend in the average counts at each monitoring site indicates that the four smallest darter basins (Toms, Swift, Mill, and East Turkey), West Long Creek and East Long Creek are decreasing while the other watersheds of Rocky Creek and Turkey Creek are increasing. However, after restoration activities on Mill Creek in 2007, darter numbers are now increasing. Using the estimated length of occupied habitat for these creeks, darter numbers are increasing in 223.6 km (138.9 mi) or 86 percent and decreasing in 37.1 km (23.1 mi) or 14 percent. All of the declining trends were sampled by seining, not visual surveys, and may reflect variable sampling efficiency over time. For example, one site has become almost impossible to seine due to the exposure of tree roots resulting from stream bed degradation. Because seining detects only about 32 percent as many Okaloosa darters as visual surveys (Jordan and Jelks 2004), the long-term trends in darter counts at sites sampled by seine may be subject to error during interpretation. Furthermore, there appears to be a reduction in numbers at many of the sites beginning in 1998, prior to which counts appear to be relatively consistent or generally increasing, which may correspond to a drought which began in 1998 or could reflect a difference in sampling ability as a shift in personnel occurred at this time.

The range of the Okaloosa darter is represented as the cumulative stream length of occupancy in a basin. Okaloosa darters appear to have expanded their ranges in two areas, one in Mill Creek following habitat restoration activities in 2007, and the other a one to two mile expansion in the southern/western tributary of Tom's Creek previously thought to be uninhabited.

(4) *The range of the Okaloosa darter has not decreased at all historical monitoring sites.*

Okaloosa darter appear to have increased their range in two tributaries, Mill's Creek and the southern/western tributary of Tom's Creek, while decreasing (prior to 1987 or earlier) in Swift Creek.

(5) *No foreseeable threats exist that would impact the survival of the species.*

At this stage of the recovery of Okaloosa darter, the only foreseeable threats are the present or threatened destruction, modification, or curtailment of its habitat or range. Resource stewardship on Eglin AFB is generally reducing the threat of habitat destruction and range reduction from sedimentation from unpaved roads and areas adjacent to poorly designed/maintained paved roads. As of 2006, about 95 percent of the erosion control projects identified in darter watersheds had been completed (USAF 2006). Eglin AFB is continuing to fund these projects to completely eliminate the threat. Water quality issues associated with the Niceville landfill and sprayfield continue to threaten the darter and are being examined in a three year research project which began in 2007. The Service has been working with the city of Niceville to improve their wastewater collection system and install more appropriate culverts at a number of road crossings. Overall, considerable improvements have been resulting in significant reductions in threats to the darter, and while foreseeable threats exist, these are diminishing and none threaten to drive the Okaloosa darter to extinction. Continuing threats are identified as follows.

Threats

The Okaloosa darter was listed in 1973 because of its extremely limited range and potential problems resulting from erosion, water impoundment, and competition with brown darters. The Okaloosa darter has been extirpated from only about 9 percent of the 402 km (249.8 mi) of streams that comprise its total historical range. This historic loss of range is most likely due to physical and chemical habitat degradation from sediment and pollutant loading and the urbanization of the City of Niceville. Recent surveys in a southern/western tributary of Tom's Creek, however, have established the darter's presence in a 1 to 2-mile stretch of stream previously thought to be uninhabited. All but 5 km (3.1 mi) or 1.3 percent of the extant range is also currently within Eglin AFB.

Sediment loading is perhaps the most intense and uniform factor continuing to threaten the Okaloosa darter. A recent report (Rainer et al. 2005) identified the following primary sources of sediment to aquatic ecosystems on Eglin AFB: accelerated streamside erosion, borrow pits (area where materials like sand or gravel are removed for use at another location), developed areas, land test areas, silviculture and roads. Of these, the stream crossings of unpaved roads and subsequent bank erosion probably have the greatest impact because of their distribution on Eglin AFB, relative permanence as base infrastructure, and long-term soil disturbance characteristics. The largest remaining source of sediment input to darter streams is the unpaved road network. As of 2005, 87 percent (4,348 km or 2,701.7 mi) of Eglin's road network were unpaved. However, as of 2006, Eglin AFB had completed about 95 percent of the erosion control projects identified in darter watersheds, substantially reducing runoff and sedimentation (USAF 2006). Although many road crossings have been removed and restored through road closures and restoration efforts over the last few years, others remain and pose a threat to darter and their habitat. For example, five road crossings in the Turkey Creek drainage have repeatedly exceeded state water quality standards for turbidity.

Borrow pits were a major source of sediment loading to darter streams cited in the 1998 darter Recovery Plan. At that time, 29 of 39 borrow pits located within or immediately adjacent to

Okaloosa darter drainages had been restored. As of 2004, all of the remaining borrow pits within Okaloosa darter drainages have been restored (Rainer et al. 2005). Of the 153 road crossings that previously existed in Okaloosa darter drainages, 57 have been eliminated - 28 in Boggy Bayou streams and 29 in Rocky Bayou streams. Eglin estimates that these and other restoration efforts have reduced soil loss from roughly 69,000 tons/year in darter watersheds in 1994 to approximately 3,000 tons/year in 2004 (Pizzolato 2005 pers. comm.). The Service believes sedimentation remains a threat to the Okaloosa darter; but the habitat restoration work that Eglin AFB has conducted has improved the darter habitat within the base. Improvements like bottomless culverts, bridges over streams, and bank restoration and re-vegetation have resulted in increased clarity of the water, stability of the channel and its banks, and expansion of darters into new areas within drainages.

Primarily in the downstream most portion of the darter's range, urban development and construction activity pose a threat to the darter due to poor stormwater runoff control and pollution prevention measures which degrade habitat and may pose potential barriers to movement between basins. This threat is mostly present in the 5 km (3.1 mi) of habitat off Eglin AFB.

Eglin AFB is a training facility and as such is divided into 37 land test areas where weapons testing and training operations are conducted, 12 of which are wholly or partially within darter drainages (SAIC 2001). Eglin AFB maintains large portions of the test areas in an early stage of plant succession with few mature trees and varying degrees of soil disturbance as a result of maintenance or military missions. Since 1998, only one section 7 consultation with Eglin related to test area activities has resulted in the issuance of an incidental take permit. There is a proposal to increase the military personnel and use at Eglin through the 2005 Defense BRAC. The BRAC action involves establishing the Joint Strike Fighter Integrated Training Center and relocating the Army 7th Special Forces Group (Airborne) to Eglin AFB, increasing the number of personnel present on base, the number of test ranges, and the amount of test area activities. The Service has provided preliminary comments on the military's Notice of Intent to Prepare an Environmental Impact Statement and completed formal consultation for other species but not the Okaloosa darter. An increased threat to the Okaloosa darter from this action is not expected as the new ranges have been moved outside of Okaloosa darter habitat and Eglin has agreed to provide a 300 ft. buffer along all darter streams when conducting any troop maneuvers.

While poorly designed silvicultural programs can result in accelerated soil erosion and stream sedimentation, Eglin has designed its program within darter habitat to avoid and minimize impacts to the aquatic ecosystems such that the program is not likely to adversely affect Okaloosa darter.

Pollution other than sedimentation poses a potential threat to darters in six stream segments. While no streams in the darter's range are designated as impaired by FDEP, of thirteen segments sampled using three biological indicators, six stream segments were considered potentially impaired and are on the "3c planning list", which means that "enough data and information are present to determine that one or more designated uses may not be attained according to the Planning List methodology". One stream site has been characterized as "severely limited by pollutants from the landfill". Using comparable aquatic insect sampling methods, the Service (Thom and Herod 2005) found 12 sites out of 42 sampled within the darter's range to be impaired.

Water withdrawals for human consumption in and around the range of the Okaloosa darter are presently served by wells that tap the Floridan Aquifer, which is declining substantially in the most populated areas near the coast. However, at this time there is no evidence that pumping from the aquifer has reduced flows in darter streams. The darter drainages are spring fed from the shallow sand and gravel aquifer that is not used for human consumption. Additionally, the low permeability of the Pensacola Clay confining bed probably severely limits hydraulic connectivity between the two aquifers (Fischer et al. 1994). Therefore, the Service does not anticipate that local population growth would adversely affect water flows in the darter drainages.

Analysis of the species likely to be affected

The proposed action may affect a large portion of the range of the Okaloosa darter; thus, the species is likely to be affected at the species level. Therefore, the previous discussion under "Status of the Species" applies. Effects covered under the Mid-Bay Bridge Connector Road consultation include direct effects from site preparation, equipment staging and storage, road and bridge construction activities, placement of stormwater treatment facilities, and indirect effects such as the physical presence of the roadway and bridges, increased pollutant loads, and increased human development in Okaloosa darter watersheds. These effects may result in the loss or injury of individuals, loss and/or degradation of Okaloosa darter habitat, reduction in reproductive success, and altered behaviors. The effect of the activities covered under the consultation with incorporation of the proposed conservation measures on the Okaloosa darter's overall survival and recovery are considered in this biological opinion. Other activities that have affected the conservation of the Okaloosa darter are included in the Service's evaluation of the species current status (**Table 2**).

Table 2. Previous consultations/biological opinions completed for the Okaloosa darter.

PROJECT NAME	YEAR	MONITORING REPORTS		PROJECT ACTIVE YES/NO	INCIDENTAL TAKE
		Received	Not Received		
Mission Activities in Eglin Test Area C-74, Eglin AFB	2002	Yes		Yes	6 darters/year
Falcon Golf Course, Pipeline Construction for Reclaimed Water Pond, Eglin AFB	2004		Not required	No	Impaired reproduction of 53 pair for 1 year
Mill Creek Stream Restoration, Eglin AFB	2006		Not required	No	136 darters

ENVIRONMENTAL BASELINE

Status of the Species within the action area

The Action Area crosses four of the six stream systems that support the Okaloosa darter: Mill Creek, Swift Creek (including Fox Head Branch and Shaw Still Branch), East Turkey Creek, and Rocky Creek (including West Long Creek). The status of the darter subpopulation within each

stream or tributary crossed by the alignment is indicative of the species' status within the Action Area. Monitoring sites have been periodically surveyed on the streams and tributaries within these watersheds. Data were collected with variable effort and gear. Most samples were taken using a 6 ft x 10 ft x 1/8-in-mesh seine for about an hour in 20 to 50 meters of the stream channel; however recent surveys have used direct observation by snorkeling, which is the standard methodology at most of the annual monitoring sites listed in the Recovery Plan. Jordan et al. (2008) have shown that snorkeling detects about three darters for every one collected by seining. These data are used to determine long-term trends in population stability, occupied habitat, and to estimate population abundance for each stream.

Mill Creek

Mill Creek is the smallest of the watersheds, with a drainage area of just 1,126 acres. All but the lower ¼ mile of Mill Creek is on Eglin AFB. Due to its small size and its location between the cities of Valparaiso and Niceville, Mill Creek has the highest percentage of its acreage altered by human activities. Development of the Falcon and Eagle Golf Courses, which covers about half of the watershed and straddles the creek, extensively altered the terrain to accommodate the greens. Floodplain areas were filled and the creek itself was dammed or routed through culverts creating several impoundments. Some of these culverts had rusted and collapsed over the years, impeding the movement of water, sediment, and fish. SR 190 (College Boulevard) bisects the north/south-oriented watershed, and the creek passes under fill material for the road through a set of culverts that apparently do not provide for efficient sediment transport, because upstream of these culverts, the stream is noticeably wider and shallower than more free-flowing sections of the stream. Beavers built dams near these culverts, which exacerbated the poor sediment transport capacity of the channel. The dams were removed in 2001. Beaver control on Eglin is an ongoing conservation measure. Since December 2001, Eglin has captured and removed more than 50 beavers from Okaloosa darter drainages. Using aquatic insect sampling methods as indicators of aquatic health in Okaloosa darter streams, Service biologists identified Mill Creek, along with Swift Creek and East Turkey Creek, as having the highest percentage of impaired sites (Thom and Herod 2005).

Immediately downstream of SR 190 is one of the 26 Okaloosa darter monitoring sites listed in the Recovery Plan. This site has the longest history of darter sampling in Mill Creek, but other sites both upstream and downstream of SR 190 have been sampled intermittently since 1959. Darter numbers at any particular site within Mill Creek are quite variable over time. The SR 190 site was once considered one of the best sites for sampling darters (H. Jelks 2004 per. comm.). This site is easily accessed from the road and on one occasion in 1989, it yielded 57 darters in a single 25-minute seining effort. In the last 10 years, surveys have counted 2 to 47 darters. In the 1998 Recovery Plan, the long-term mean number of darters reported for this site (n=12) was 12.1, with a standard deviation of 13.9. In 2004, the mean (n=19) dipped to 10.1, with a standard deviation of 12.5. The number of darters counted at this site in 2005 was the highest in the past 10 years (47 darters).

Only the SR 190 site is routinely monitored in Mill Creek. The various fish surveys of Mill Creek suggest that darters inhabit only the section of the watershed upstream from about rkm 1.2, where the creek enters Plew Lake (an impoundment of Mill Creek on the golf course). The Service has no historical records of darter occurrence from downstream of Plew Lake to the mouth of the creek at

Boggy Bayou. The Falcon and Eagle Golf Courses on Eglin AFB border most of the length of Mill Creek. The Eagle golf course was constructed after the Okaloosa darter was listed as endangered so care was taken during planning and construction to minimize impacts to Mill Creek. Thus, the extant population of Okaloosa darters in the Mill Creek system resides mostly within the Eagle golf course. Darters persist in small numbers in the remnants of free-flowing stream between the ponds and culverts that Eglin installed to make the Falcon golf course. Culverts, roadfill, and in-basin retention areas on the Falcon golf course cause backwater and lack of streamside vegetation, and filled floodplains no longer function naturally. A series of culverts that cross each fairway had eliminated darter habitat and altered natural stream processes. A restoration project completed in 2007 re-established approximately 1000 meters of suitable darter habitat within the Falcon golf course, and led to an expanded range within Mill Creek. Another site, at the 9th hole golf cart bridge (rkm 3.0) was sampled in 1989 (2 darters), 1999 (12 darters) 2004 (0 darters), and 2005 (6 darters) and represents the known upstream limit of darter distribution in this watershed. The stream segment crossed by the Mid-Bay Bridge Connector Road is north of the known upstream limit, but is still considered likely to be occupied by the Okaloosa darter (USFWS 2007). The monitoring site for long-term trend data along Mill Creek is shown in **Figure 5**. The long-term local population trend for the Okaloosa darter on Mill Creek is declining. The Okaloosa darter mean density for Mill Creek is 1.01 darters per meter, with a local population estimate of 1,289 mature fish (USFWS 2007). The density is likely to be much lower within the upstream headwaters crossed by the Connector Road where the stream narrows considerably – and is estimated at 1/10th the density of the rest of the stream (Ziewitz 2008 pers. comm.).

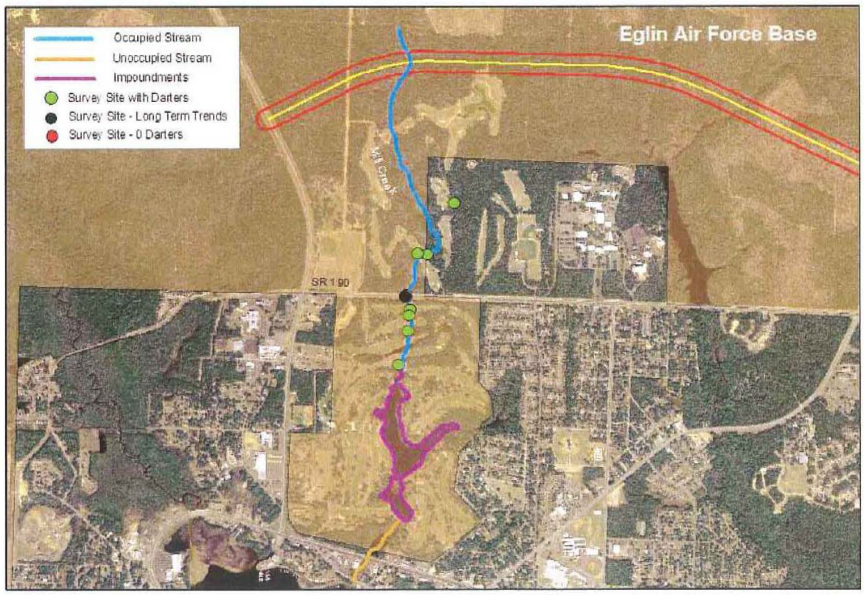

Figure 5 . Location of Okaloosa darter monitoring sites on Mill Creek. Sites where Okaloosa darters have been observed since 1998 are shown in green. The monitoring site for long-term trend data is shown in black.

Fox Head Branch

Fox Head Branch is a first order stream that drains into Swift Creek and is part of the Swift Creek watershed (5,929 acres). The stream is located entirely within Eglin AFB. A field investigation by the Service identified a road crossing at its northern terminus as an impediment to fish passage (Herod et al. 2004). Impoundments located in its headwaters (Brandt Pond) and south of its confluence with Swift Creek further fragment fish habitat. No darters have been detected by surveys between 1988 and 1999; Fox Head Branch is considered likely to be unoccupied by the Okaloosa darter (USFWS 2007). No further analysis of Fox Head Branch will be included in this biological opinion.

Swift Creek

The Swift Creek watershed has a drainage area of 5,928 acres and includes lands both on and off of Eglin AFB. This second order stream originates in steepheads along Pierce Field west of SR 285, and drains into Rocky Bayou and the Choctawhatchee Bay. Soft sandy soil, intense rainfall, and steep topography make this area susceptible to erosion and gully formation. Removal and disturbance of riparian vegetation can accelerate bank erosion. In the past, erosion along an un-stabilized railroad bed at Eglin Road 626 resulted in smothered stream habitat. Using aquatic insect sampling methods as indicators of aquatic health in Okaloosa darter streams, Service biologists identified Swift Creek, along with Mill Creek and Turkey Creek, as having the highest percentage of impaired sites (Thom and Herod 2005).

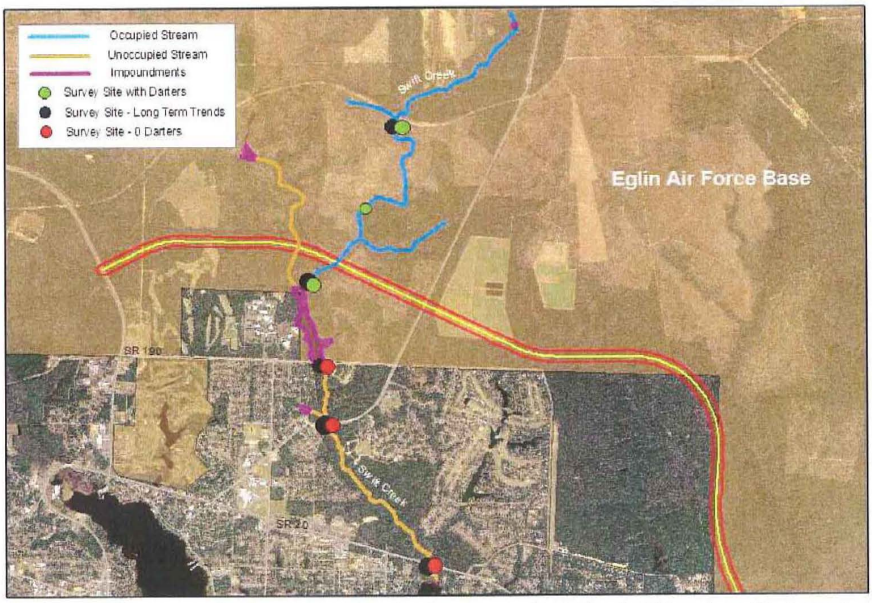

Figure 6. Location of Okaloosa darter monitoring sites on Swift Creek. Sites where Okaloosa darters have been observed since 1998 are shown in green. The monitoring site for long-term trend data is shown in black.

A map of the long-term monitoring sites on Swift Creek is shown in **Figure 6**. An evaluation of the long-term population trend indicates the Okaloosa darter is declining on Swift Creek. The mean density for Swift Creek is the lowest of the six basins at 0.46 darters per meter, with a local population abundance of 2,175 mature individuals (USFWS 2007).

Shaw Still Branch

The Shaw Still Branch is a first order stream draining into Swift Creek and Rocky Bayou. The drainage area of its 16-digit hydrologic unit (huc) code watershed is 705 acres; it's part of the Swift Creek watershed (5,929 acres). The stream originates in a steephead along the southwest corner of the Niceville wastewater treatment plant spray field. The section of the creek north of SR 190 (College Boulevard) is located on Eglin AFB. Much of the watershed south of SR 190 is urbanized. The road crossing at SR 190 appears to impede fish passage – possibly due to habitat alterations by beaver – and habitat for the darter south of the road is likely unoccupied (USFWS 2007). The population north of SR 190 is disjunct from the Swift Creek population. Based on aquatic insect samples, Shaw Still Branch is considered potentially impaired; the stream is on the FDEP's "3c planning list" for impaired waters. Long-term monitoring sites for the Shaw Still Branch are shown in **Figure 7**. Based on the monitoring history for darters in the Shaw Still Branch, the long-term local population trend is declining. The Okaloosa darter density for the Shaw Still Branch is 0.46 mean density darters per meter, with a local population abundance of 2,175 mature fish (USFWS 2007).

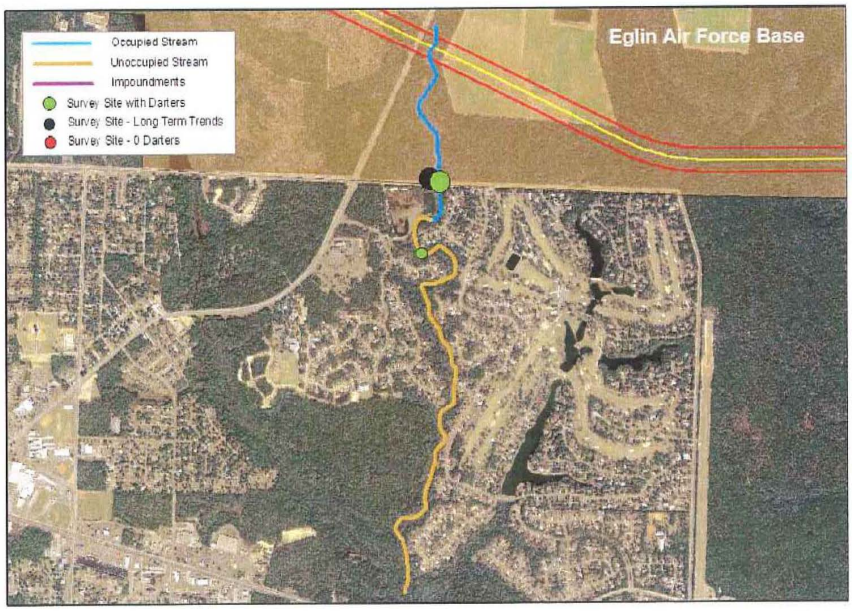

Figure 7. Location of Okaloosa darter monitoring sites on Shaw Still Branch. Sites where Okaloosa darters havebeen observed since 1998 are shown in green. The monitoring site for long-term trend data is shown in black.

East Turkey (Bolton) Creek

East Turkey (Bolton) Creek is a first order stream that originates along the Niceville wastewater treatment plant spray fields. The 2,179-acre watershed drains into Rocky Bayou and the Choctawhatchee Bay. Aquatic insect stream bioassessments indicate water quality on East Turkey Creek is impaired (Thom and Herod 2005). The upper 2.9 km stream segment is located on Eglin AFB. Water quality and riparian protection measures are addressed in Eglin's INRMP. While currently undeveloped, the remaining section of stream corridor south of Eglin is adjacent to urbanized Niceville, privately-owned, and has potential for future growth. The culvert at Rocky Bayou Drive is likely a barrier to fish passage and habitat downstream of the structure is unoccupied. No 2004-2005 USFWS seine samples were done on East Turkey Creek. Jordan and Jelks (2004) estimated Okaloosa darter density for East Turkey Creek as 0.7 darters per meter. Long-term monitoring sites for East Turkey Creek are shown in **Figure 8**. As in the other smaller watersheds, the long-term local population trend on East Turkey Creek is declining.

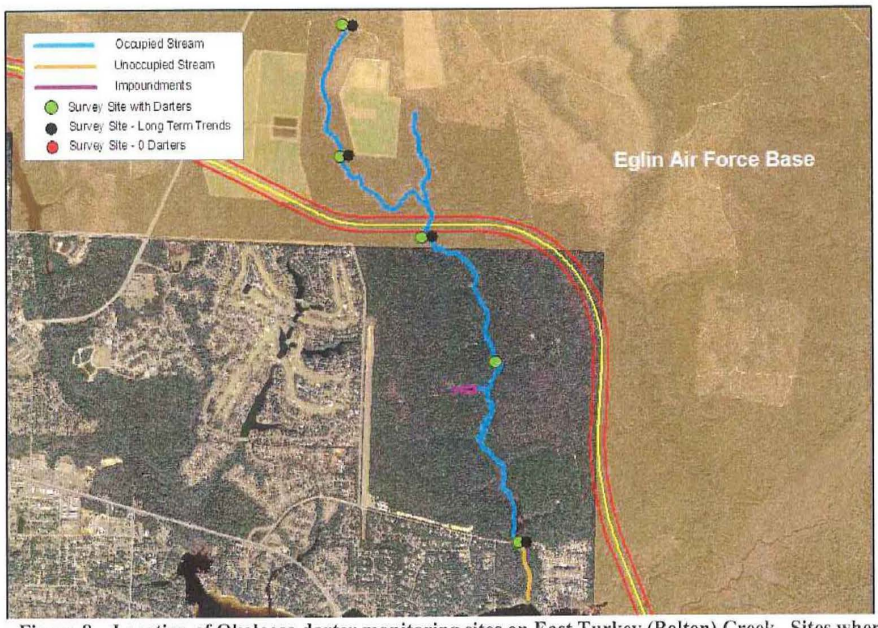

Figure 8 . Location of Okaloosa darter monitoring sites on East Turkey (Bolton) Creek. Sites where Okaloosa darters have been observed since 1998 are shown in green. The monitoring site for long-term trend data is shown in black.

West Long Creek

West Long Creek is a second order stream that drains into Rocky Creek, Rocky Bayou, and the Choctawhatchee Bay. The 16-digit huc watershed is 3,034 acres, and is part of the Rocky Creek basin (53,760 acres). The stream is located entirely on Eglin AFB. All of West Long Creek is likely to be occupied by the Okaloosa darter. Long-term monitoring sites for the West Long Creek are shown in **Figure 9**. Two sites on West Long Creek show decreasing trends, which may suggest that

darter numbers are on the whole decreasing in this stream. At the third upstream-most site (Eglin Road 406), counts were collected by two methods, with the visual survey method showing an increasing trend and seining showing a decreasing trend. [Note: All streams with declining trends were sampled by seining, not visual surveys, and may reflect variable sampling efficiency over time.] The mean darter density on West Long Creek is 1.15 darters per meter, with a local population abundance of 7,797 mature individuals (USFWS 2007).

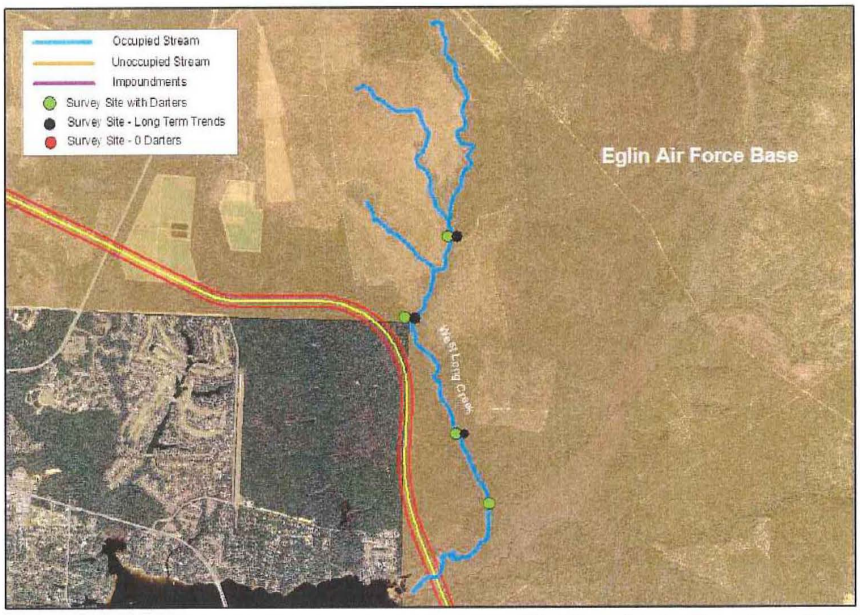

Figure 9. Location of Okaloosa darter monitoring sites on West Long Creek. Sites where Okaloosa darters have been observed since 1998 are shown in green. The monitoring site for long-term trend data is shown in black.

Rocky Creek

Rocky Creek is a third order stream originating in steepheads along SR 285 west of DeFuniak Springs, Florida. The creek lies entirely within Eglin AFB. The 16-digit huc sub-basin drains approximately 16,107 acres, flowing into Rocky Bayou and the Choctawhatchee Bay. The greater Rocky Creek basin, the largest of the Okaloosa darter basins, encompasses 53,760 acres. Long-term monitoring sites for the Rocky Creek are shown in **Figure 10**. Darters have been found in Rocky Creek since the 1970's. Unlike some of the smaller watersheds, Okaloosa darter numbers in Rocky Creek are increasing. The population density for Rocky Creek is 0.95 darters per meter; local abundance of mature individuals is estimated at 118,511 – the highest abundance of the six darter basins (USFWS 2007).

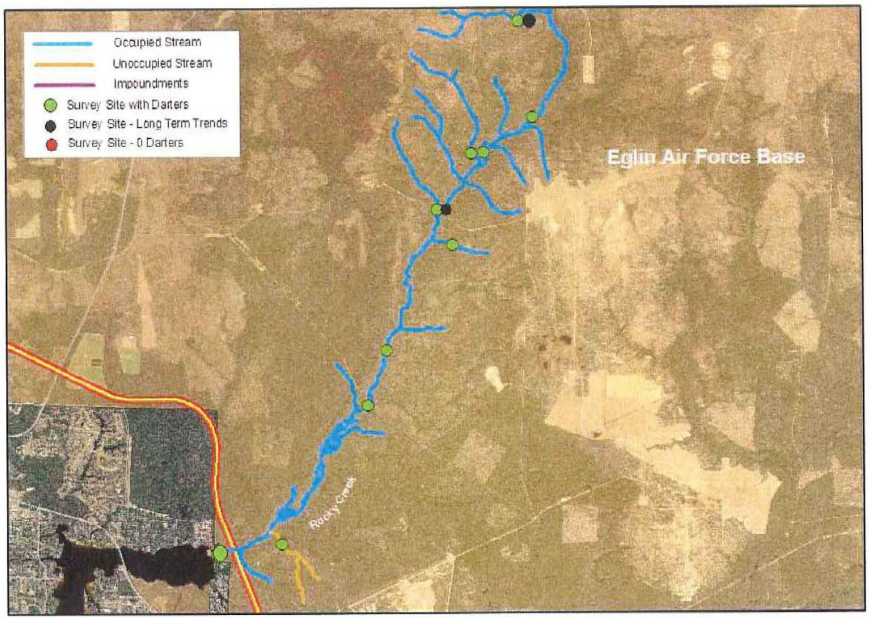

Figure 10. Location of Okaloosa darter monitoring sites on Rocky Creek. Sites where Okaloosa darters have been observed since 1998 are shown in green. The monitoring site for long-term trend data is shown in black.

EFFECTS OF THE ACTION

Factors to be considered

The effects of roads and bridges on aquatic systems have been well-studied, and can extend well beyond the project's construction footprint. Effects can occur from construction activities, the presence of the structure itself, and from associated urbanization (especially for a new road located in an undeveloped area). Direct impacts may consist of: crushing or burying individual Okaloosa darters and their prey species by machinery or sediment deposition; displacement of individuals; habitat loss due to stream channelization, vegetation removal, decreased woody debris, altered stream temperatures, the addition of fine sediments; and altered stream flows/disrupted groundwater flow. Indirect impacts from construction may consist of altered water quality, habitat quality, and behavior of Okaloosa darters within the stream segments. Elevated levels of fine sediments may affect breathing, feeding, and reproduction. Invertebrate populations, a food source for the darter, may also be depressed. Other indirect effects result from the continuing presence of the road itself. These effects may be both short-term (such as periodic maintenance activities) and long-term (altered stream hydrology and geomorphology; increased magnitude and frequency of floods and debris flows, etc.). Roads can be a major sediment source throughout their existence. Vehicular traffic is a source of chemical contamination from metals, petroleum products, and occasional toxic spills. Roads may also provide a new access point for human activity – causing the spread of non-native fish and mollusks, and pathogens. Improperly sized and placed culverts fragment stream

habitat; which may impair recolonization and reduce gene flow in rare aquatic species. Locating an interchange for the Mid-Bay Bridge Connector Road along East Turkey Creek could facilitate new development. Darter populations on East Turkey Creek are already under decline. Urbanization alters both water quality and quantity – and is the leading source of water body impairment (USEPA 2000).

Proximity of the action: The Mid-Bay Bridge Connector Road crosses seven streams, six of which are occupied by the Okaloosa darter (Mill Creek, Swift Creek, Shaw Still Branch, East Turkey Creek, West Long Creek, and Rocky Creek). The anticipated ROW for the bridges is approximately 61 meters (200 feet).

Distribution: The Okaloosa darter occurs in only six watersheds that drain into Boggy and Rocky Bayous along the north side of Choctawhatchee Bay. The Okaloosa darter may still be found throughout its historic range in areas of suitable habitat and where threats have been managed, controlled or reduced. Population estimates for each basin crossed by the corridor are shown in the Analysis of Effects below. The corridor crosses four of the six watersheds: Mill Creek, Swift Creek, East Turkey Creek, and Rocky Creek. Mill Creek, Swift Creek, and East Turkey Creek are small basins, with respective drainage areas of 1.8, 9.3, and 3.4 square miles out of the 172 square-mile total area of all six drainages. Rocky Creek is the largest of the basins, with a drainage area of 84 square miles or 49 percent of all the Okaloosa darter watersheds.

Timing: Work will take place in three phases. The time period to finish all three phases is 6-7 years of which 4-5 years of work will be in Okaloosa darter habitat. Each phase will take slightly over 2 years to complete. Phase 1 (Mid-Bay Bridge to Range Road) is expected to begin in late November 2008 and be completed in 2011. No darter streams will be crossed by Phase 1. Phase 2 (Range Road to SR 285) will begin in 2011 and be completed in 2013. Phase 2 will impact Rocky Creek, West Long Creek, and East Turkey Creek. Phase 3 (SR 285 to SR 85) will begin in 2013, with completion in 2015. Phase 3 affects Shaw Still Branch, Swift Creek, and Mill Creek. Okaloosa darters reproduce from March through August with peak spawning occurring from April to June. Activities during the breeding season could impair successful reproduction by Okaloosa darters inhabiting the Action Area.

Nature of the effect: By using environmentally-sensitive bridge construction techniques, protecting stream channel stability, and following other conservation measures, direct and indirect impacts from the project should be greatly reduced. Direct and indirect effects are likely to occur primarily within the 122-meter (400-foot) study corridor where it crosses the six streams. Additional indirect effects may occur beyond the 122-meter corridor, especially where interchanges favor new development within the watershed. However, since effects from development are uncertain and difficult to quantify, they are not calculated in this biological opinion.

The direct loss of individual Okaloosa darters may be detrimental to the genetic diversity of each basin's subpopulation. The direct loss of habitat from bridge pilings and the impacts to water quality in and downstream of the project area may contribute to population reduction in the Action Area. Individual fish within the project area may be temporarily displaced into other occupied habitat, leading to intra-specific aggression for this territorial species. Due to the prolonged time

period required for construction, reproduction may be significantly reduced for two to three breeding seasons.

Duration: The duration of impacts will be temporary and long-term, with work activities for each road phase extending over two years. Some indirect impacts due to the presence of the road will be permanent.

Disturbance frequency: Construction activities will result in a prolonged, one-time disturbance to the Okaloosa darters within the Action Area.

Disturbance intensity and severity: Temporary impacts are expected to occur during the construction phase of the project. The life span of an Okaloosa darter is estimated to be 3-4 years. Since work for each phase will be under three years, the temporary impacts of the proposed action will not affect multiple generations. Recolonization of the habitat remaining onsite is expected within months to years, but may be much shorter if habitat is restored to suitable conditions. The intensity and severity of the direct impacts will be reduced by implementing many of the conservation measures in the proposal. These measures include but are not limited to, the use of top-down bridge construction at every Okaloosa darter stream; maintaining the natural stream channel; BMPs to control erosion, sedimentation, and turbidity; and stormwater conveyance to treatment ponds to eliminate run off into streams. The severity of impacts will be further reduced through Okaloosa darter stream restoration activities both on and off Eglin AFB.

Analysis for effects for the action

The construction activities described in the BA for the Mid-Bay Bridge Connector Road have the potential to impact the Okaloosa darter. Potential negative impacts to the darter would be temporary, extend for over two years, and affect approximately 0.732 km of suitable darter habitat, which represents 0.2 percent of the species range of 365 stream km. Survey data for the six streams is given below in **Table 3**. Densities and population estimates are based upon 2004-2005 USFWS seine samples of 50-m segments in each darter basin. Observed segment densities were transformed to local abundance estimates based upon Jordan and Jelks (2004) comparison of seine versus visual counts and depletion sampling. The density for Mill Creek is modified to $1/10^{th}$ the density of the rest of the stream to account for the road crossing's location above the upstream-most known occurrence survey site where the stream is narrow (Ziewitz 2008 pers. comm.). For East Turkey Creek, the values are based on Jordan and Jelks (2004) estimates, extrapolated to the full range of the occupied stream, since no 2004-2005 seine samples were done by the Service. For all streams, an estimated 77.9 percent of the population is expected to be mature individuals (Ogilvie 1980).

Application of the average darter density to the stream segments likely inhabited within the 122-meter (400-foot) impact area yields an estimate of 465 darters (of which 362 are mature fish) potentially impacted by the proposed action, representing 0.3 percent of fish in the four basins and 0.1 percent of the entire Okaloosa darter population. The percent of each basin's fish population affected are: Mill Creek 0.7; Swift Creek 4.0; East Turkey Creek 2.4; and Rocky Creek 0.2.

Direct effects: While the use of top-down bridge construction should greatly reduce direct impacts to darters and stream habitat, some mortality is expected along with displacement of fish for the approximately 2+ years that work takes place for each phase. Mortality may result from construction debris, equipment movement, muck removal, placement of fill, sedimentation, and/or as the result of pile-driving of bridge piers. Displacement will result from disturbance and noise. Direct impacts of mortality or displacement may occur for fish within the 122-meter study corridor for each stream crossing. Direct impacts may affect 0.732 km of potential stream habitat, resulting in displacement or mortality of up to 465 Okaloosa darters.

Table 3. Okaloosa darter density and population estimates, local population trend, and the road work phase that will affect fish in each stream.

	Mill Creek	Swift Creek	Shaw Still Branch	East Turkey Creek	West Long Creek	Rocky Creek	Total in 4 basins	Entire population (6 basins)
Work Phase	3	3	3	2	2	2		
Mean density (darters/m)	0.101[a]	0.46	0.46	0.7	1.15	0.95	____	1.28
# fish 122-m (400-ft) length	12	56	56	85	140	116	465	465
# fish in basin	1,655	2,792		3,596	151,822		159,865	332,933
Percent fish affected in basin	0.7	4.0		2.4	0.2		0.3	0.1
Population trend in stream	Declining	Declining		Declining	Declining or Unclear	Increasing		

[a] Since the project site is upstream of known occurrences for the darter, the value used is 1/10th of the mean density 0f 1.01 darters/m for Mill Creek (Ziewitz 2008).

Indirect effects: Short-term water quality and habitat degradation and temporary blockage of fish passage may cause indirect impacts in feeding patterns, respiratory functioning, and habitat use throughout the existing stream habitat. Sedimentation from soil disturbance in and near the stream may interfere with proper respiratory functioning, smother aquatic vegetation and woody debris that darters use as habitat, and reduce channel capacity. Loss of channel capacity leads to greater bank erosion, channel widening, increased temperatures and other alterations adverse to the darter. The incorporation of the conservation measures outlined above should greatly reduce the potential impacts to Okaloosa darters present in the work area but some degree of negative impact in the form of sedimentation and habitat instability is reasonably certain to occur within a 122-meter (400-foot) corridor surrounding the project and may extend further, especially in the downstream direction. Secondary and cumulative effects may result from future growth where road interchanges provide new access for development (Interchange MB-D). Growth impacts are most likely to occur adjacent to urbanized areas where watershed conditions are deteriorated and the Okaloosa darter is currently under stress and declining in numbers.

Beneficial effects: No long-term benefits are expected from the road project itself. However, the conservation measures provided by the MBBA include data collection, land protection mechanisms, and restoration projects that will benefit the Okaloosa darter. The restoration projects are listed

under Conservation Measures above. The primary objective of these projects is to improve stream habitat and the long-term survival of the Okaloosa darter. The Service considers these projects as contributing significantly to the recovery of this species.

Species response to a proposed action

Several of the small watersheds (Mill Creek, Swift Creek, East Turkey Creek) crossed by the proposed connector road are currently considered degraded due to isolation from impoundments and poorly-designed stream crossing structures, chemical impairment from wastewater treatment plant spray fields, sediment from unpaved roads, and other effects associated with urbanization. A new 4-lane roadway may further fragment and degrade these already stressed systems.

The connector road crosses Swift Creek 0.55 km north of the downstream-most known occurrences for the darter. Negative effects from the roadway could affect the population's persistence in this lower stream segment. The East Turkey Creek watershed is the most vulnerable to affects from secondary growth and new development. An interchange (MB-D) is being planned that may facilitate growth into this basin. At present, no measures are in place to provide long-term protection to the stream and adjacent riparian habitat outside of Eglin AFB.

Darter presence is expected to be lower than mean densities where the road crosses Mill Creek (upstream of upstream-most known occurrences). As streams near Rocky Bayou, the range of this freshwater darter becomes limited by increasing salinity. Since the crossing structures will be located at the ends of the stream systems, fragmentation will be significantly reduced for these 3 streams. However, loss of individuals within the small basins will be a greater percentage of the stream's overall population size. For example, the mortality or displacement of 112 fish within Swift Creek is 4.0 percent of the fish in the basin – whereas the loss of 116 fish in Rocky Creek is only 0.2 precent of the basin's total fish. Swift Creek has 6.0 km of occupied habitat compared to 159.0 km along Rocky Creek.

The temporary loss of habitat and disturbance due to construction activities may result in the mortality or displacement of individuals. The proposed action would result in a sequential (3 phases), prolonged (over 2 years per phase), temporary disturbance to the Okaloosa darters within the Action Area. Direct impacts are expected to be greatest during the construction phase of the project, which is expected to take over 2 years to complete. As evidenced by rapid recolonization following recent restoration work on Mill Creek, habitat may be recolonized within days or weeks if restored to suitable conditions. Spawning within the 122-meter (400-foot) corridor will likely be absent or greatly reduced during the construction phase, and will re-occur in the spring/summer following recolonization.

The applicants have committed to data collection, restoration projects, and assistance in establishing easements/protective mechanisms for Okaloosa darters within and outside of the Action Area. These actions will implement conservation and recovery needs for Okaloosa darters that have a great benefit to the species range wide. These projects address actions recommended in the Recovery Plan

and include, but are not limited to: conducting surveys to monitor the status and distribution of the Okaloosa darter; stream habitat restoration and/or enhancement; facilitating agreements to protect habitat; and research to develop the information necessary to achieve conservation.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. The Service is not aware of any specific plans within the Action Area that would not be covered under section 7.

CONCLUSION

After reviewing the current status of the Okaloosa darter, the environmental baseline for the action area, the effects of the action, and the cumulative effects, it is the Service's biological opinion that the proposed Mid-Bay Bridge Connector Road is not likely to jeopardize the continued existence of the Okaloosa darter. No critical habitat has been designated for this species; therefore, none will be affected.

Most direct and indirect effects will occur within the 122-meter (400-foot) study corridor and are considered temporary and reversible. Effects are expected to be greatest in the Swift Creek basin (4.0% fish affected) and East Turkey Creek (2.4% fish affected) due to their degraded condition, small size, and the location of impacts. However, these temporary loss rates are relatively low for a moderate-fecundity small-bodied fish with a brief (less than 4 years) lifespan, for which annual mortality rates in a stable population probably exceed 30 percent. Approximately 0.1% of the entire population of Okaloosa darters will be affected. Given the two large and increasing subpopulations of Turkey Creek and Rocky Creek, the probability of species extinction is low (USFWS 2007).

The stream restoration projects proposed by the MBBA will improve degraded habitat conditions in Okaloosa darter basins including Mill Creek, Swift Creek, East Turkey Creek, Turkey Creek, and Toms Creek. Our analysis is based on current activities within the range of the Okaloosa darter.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulations pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering [50 CFS §17.3]. Incidental take is defined as take that is incidental to, and not the purpose of, an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2),

taking that is incidental to and not intended as part of the agency action is not considered prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by Eglin so that they become binding conditions of any grant or permit issued by Eglin, as appropriate, for the exemption in section 7(o)(2) to apply. Eglin has a continuing duty to regulate the activity covered by this incidental take statement. If Eglin: (1) fails to assume and implement the terms and conditions or, (2) fails to require any contracted group to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, Eglin must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement. [50 CFR §402.14(I)(3)]

AMOUNT OR EXTENT OF TAKE ANTICIPATED

As described above (Effects of the Action), we estimate that up to 465 Okaloosa darters will be impacted by the construction of the Mid-Bay Bridge Connector Road. The incidental take is expected to be in the form of temporary direct and indirect impacts resulting from construction activities, impaired water quality, and habitat degradation. While injury or mortality of individuals is possible, the risk will be greatly reduced by the use of environmentally-sensitive, top-down bridge construction techniques, and conservation measures that minimize erosion and ground disturbance at each stream crossing and maintain stream channel stability. Our estimate is based on a: 1) 122-meter corridor for direct and indirect impacts; 2) population density estimates for each stream crossed; and 3) knowledge of the response of the Okaloosa darter during previous in-stream projects. Injury or mortality would occur either from the direct impact of the operation of heavy equipment within the stream, or smothering by sediment dislodged from banks during construction operations. By designing the bridges to maintain natural stream geomorphology, and with the use of appropriate methods to stabilize stream banks and the use of erosion control measures along the stream, we do not anticipate take resulting from long-term erosion and degradation of darter habitat.

EFFECT OF THE TAKE

In the accompanying biological opinion, the Service determined that this level of anticipated take will not result in jeopardy to the species. Measures to reduce potential impacts to the Okaloosa darter have been incorporated into the plans for this road construction project.

REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measures (RPM) are necessary and appropriate to minimize the incidental take of the Okaloosa darter and its habitat as a result of road and bridge construction for the Mid-Bay Bridge Connector Road. Each RPM will be implemented by associated terms and conditions given in the section to follow. Eglin, as the lead federal agency, shall assure that the following reasonable and prudent measures, with their associated terms and conditions are implemented by the MBBA.

RPM 1: Okaloosa darter protection and monitoring, and habitat protection, monitoring, and restoration procedures to minimize impacts from all the construction activities shall be implemented.

RPM 2: It shall be ensured that the stream crossing structures are designed and constructed to protect the streams' natural channel design, thereby reducing the long-term loss of the Okaloosa darter and its habitat.

RPM 3: The potential secondary and cumulative effects of a new roadway, including threats to Okaloosa darter from new development, shall be addressed.

RPM 4: It shall be ensured that the terms and conditions are accomplished and completed as detailed in this incidental take statement including completion of reporting requirements.

TERMS AND CONDITIONS

In order to be exempt from the prohibition of section 9 of the Act, Eglin must ensure that the MBBA complies with the following terms and conditions, which implement the preceding reasonable and prudent measures. All conservation measures described in the BA and listed above are hereby incorporated by reference as terms and conditions within this document pursuant to 50 CFR § 402.14(I) with the addition of the following terms and conditions. The terms and conditions listed below are non-discretionary.

RPM 1

1.1 An erosion and sediment control plan shall be submitted and approved by the Service prior to the start of construction. This plan is to include re-vegetation of stream banks and riparian areas, as needed.

1.2 Okaloosa darter populations shall be monitored pre- construction and for a minimum of five years post-construction to assess the scope of project impacts.

1.3 A comprehensive water quality monitoring plan shall be developed and implemented that targets road-related chemical pollutants (i.e. petroleum products) and other associated impacts (i.e. nutrients, dissolved oxygen) that may be detrimental to the darter.

1.4 Contractors for the road construction shall be informed about the presence of the Okaloosa darter and the importance of thorough implementation of protection measures, especially for erosion control.

RPM 2

2.1 Monitoring for physical changes in stream channel stability shall be implemented to assess the response of impacted streams to bridge construction.

RPM 3

3.1 Discussions shall be facilitated with private property owners regarding easements and agreements to protect floodplain and riparian habitat and reduce threats along Okaloosa darter streams.

RPM 4

4.1 Upon locating a dead, injured, or sick individual of an endangered or threatened species, initial notification must be made to the Fish and Wildlife Service Law Enforcement Office, Clermont, Florida at (352) 429-1037 within 24 hours. Additional notification must be made to the Fish and Wildlife Services Field Office at Panama City, Florida at (850) 769-0552 within 48 hours. Care should be taken in handling sick or injured individuals and in the preservation of specimens in the best possible state for later analysis of cause of death or injury.

4.2 A report describing the actions taken to implement the terms and conditions of this incidental take statement shall be submitted to the Project Leader, U.S. Fish and Wildlife Service, 1601 Balboa Avenue, Panama City, Florida, 32405, within 60 days of the completion of each construction phase. This report shall include the dates of work, assessment and actions taken to address impacts to the Okaloosa darter, if they occurred.

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed actions at the development. The Service believes that up to 465 Okaloosa darters may be incidentally taken directly by construction activities and indirectly by degraded water quality and habitat alteration.

REINITIATION NOTICE

This concludes formal consultation on the action(s) outlined in the BA. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information shows that the action may affect listed species in a manner or to an extent not considered in this opinion; (3) the action is subsequently modified in a manner that causes an effect to the listed species not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

We appreciate the cooperation of the Eglin staff and the MBBA and their consultants in preparing this Biological Opinion. We look forward to working closely with you in implementing its provisions and actions for the Okaloosa darter. If you have any questions about this opinion or consultation, please contact Ms. Mary Mittiga at ext. 236.

Sincerely,

Janet Mizzi
Deputy Field Supervisor

cc: (digital copies)
FWC, Tallahassee, FL (Ted Hoehn)
FWS, Atlanta, GA (Ken Graham) – electronic copy
HDR Engineering, Pensacola, FL (Mick Garrett)
USFWS, Niceville, FL (Bill Tate)
USGS, Gainesville, FL (Howard Jelks)

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MID-BAY BRIDGE CONNECTOR

Biological Assessment to Determine Potential Impacts to Federally Listed Endangered Species Resulting from the Construction of the Mid-Bay Bridge Connector, Eglin AFB, Florida

May 2008

Biological Assessment to Determine Potential Impacts to Federally Listed Endangered Species Resulting from the Construction of the Mid-Bay Bridge Connector, Eglin AFB, Florida

Biological Assessment for Formal Consultation

Submitted to:

U.S. Fish and Wildlife Service
Southeast Region
Panama City, Florida 32405

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May 2008

Biological Assessment to Determine Potential Impacts to Federally Listed Endangered Species Resulting from the Construction of the Mid-Bay Bridge Connector, Eglin AFB, Florida

1.0 INTRODUCTION

The following information is being submitted to fulfill requirements under Section 7 of the Endangered Species Act (ESA). Briefly, this report assesses potential impacts to the Okaloosa darter, Eastern indigo snake, Flatwoods salamander, bald eagle, and Red-cockaded woodpecker. In addition, two state listed species, Gopher tortoise and Florida black bear, along with their respective habitats, were assessed with respect to the Mid-Bay Bridge Authority's (MBBA) Connector Road (the Proposed Action) from the north approach of the Mid-Bay Bridge to SR 85 north of Niceville across Eglin Air Force Base (AFB), Florida. As a result, this Biological Assessment is meant to initiate the formal consultation process with the U.S. Fish and Wildlife Service (USFWS) pursuant to Section 7 of the ESA.

1.1 PURPOSE OF THE PROPOSED ACTION

The purpose for the Mid-Bay Bridge Connector is to provide an alternative corridor which will improve capacity, provide for linkage to I-10, enhance safety, and establish an alternative evacuation route in the event of emergencies.

1.2 NEED FOR THE PROPOSED ACTION

The need for the Mid-Bay Bridge Connector has previously been defined in other project studies completed by the Florida Department of Transportation (FDOT) and the MBBA, with extensive coordination with Eglin AFB, to include the evaluation of alternative corridors.

According to the 1992 Fort Walton Beach Urbanized Area Transportation Improvement Program several major facilities in this region were operating at Level of Service (LOS) F (HDR, 2005a). Among those LOS F roadways were SR 20 Rocky Bayou Drive to White Point Road and Government Boulevard (SR 85 South) to SR 285. An alternative corridor was studied and recommended for construction that improved capacity along the failed corridors. In addition, the alternative corridor developed an efficient Federal Interstate Highway System linkage to I-10, and also enhanced safety including evacuations for hurricanes or other regional emergencies. The need for this alternative corridor has been recognized for many years and was originally included in the *2015 Needs Plan* in 1987 and the *2015 Cost Feasible Plan* in 1988, and this need still exists. The current routes are congested even without emergency situations.

In 2005, the Base Realignment and Closure Commission chose to expand Eglin AFB's mission which is predicted to increase the population of Okaloosa County by 12,000 (7,000 Eglin family members and 5,000 government and contract employees) by Fiscal Year (FY) 10 and FY11 (Eglin, 2006). As a result of BRAC 2005, Eglin AFB will house the Initial Joint Strike Fighter Integrated Training Complex and be the new home of the U.S. Army's 7th Special Forces Group and the Defense Threat Reduction Agency. Appropriately, in May 2006, Eglin AFB introduced its growth management plan, *Vision 2015*. The plan outlines several initiatives which are

designed to enhance the quality of life in the area. *Vision 2015* has identified the top challenge for Eglin AFB's and the region's impending growth as improved transportation. Therefore, Eglin has initiated collaboration with the neighboring communities and transportation agencies and authorities to ensure compatible growth. As a result of BRAC 2005 and *Vision 2015*, Eglin with support from the Mission Enhancement Committee and MBBA, have agreed to study a 400-foot-wide corridor that will accommodate Eglin and its mission as well as the surrounding communities' transportation needs.

In summary, the following criteria are the needs that the Mid-Bay Bridge Connector must meet:

- Provide a solution to the traffic needs of the area by improving capacity as defined in the original PD&E study completed by the FDOT.
- Avoid major residential and commercial service impacts to areas all along White Point Road, north of SR 20, and along College Boulevard.
- Eliminate aggravated traffic conditions along White Point Road and College Boulevard.
- Be consistent with the public's overall comments.
- Create a regional transportation system that Eglin can utilize to optimize their mission needs with increased mobility to Eglin ranges north and east of Niceville.
- Establish a practicable alternative to I-10 during hurricane evacuations or other emergencies.
- Decrease response time for base personnel during mission activities and potential security threat situations.
- Improve and enhance the operation and safety of the regional transportation network.
- Support a key objective of having the connector road serve as a definitive boundary for the Eglin Range.

2.0 DESCRIPTION OF THE PROPOSED ACTION

The Proposed Action involves construction of an alternative bypass route around the eastern and northern sides of the communities of Niceville, Seminole and Bluewater Bay in Okaloosa County, Florida. The new 10-mile route consists of a four-lane divided, limited access toll facility, with urban (curb and gutter) and rural cross sections and proposed structures over Rocky Creek and several smaller streams that drain to Choctawhatchee Bay. The Proposed Action would include a mainline toll plaza (either north or south of Rocky Creek) and intersections/interchanges at strategic locations throughout the corridor. **Figure 1** illustrates the proposed corridor and interchange locations. It is anticipated that the proposed interchanges located at SR 20 (MB-B), SR 285 (MB-E) and SR 85 (MB-F) would be single-point urban interchanges (SPUI), while the interchanges at Lakeshore Drive (MB-A), Range Road (MB-C) and the Northeast Niceville interchange (MB-D) would be conventional diamond interchanges. The location of the Northeast Niceville interchange (MB-D) is conceptual and would be determined during design.

In order to avoid impacts to Pippin Lake and surrounding wetlands, a four-lane divided urban typical section (106-feet minimum right-of-way) (ROW) is proposed for the southern 1.0 mile of the Connector from the existing Mid-Bay Bridge toll plaza to north of Lakeshore Drive. The roadway includes 12-foot travel lanes, 4-foot-wide bicycle lanes, a 22-foot-wide raised grass median, curb & gutter, and an underground drainage system. The roadway would have a design speed of 45 miles per hour (mph). From north of Lakeshore Drive to SR 85, a four-lane divided rural typical section (202-feet minimum ROW) is proposed. The roadway includes 12-foot travel lanes, 5-foot paved shoulders, a 50-foot-wide depressed grass median, and parallel ditches. The roadway would have a design speed of 60 mph from north of Lakeshore Drive to north of SR 20; and a design speed of 70 mph for the remainder of the Proposed Action northward and westward to SR 85.

The Proposed Action would include bridges over all Okaloosa darter streams, including the riparian areas, with sufficient area to accommodate terrestrial wildlife crossings. The bridges would be designed to span the streams bankfull width plus 10% to avoid placing bridge piles directly in the stream channel. The bridges would also be designed to maintain water quality by eliminating direct discharge into surface waters. This would be accomplished by capturing and conveying stormwater runoff to adjacent floodplains or appropriate stormwater facilities, where applicable. Bridge construction will be accomplished using top-down construction. This technique ensures that heavy equipment would not enter sensitive areas. Erosion and sedimentation resulting from top-down construction activities is expected to be minimal as ground disturbance would be limited to only the bridge piles. A typical bridge profile has been included as **Figure 5**. Staging and storage areas will be located inside the 400-foot-wide study corridor and outside of any environmentally sensitive areas including wetlands, threatened, endangered, or rare species habitats, or any areas where erosion and sedimentation may have adverse impact to water resources, such as steepheads or other karst areas.

During construction and in compliance with the National Pollution Discharge Elimination System (NPDES), all of the applicable best management practices (BMPs) would be employed to minimize impacts to wetlands, surface water, and soils, in addition to any other requirements. The method for managing stormwater flow would be determined in consultation with the NWFWMD and/or the FDEP, since these agencies must approve the stormwater management design as part of the permitting process.

3.0 BIOLOGICAL INFORMATION

Five federally listed species are known or have potential to occur within the Proposed Action area. Therefore, routine field investigations were conducted in August and September 2007 to identify listed species and their habitats. The results revealed no threatened or endangered species within the Proposed Action corridor. However, abundant habitat exists along the corridor that has the potential to support many of the species listed below. Currently, there is no federally designated critical habitat located within the Proposed Action area. However, it has been noted that the USFWS is considering designating critical habitat for the Flatwoods salamander. The following table identifies those species considered for this action:

TABLE 1. FEDERAL/STATE THREATENED AND ENDANGERED SPECIES THAT MAY OCCUR IN THE CONNECTOR ROAD PROJECT AREA

Species		Listing Status	Habitat	Potential
Fish				
Okaloosa darter	*Etheostoma okaloosae*	FE/SE	Creeks and small freshwater tributaries	High
Amphibian and Reptiles				
Eastern indigo snake	*Drymarchon corais couperi*	FT/ST	Most habitat types	Low
Reticulated Flatwoods Salamander	*Ambystoma bishopi*	FT/SS	Open canopy ponds and pine flatwoods	Low
Gopher tortoise*	*Gopherus polyphemus*	ST	Xeric upland communities	Moderate
Birds				
Bald eagle	*Haliaeetus leucocephalus*	ST	Near large bodies of water	Moderate
Red-cockaded woodpecker	*Picoides borealis*	FE/SS	Old growth pine forests	Low
Mammals				
Florida black bear	*Ursus americanus floridanus*	ST	Most habitat types	High
FE - federally endangered	FT - federally threatened	* - Observed during field investigations		
SE - state endangered	ST - state threatened	* - Inactive burrows observed during field investigations		
SS - state special concern				

3.1 OKALOOSA DARTER

The Okaloosa darter is both federally and state listed as endangered. It is found in six small Choctawhatchee Bay Basin tributaries located in the sandhills ecological association of the Eglin Mainland Reservation (USAF, 2007). The USFWS listed the Okaloosa darter as endangered on June 4, 1973 (38 FR 14678). The darter's exact, current population level is unknown, but estimates range from 1,500 to 10,000. There is currently a proposal to "down-list" the federally endangered Okaloosa darter from endangered to threatened (USAF, 2006).

Okaloosa darter habitat is sensitive to a variety of disturbances. Habitat loss or degradation has occurred from several factors including siltation, several small impoundments, and possibly domestic pollution. Erosion can increase siltation and imperil the darter's habitat. Its range has also been reduced by habitat modification and encroachment by the brown darter. Management activities for this species involve erosion control measures within darter drainages such as the repair of culverts, range road maintenance, borrow pit closures, and the use of BMPs (USAF, 2007). Spawning occurs from March to October, with the greatest amount of activity taking place during April (USFWS, 1992). The spawning occurs in beds of clean, current swept macrophytes (large aquatic plants). In order to protect the Okaloosa darter, the quantity and quality of water in the streams must be protected. The Proposed Action proposes to cross tributaries currently populated by the fish, specifically Rocky Creek, East Turkey Creek, Shaw Still Branch, Swift Creek, Fox Head Branch, and Mill Creek. **Figure 2** shows the Proposed Action and its proximity to the Okaloosa darter streams.

The data in **Tables 2** through **7** below was collected using a seine, snorkel, or dip net method by numerous sources, such as the USFWS, the US Geological Survey, (USGS), as well as university professors and their students for research purposes. The data was compiled by the USFWS and is presented in the tables below for use in determining whether the Proposed Action;

a) Affects the survival and recovery of the species and

b) Adversely modifies the habitat.

Table 2 represents the mean number of Okaloosa darters counted at sampling stations along Rocky Creek and its tributaries in Okaloosa County. The Okaloosa darter sampling stations in this table are located upstream from the Proposed Action and referenced near the streams intersection with an Eglin Range Road. However, none are in close proximity to the Proposed Action.

Table 2. Rocky Creek Okaloosa Darter Census

Average Darters Per Year					
Station	**1989**	**1992**	**1994**	**2004**	**2005**
Range Road 217	1	ND	ND	ND	0
Unnamed Range Road off of 218	ND	ND	ND	ND	1
Range Road 465	ND	ND	ND	1	ND

ND - No Data
Source: USFWS - Bill Tate

Table 3 represents the mean number of Okaloosa darters counted at sampling stations along East Turkey Creek in Okaloosa County. The Okaloosa darter sampling stations in this table are located 0.5 km to 6.2 km upstream from Rocky Bayou. The Proposed Action crosses just north (upstream) of the 3.3 km station. Therefore, this sampling location represents the site closest to, and downstream of, the Proposed Action. In addition, areas adjacent to East Turkey Creek (see **Figure 2**) are considered to be the last remaining undisturbed floodplains outside of the Eglin boundaries. Therefore, it is important to note that this area holds some potential for indirect impacts resulting from possible future urbanization associated with the Northeast Niceville interchange (MB-D) (see **Figure 1**).

Table 3. East Turkey Creek Okaloosa Darter Census

Average Darters Per Year								
Station	**1993**	**1998**	**1999**	**2001**	**2003**	**2004**	**2005**	**2007**
Rocky Bayou Drive, 0.5 kilometers upstream of bayou	2	ND	1	3	ND	ND	0	ND
1.6 river kilometers upstream of bayou	ND	8	4	9	ND	ND	ND	ND
3.3 river kilometers upstream of bayou	ND	21	18	19	ND	ND	ND	ND
5.0 river kilometers upstream of bayou	ND	6	5	18	4	12	6	9
6.2 river kilometers upstream of bayou	ND	2	8	0	ND	ND	ND	ND

ND - No Data
Source: USFWS - Bill Tate

Table 4 represents the mean number of Okaloosa darters counted at sampling stations along Shaw Still Branch. Sampling stations were located along College Blvd and 0.2 miles south of College Blvd. Both of these sampling stations are located at least 0.5 to 0.7 miles downstream from the Proposed Action.

Table 4. Shaw Still Branch Okaloosa Darter Census

Average Darters Per Year											
Station	**1976**	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1998**	**1999**	**2001**	**2004**
0.2 miles south of College Blvd.	ND	ND	ND	ND	ND	7	ND	6	3	0	ND
College Blvd.	5	5	6	14	15	11	23	21	23	2	2

ND - No Data
Source: USFWS - Bill Tate

Table 5 represents the mean number of Okaloosa darters counted at sampling stations along Swift Creek. These stations are measured from Rocky Bayou. The 4.3 km above College Pond sampling site is located approximately 0.1 to 0.2 miles downstream of the Proposed Action. Therefore, this sampling location represents the site closest to and downstream of the Proposed Action.

Table 5. Swift Creek Okaloosa Darter Census

Average Darters Per Year										
Station	**1995**	**1998**	**1999**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
SR 285	ND	ND	ND	ND	ND	ND	0	ND	ND	ND
College Blvd	ND	ND	ND	ND	ND	ND	ND	0	ND	ND
Above College Pond @ 4.3 km	ND	17	26	23	29	57	49	70	ND	ND
Railroad culvert @ 7.7 km	33	11	14	30	58	42	54	44	59	105

ND - No Data
Source: USFWS - Bill Tate

Table 6 represents the mean number of Okaloosa darters counted at sampling stations along Fox Head Branch. Sampling stations were located one-mile downstream of Brandt Pond.

Table 6. Fox Head Branch Okaloosa Darter Census

Average Darters Per Year									
Station	**1988**	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1998**	**1999**
1 mile downstream of Brandt Pond	0	0	0	0	0	0	0	0	0

ND - No Data
Source: USFWS - Bill Tate

Table 7 represents the mean number of Okaloosa darters counted at sampling stations along Mill Creek. These sampling sites are located approximately 1.0 mile downstream of the Proposed Action.

Table 7. Mill Creek Okaloosa Darter Census

Average Darters Per Year									
Station	**1995**	**1996**	**1998**	**1999**	**2001**	**2004**	**2005**	**2006**	**2007**
100m Below College Blvd	7	ND	ND	3	ND	ND	ND	ND	56
College Blvd	2	2	8	3	4	9	47	31	ND
EAFB GC below Hole 13 bridge crossing	ND	ND	ND	12	ND	23	37	49	27
EAFB GC Hole 13	ND	ND	ND	ND	ND	7	6	ND	ND

ND - No Data
Source: USFWS - Bill Tate

3.2 EASTERN INDIGO SNAKE

The federally threatened Eastern indigo snake is the largest non-venomous snake in North America and can grow up to 125 inches in length. The USFWS listed the Eastern indigo snake as threatened in 1978 (Federal Register Vol. 43 No 52:11082-11093). It generally requires very large tracts of land to survive and Eglin AFB provides an ideal habitat with large expanses of undeveloped and undisturbed land. Indigos utilize a diverse range of habitats, from flatwoods, hammocks, stream bottoms, cane brakes, riparian thickets, and high ground with deep, well-drained to excessively drained, sandy soils. Habitat preferences vary seasonally. Pine sandhill winter dens are used from December to April. Summer territories are selected from May to July. From August through November, indigo snakes are frequently located in shady creek bottoms. These seasonal changes in habitat encourage the maintenance of travel corridors that link these different habitat types (Hallam et al., 1998). They are considered commensals of the Gopher tortoise, wintering over in their burrows in the uplands, but foraging in more mesic to hydric habitats. The Eastern indigo snake is found throughout Florida, but is rare in most areas.

3.3 FLATWOODS SALAMANDER

The federally threatened Flatwoods salamander ranges in size from 3.5-5 inches. This salamander is small-headed and stocky and has a distinctive silvery gray coloration with black to brown mottling in a reticulated or sometimes frosted pattern (USAF, 2007). Based on morphological analyses and mitochondrial DNA, two species of Flatwoods salamanders have been recognized- *Ambystoma cingulatum* to the east of the Apalachicola drainage and *Ambystoma bishopi* to the west. Therefore, *A. bishopi* is documented within the larger Eglin AFB property. The USFWS is currently developing the final rule regarding these species (Miller, 2008). Its habitat ranges from upland, fire-maintained longleaf pine-wiregrass flatwoods to ephemeral cypress ponds and similar wetlands during the late autumn/early winter rains. Adult salamanders are nocturnal and carnivorous, opportunistic feeders, eating primarily earthworms and arthropods. Adult salamander habitat typically consists of mesic, fire-maintained, open-canopied longleaf pine (*Pinus palustris*) and slash pine (*P. elliotii*) flatwoods and savannas.

Typical breeding sites consist of short-hydroperiod, isolated depressions. These depressions tend to have an open canopy or shrub layer that is likened to marshes. Eglin's natural resource management for the Flatwoods salamander focuses on habitat management. Efforts to protect the species and its habitat include the observation of buffer areas from the edge of known and potential wetland habitat. Restrictions apply to ground disturbing activities within these buffers to minimize the potential for direct impact to salamanders and alterations to hydrology and water quality (USAF, 2006). No critical habitat areas were identified in the Proposed Action corridor (**Figure 3**).

3.4 BALD EAGLE

As of August 8, 2007, the USFWS has removed (de-listed) the Bald eagle from the federal endangered species list. However, protection continues under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The National Bald Eagle Management Guidelines have taken the place of the 1987 Habitat Management Guidelines which operated with 750-foot and 1,500-foot buffers around active nests. The proposed guidelines require one 660-foot no activity buffer zone for projects of any size that are visible from the nest. The Bald eagle most commonly uses habitats close to bays, rivers, lakes or other bodies of water providing good food sources. Bald eagles generally nest in tall pine trees and return to the same nest year after year. Most Bald eagles in Northern and Central Florida migrate north out of the state in May-July after the breeding season but some birds from northern populations migrate to northern Florida in the winter. No active Bald eagle nests are documented within 660-feet of the Proposed Action corridor. The nest was documented as being active from 1997 to 1999; it has been documented as inactive since that time.

3.5 RED-COCKADED WOODPECKER

The federally endangered Red-cockaded woodpecker (RCW) is a small woodpecker inhabiting open, mature pine woodlands, generally longleaf pine flatwoods in North and Central Florida. They nest and forage in these mature pine flatwoods and distribution is tied to remaining areas of old-growth pine forests. They are non-migratory and maintain territories year-round. Populations are small and highly fragmented and are found primarily on federally managed lands with some state-owned and private lands supporting smaller populations (USAF, 2007).

As a result of active management, RCW populations on Eglin have continued to increase with the number of active clusters growing from an estimated 217 in 1994 to approximately 366 in 2007 (Miller, 2008). **Figure 4** shows the RCW active and inactive trees within the Proposed Action corridor.

3.6 OTHER SPECIES CONSIDERED

3.6.1 GOPHER TORTOISE

The state threatened Gopher tortoise is a terrestrial tortoise that lives primarily in well managed upland scrub habitats. They typically feed in the dawn and dusk hours and spend most of the day in their burrows. Eglin AFB provides excellent habitat and foraging areas for the Gopher tortoise. The Proposed Action crosses many areas that would provide suitable foraging habitat for Gopher tortoises in the area. Two inactive burrows were identified outside the 400-foot-wide corridor study limits north of Pippin Lake near Lakeshore Drive. An inactive burrow is a burrow that is currently unoccupied by any Gopher tortoises. While they are not being utilized by the Gopher tortoises themselves, they provide excellent homes for commensal species including the above mentioned Eastern indigo snake.

3.6.2 FLORIDA BLACK BEAR

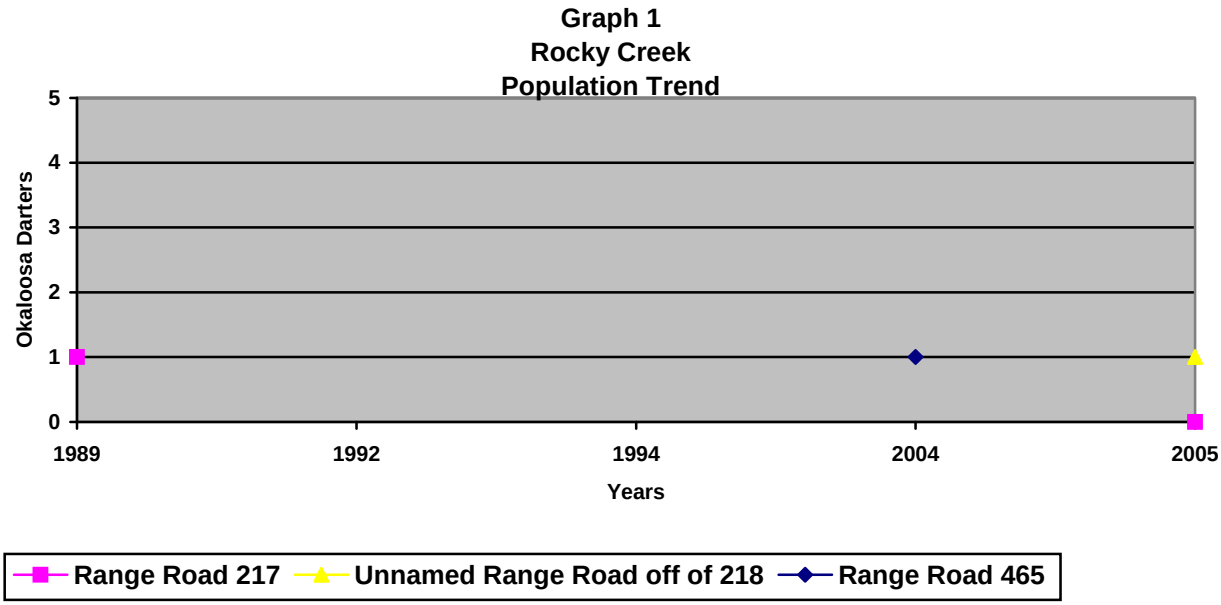
The state threatened Florida black bear is a large mammal that inhabits large expanses of undeveloped land for foraging. Their range is throughout north Florida and commonly found on Eglin AFB. The Florida black bear moves through various habitats such as pine flatwood communities and floodplain areas foraging primarily on berries and insects. Most sitings on the base occur during the dawn and dusk hours as the Florida black bear is mostly nocturnal and feeds during the cooler hours of the day. Eglin AFB has taken numerous measures to protect the Florida black bear from development and habitat degradation. Vehicle traffic and development are the primary problems for the Florida black bear.

4.0 DETERMINATION OF IMPACTS

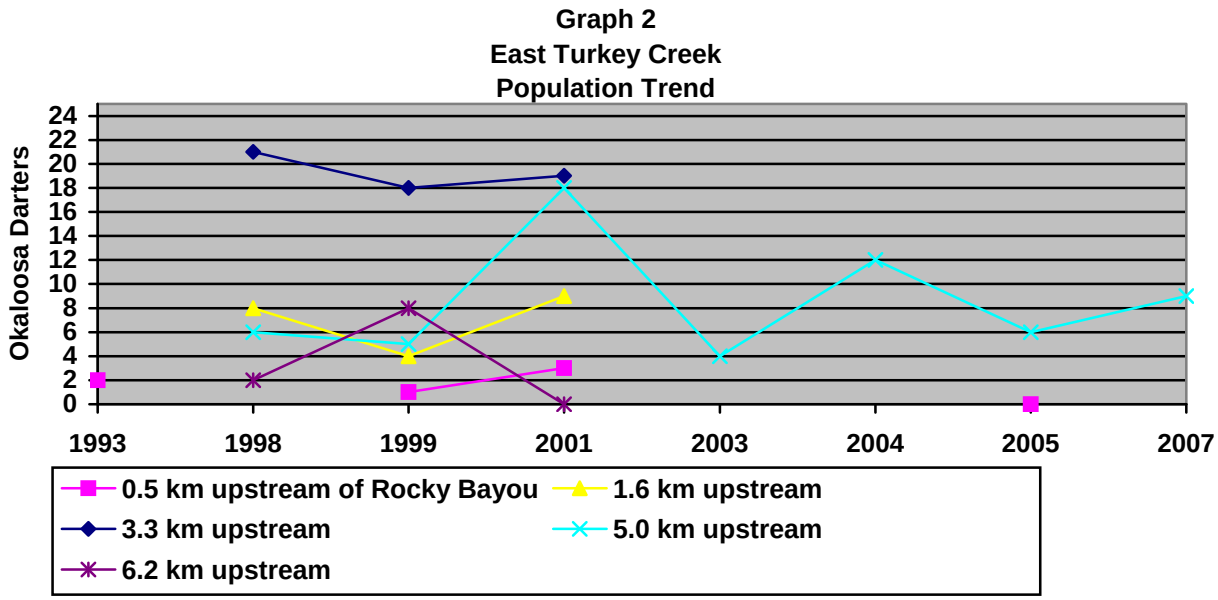
4.1 OKALOOSA DARTER

Six Okaloosa darter streams (Rocky, East Turkey, Shaw Still, Swift, Fox Head, and Mill) would be crossed as a result of the Proposed Action (**Figure 2**). The potential impacts to the Okaloosa darter in association with bridge construction are primarily confined to the ROW corridor. For the purpose of this Biological Assessment, the ROW width for the Proposed Action is 400-feet-wide. Although the actual ROW width is anticipated to be less (once final design is complete), 400-feet represents a worst case scenario and has been agreed to by Eglin AFB, the USFWS, and the MBBA. To avoid and minimize impacts during construction and operation of the Proposed Action, the MBBA has committed to incorporating innovative bridge construction techniques into the plans. There is a high potential for impacts to the Okaloosa darter.

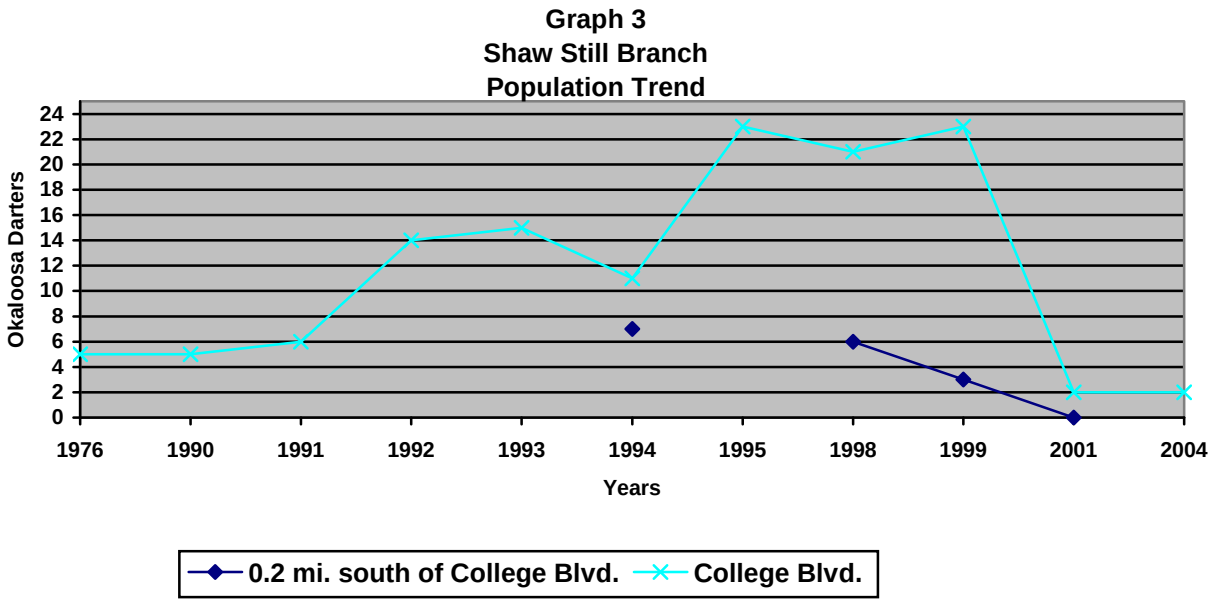
The Okaloosa darter census data presented in **Tables 2** through **7** (Section 3.1) have been plotted and are represented in the following graphs. This information is useful in showing whether the Okaloosa darter population trend in a particular stream is increasing or decreasing over time and how these results may or may not be affected by the Proposed Action:



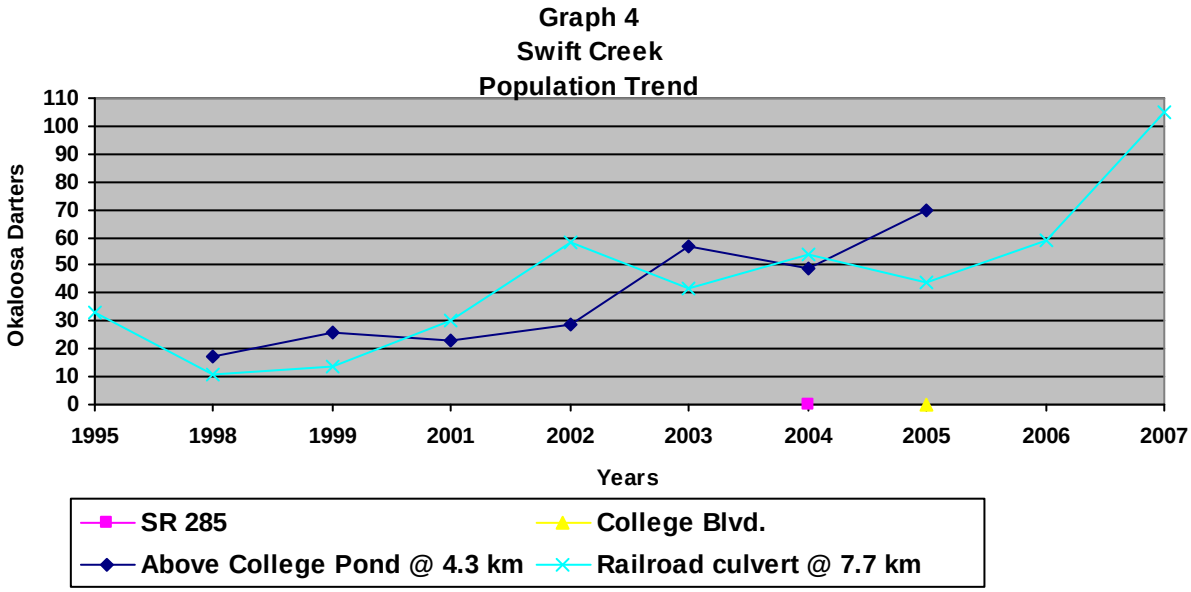
The data presented in the Rocky Creek graph, show only 1 Okaloosa darter counted in 1989 at the Range Road 217 sampling site decreasing to zero in 2005, 1 Okaloosa darter near the Range Road 465 sampling site in 2004, and 1 on an unnamed Range Road off of 218 in 2005.



Data collected in 1998, 1999, and 2001 show a healthy number of Okaloosa darters collected at the 3.3 km sampling station. There has been no data collected at this sampling site since 2001 to analyze population trends. However, the next closest sampling location is approximately 1.7 river km upstream at the 5.0 km station. This location shows a relatively consistent population trend throughout the years, with the exception of significant increases in 2001 and 2004, relative to their previous sampling years.

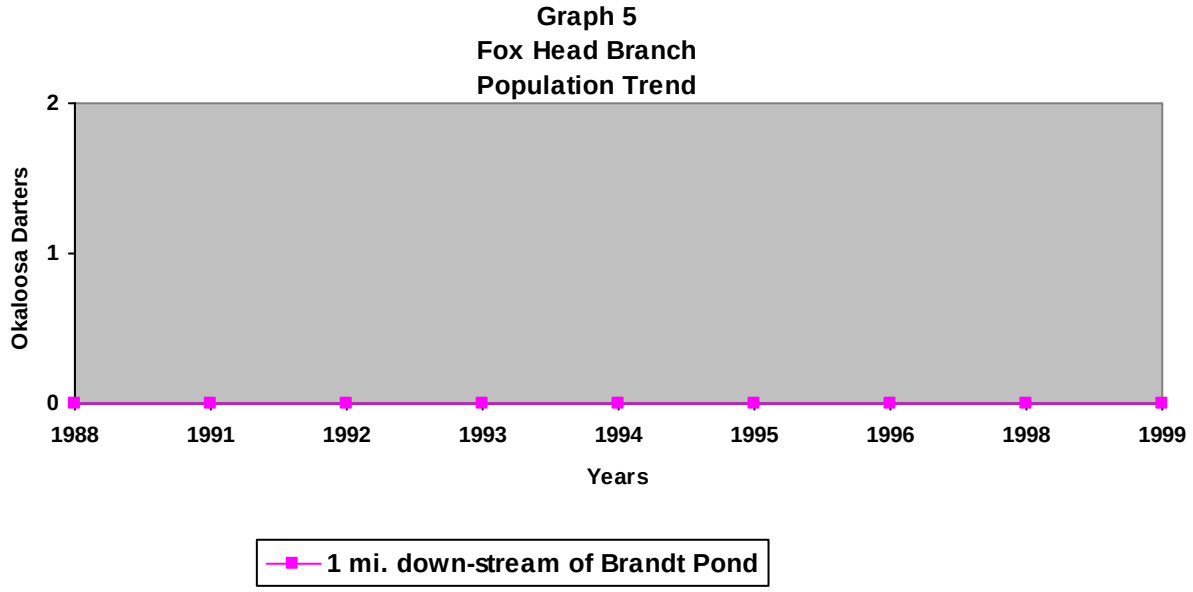


As seen in the Shaw Still Branch graph, the data shows Okaloosa darter population trends decreasing from 1998 to 2001 from 0.2 miles south of College Blvd. At College Blvd., it shows an increase in population from 1976 until 1999 and a rapid decline from 1999 to 2004.

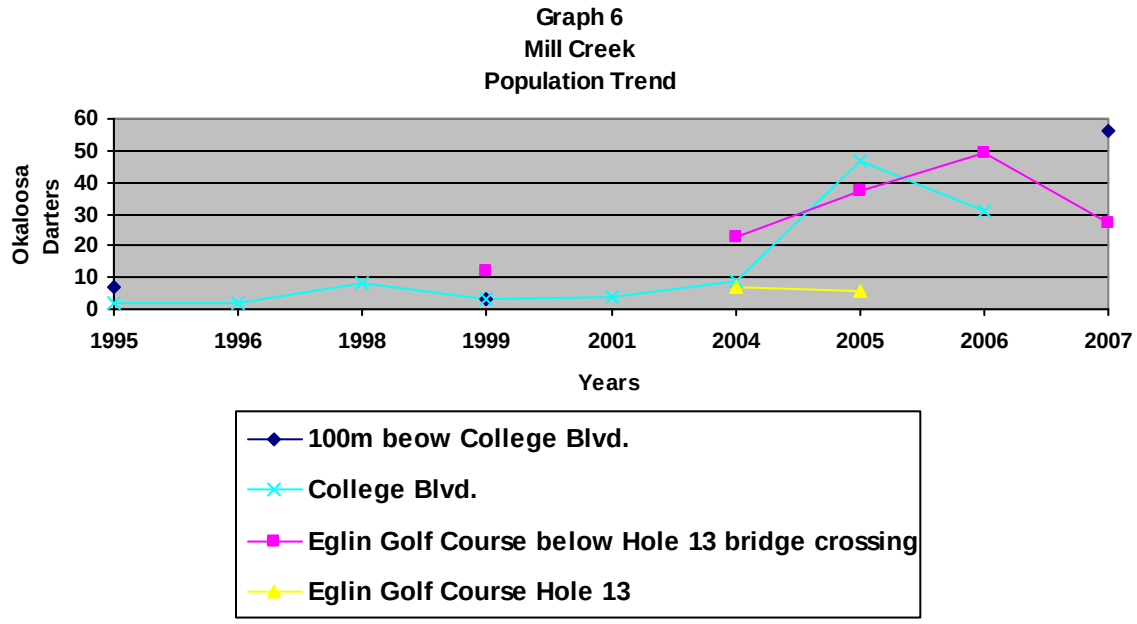


The College Blvd. sampling site represented in the Swift Creek graph (Graph 4) is located downstream from the Proposed Action and shows no Okaloosa darters counted in 2005. The above College Pond at 4.3 km and railroad culvert at 7.7- km sampling sites are located upstream from the Proposed Action and show an abundance of Okaloosa darters counted since 1995 with an increasing population trend. With the exception of a decrease in 2001 and 2004, the above College Pond at 4.3 km sampling site show increases in Okaloosa darters since 1998.

The railroad culvert at 7.7 km shows somewhat consistent numbers averaged from 1995 to 2001, increasing and remaining consistent from 2002 to 2006 and a rapid increase in 2007.



According to the data provided by USFWS, no Okaloosa darters have been counted in Fox Head Branch since 1988.



As seen in the Mill Creek graph, 100m below College Blvd. had a drastic increase in 2007 compared to the previous sampling event in 1999. The College Blvd. sampling site, while consistent from 1995 to 2004, showed a significant increase from 2004 to 2005 and a slight decrease in 2006. Below hole 13 located at the Eglin Golf Course shows an increase from 2004 to 2006, although decreasing in 2007 and Eglin Golf Course Hole 13 has insufficient data to predict population trends.

Potential impacts to the Okaloosa darter resulting from bridge construction include the localized increase of sedimentation and inadvertent strike of a darter during project activities. BMPs and other protection measures would be used during bridge construction to minimize potential impacts. Additionally, it is likely that the darters would migrate away from the project site during activities, thereby eliminating adverse effects from sedimentation or the risk of a strike. Furthermore, these impacts may be reduced to a minimal effect by incorporating the following measures:

- Bridge/span wetlands and streams to include riparian areas (which would reduce erosion, sedimentation, and turbidity potential).
- Using innovative, environmentally sensitive construction techniques such as top-down bridge construction.
- When possible, collect and convey stormwater off of the bridges to treatment ponds to eliminate run-off into the darter streams during construction and operation of the facility.
- Site the staging and storage of construction equipment to areas void of environmentally sensitive habitats.
- Using all applicable BMPs.
- Following monitoring procedures as outlined in the environmental permits.
- Restoring already highly impacted Okaloosa darter streams outside of Eglin boundaries.

4.1.1 DESCRIPTION OF CONSTRUCTION ACTIVITIES

Potential threats to the Okaloosa darter are that of siltation by increasing stream sedimentation. Therefore, the MBBA proposes to bridge all Okaloosa darter streams including the riparian areas (see **Figure 5**) using top-down construction techniques to minimize the impacts associated with fill material and subsequent erosion and sedimentation. This technique ensures that heavy equipment would not enter sensitive areas. Erosion and sedimentation resulting from top-down construction activities is expected to be minimal as ground disturbance would be limited to only the bridge piles. To ensure minimal impacts during installation, the bridge piles would be designed and placed in areas that would avoid direct contact with the stream channel. Therefore, the bridges would be designed to span the streams bankfull width plus 10% according to USFWS guidelines. This would eliminate the negative effects from turbidity and scouring and maintain the natural sinuosity of the stream channel. During construction, it is likely that the darters would migrate upstream or downstream and away from any potential areas of impact. The bridge deck would increase the shading of these streams. Shading, however, is not expected to cause adverse impacts to the Okaloosa darter or its habitat. In order to maintain water quality for the Okaloosa darters, the MBBA also proposes, when possible, to collect stormwater off of the bridges and convey it to an appropriate treatment pond or area according to 62-346, Florida Administrative Code or in an adjacent floodplain. In an effort to provide assurances for the protection of this species, the MBBA would provide funding for future Okaloosa darter habitat restoration projects on Eglin AFB as well as in the approximately 4% of its habitat outside Eglin AFB, specifically in the surrounding communities of Niceville/Valparaiso and Okaloosa County jurisdiction.

Based on the number of Okaloosa darter stream crossings, Eglin's Natural Resources Section has determined that the Proposed Action is **likely to adversely affect** the species. Therefore, the use of BMPs, innovative bridge construction techniques, water quality protection measures, and potential restoration funding would be essential to the protection of this species.

Avoidance and Minimization Procedures for the Okaloosa darter

- When possible stormwater would be collected and conveyed off of the bridges to treatment ponds to eliminate run-off into the Okaloosa darter streams during construction and operation of the facility.
- Top-down bridge construction would be employed at every Okaloosa darter stream crossing to minimize wetland impacts, avoid rutting of soils from heavy machinery, and minimize erosion and sedimentation.
- BMPs, such as but not limited to staked silt fence, turbidity barriers, and hay bales, would be implemented to ensure control of fugitive soil movements and to control any excessive sedimentation and turbidity.
- All staging and storage areas would be sited to avoid impacts to Okaloosa darter habitat.
- The Proposed Action would result in the MBBA providing funding for further Okaloosa darter restoration activities and drainage structure upgrades not only on Eglin AFB but in the surrounding areas within Okaloosa County. Restoration activities would include removing pipes/box culverts and replacing with open bottom culverts that allow for natural stream flow and natural stream bottom.

4.2 EASTERN INDIGO SNAKE

Potential impact to the Eastern indigo snake and its habitat may occur during the construction activities and operation of the Proposed Action. Although the occurrence is unlikely (the snake would likely move from the disturbed areas), the Eastern indigo snake standard protection measures would be implemented prior to and during construction. If an Eastern indigo snake is observed during construction all activities would cease until the snake has safely moved away from the active construction area. In addition, potential habitat such as gopher tortoise burrows would be avoided to the maximum extent practicable. There is a low potential for the Eastern indigo snake in the Proposed Action area. Therefore, Eglin's Natural Resources Section has determined that the Proposed Action is **not likely to adversely affect** the species.

Avoidance and Minimization Procedures for the Eastern indigo snake

- An Eastern indigo snake protection/education plan shall be developed by the applicant or requestor for all construction personnel to follow. The plan shall be provided to the Service for review and approval at least 30 days prior to any clearing activities. The educational materials for the plan may consist of a combination of posters, videos, pamphlets, and lectures (e.g., an observer trained to identify Eastern indigo snakes could use the protection/education plan to instruct construction personnel before any clearing activities occur). Informational signs would be posted throughout the construction site and contain the following information:
    - description of the Eastern indigo snake, its habits, and protection under Federal Law;

  - instructions not to injure, harm, harass or kill this species;
  - directions to cease clearing activities and allow the Eastern indigo snake sufficient time to move away from the site on its own before resuming clearing; and
  - telephone numbers of pertinent agencies to be contacted if a dead eastern indigo snake is encountered. The dead specimen should be thoroughly soaked in water, and then frozen.

- Only an individual who has been either authorized by a section 10(a)(1)(A) permit issued by the Service and designated as an agent of the State of Florida by the Florida Fish and Wildlife Conservation Commission (FWC) for such activities, is permitted to come in contact with or relocate an Eastern indigo snake.
- If necessary, Eastern indigo snakes shall be held in captivity only long enough to transport them to a release site; at no time shall two snakes be kept in the same container during transportation.
- An Eastern indigo snake monitoring report must be submitted to the appropriate FWC Field Office within 60 days of the conclusion of clearing phases. The report should be submitted whether or not eastern indigo snakes are observed. The report should contain the following information:
  - any sightings of Eastern indigo snakes;
  - summaries of any relocated snakes if relocation was approved for the project (e.g., locations of where and when they were found and relocated); and
  - other obligations required by the FWC, as stipulated in the permit.
- Should an Eastern indigo snake be sighted, construction personnel would be directed to cease any activities and allow the snake sufficient time to move away from the site on its own before resuming construction activities.

4.3 FLATWOODS SALAMANDER

The Proposed Action would not traverse known or potential Flatwoods salamander habitat as determined by GIS database research and field investigations. As seen in **Figure 3**, the nearest potential Flatwoods salamander habitat is located near Smith Branch in the Rocky Creek basin approximately 0.5 miles east of the Proposed Action. The Proposed Action corridor would likely not directly impact any potential breeding habitat areas therefore there is a low potential for impacts to the Flatwoods salamander or its habitat. Therefore, due to these findings, Eglin's Natural Resources Section has determined that the Proposed Action is **not likely to adversely affect** the species or its habitat.

Avoidance and Minimization Procedures for the Flatwoods salamander

- Wetland areas would be bridged using spans or open-bottom culverts to include riparian areas.
- All staging and storage areas would be sited to avoid impacts to Flatwoods salamander habitat.

4.4 BALD EAGLE

There is a moderate potential for the Bald eagle in the Proposed Action area based on available habitat and an occurrence documented in the Rocky Creek area in 1997-1999. However, no Bald eagles or their nests have been documented in the area since that time. Therefore, Eglin's Natural Resources Section has determined that the Proposed Action is **not expected** to impact the species.

Avoidance and Minimization Procedures for the Bald eagle

- Should a Bald eagle be sighted, construction personnel would be directed to cease any activities and allow the eagle sufficient time to move away from the site on its own before resuming such activities.
- Should a Bald eagle take up residence near the Proposed Action prior to or during construction activities, compliance with the National Bald Eagle Management Guidelines would be required.

4.5 RED-COCKADED WOODPECKER (RCW)

The Proposed Action would not traverse RCW habitat as determined by GIS database research and field investigations. As shown in **Figure 4,** the nearest inactive RCW trees are located approximately 1.0 mile from the Proposed Action. There are no active trees within the proposed project area. There is a low potential for the RCW in the Proposed Action area. Therefore, due to these findings, Eglin's Natural Resources Section has determined that the Proposed Action would have **No Effect** on the species or its habitat.

Avoidance and Minimization Procedures for the RCW

- Should a RCW be sighted, construction personnel would be directed to cease any activities and allow the RCW sufficient time to move away from the site on its own before resuming such activities.
- All staging and storage areas would be sited to avoid impacts to RCW habitat.

4.6 OTHER SPECIES CONSIDERED

4.6.1 GOPHER TORTOISE

Since the Proposed Action is traversing through Gopher tortoise habitat and two inactive burrows were sighted in the vicinity during the August/September 2007 field reconnaissance, there is a moderate potential of impact through incidental contact. Gopher tortoise surveys would be conducted along the project impact areas prior to construction activities. Should a Gopher tortoise or its burrow be identified within the proposed alignment, and cannot be avoided by 25 feet, a permit from FWC would be obtained and the Gopher tortoise(s) would be relocated pursuant to the FWC permit requirements. In the unlikely event that construction personnel come into contact with a Gopher tortoise, all activities would cease until the animal has moved away from the area. Eglin's Natural Resources Section has determined that by using the avoidance and minimization procedures outlined below, the Proposed Action **would not** have an adverse impact on the Gopher tortoise.

Avoidance and Minimization Procedures for the Gopher tortoise

- Surveys for Gopher tortoises and burrows would be conducted within the proposed alignment prior to construction.
- Gopher tortoise burrows would be avoided by a minimum of 25 feet if possible.
- All relocations would be performed in accordance with FWC permit requirements.
- All staging and storage areas would be sited to avoid impacts to Gopher tortoise habitat.

4.6.2 FLORIDA BLACK BEAR

There is a high potential for impacts to the Florida black bear as the Proposed Action would create a new high speed corridor through a large expanse of undeveloped land. Vehicular deaths are now the number one killer of Florida black bears. Therefore, the Proposed Action would include fences along the entire roadway that would not only delineate a new southern boundary for Eglin AFB, but would also enable wildlife to cross the roadway at natural and secure locations. In addition to this; wetlands and streams would be spanned sufficiently to include the riparian areas to promote wildlife movement potential. In the unlikely event that construction personnel come into contact with a black bear, all activities would cease until the animal has moved away from the area. Therefore, Eglin's Natural Resources Section has determined that the Proposed Action **would have minimal** adverse impacts on the Florida black bear.

Avoidance and Minimization Procedures for Florida black bear

- All wetlands and their associated riparian areas where Florida black bear activity is known or likely to occur, as determined by the Eglin's Natural Resources Section, would be bridged or spanned to accommodate terrestrial passages for wildlife movement.
- Fences on the north and eastern boundaries of the roadway would be installed to avoid and minimize vehicular deaths.

5.0 CONCLUSION

Table 8 below summarizes the "effects" determination by species. As seen, only the Okaloosa darter is "likely to be adversely affected" by the Proposed Action.

TABLE 8. FEDERAL/STATE THREATENED AND ENDANGERED SPECIES EFFECTS DETERMINATIONS

Species	Effects Determination
Okaloosa Darter	Likely to adversely affect
Eastern Indigo Snake	Not likely to adversely affect
Flatwoods Salamander	Not likely to adversely affect
Bald Eagle	Not expected to impact
Red-cockaded Woodpecker	No effect
Gopher Tortoise	Would not have an adverse impact
Florida Black Bear	Would not have an adverse impact

Potential threats to the Okaloosa darter are that of siltation by increasing stream sedimentation and inadvertent strike during project activities. Based on the number of Okaloosa darter streams the Proposed Action is crossing, potential impacts appear to be significant. However, careful analyses of the data indicate some streams may have little to no adverse impacts and some may have potentially adverse impacts based on population trend data. Because these streams, with the exception of Fox Head Branch, have had historical Okaloosa darter occurrences, Eglin's Natural Resources Section has determined that the Proposed Action is **likely to adversely affect** the species. However, BMPs and other protection measures would be used during bridge construction to minimize potential impacts. Additionally, it is likely that the darters would migrate away from the project site during activities, thereby eliminating adverse effects from sedimentation or the risk of a strike.

Based on the secretive nature of the Eastern indigo snake, incidental contact is considered unlikely. Therefore, Eglin's Natural Resources Section has determined that the Proposed Action is **not likely to adversely affect** the species. However, as with any federal or state listed species, a sighting would be reported immediately and all construction related activities would cease until the animal has moved away from the site under its own direction. By avoiding Gopher tortoise burrows, impacts to this species are expected to be minimal.

Based on Eglin AFB (GIS data), the Proposed Action would not impact known or potential Flatwoods salamander habitat. The Proposed Action has been sited to avoid impacts to this species and its habitat. Therefore, Eglin's Natural Resources Section has determined that the Proposed Action is **not likely to adversely affect** the species.

Based on available habitat and an occurrence documented in the Rocky Creek area in 1997-1999, there is potential for occurrence of Bald eagles in the vicinity of the Proposed Action. However, by utilizing the avoidance and minimization procedures outlined above and adhering to the Bald eagle management guidelines set forth by the USFWS, Eglin's Natural Resources Section has determined that the Proposed Action is **not expected to impact** the species.

Based on Eglin AFB (GIS data), the Proposed Action would not impact any active RCW trees. The Proposed Action has been sited to avoid impacts to this species and its habitat. Eglin's Natural Resources Section has determined that the Proposed Action would have **No Effect** on the species or its habitat.

In the event Gopher tortoises or their burrows are encountered during preconstruction surveys permits from FWC would be obtained. Eglin's Natural Resources Section has determined that by using the avoidance and minimization procedures outlined in this document, the Proposed Action **would not** have an adverse impact on the Gopher tortoise.

Fences and properly designed bridges and spans would promote the wildlife movement potential of many mammals, including black bears, amphibians, and reptiles. Properly designed bridges and culverts would ensure the hydraulic and hydrologic integrity of the systems. Maintaining the natural topography and biological characteristics of the area would enable these sensitive systems to continue to support an abundance of flora and fauna. The MBBA is committed to maintaining and restoring the biological diversity that is so unique to Eglin AFB. MBBA,

through its contractor HDR, would continue to coordinate with Eglin's Natural Resources Section to ensure adverse impacts are negligible. Therefore, Eglin's Natural Resources Section has determined that the Proposed Action would not have an adverse impact on the Florida black bear.

The USFWS would be notified immediately if any of the actions are modified or if additional information on listed species becomes available. If impacts to listed species occur beyond what has been considered in this assessment, all operations would cease and the USFWS would be notified. Any modifications or conditions resulting from consultation with the USFWS would be implemented prior to commencement of activities. Eglin's Natural Resources Section believes this fulfills all requirements of the Endangered Species Act, and no further action is necessary.

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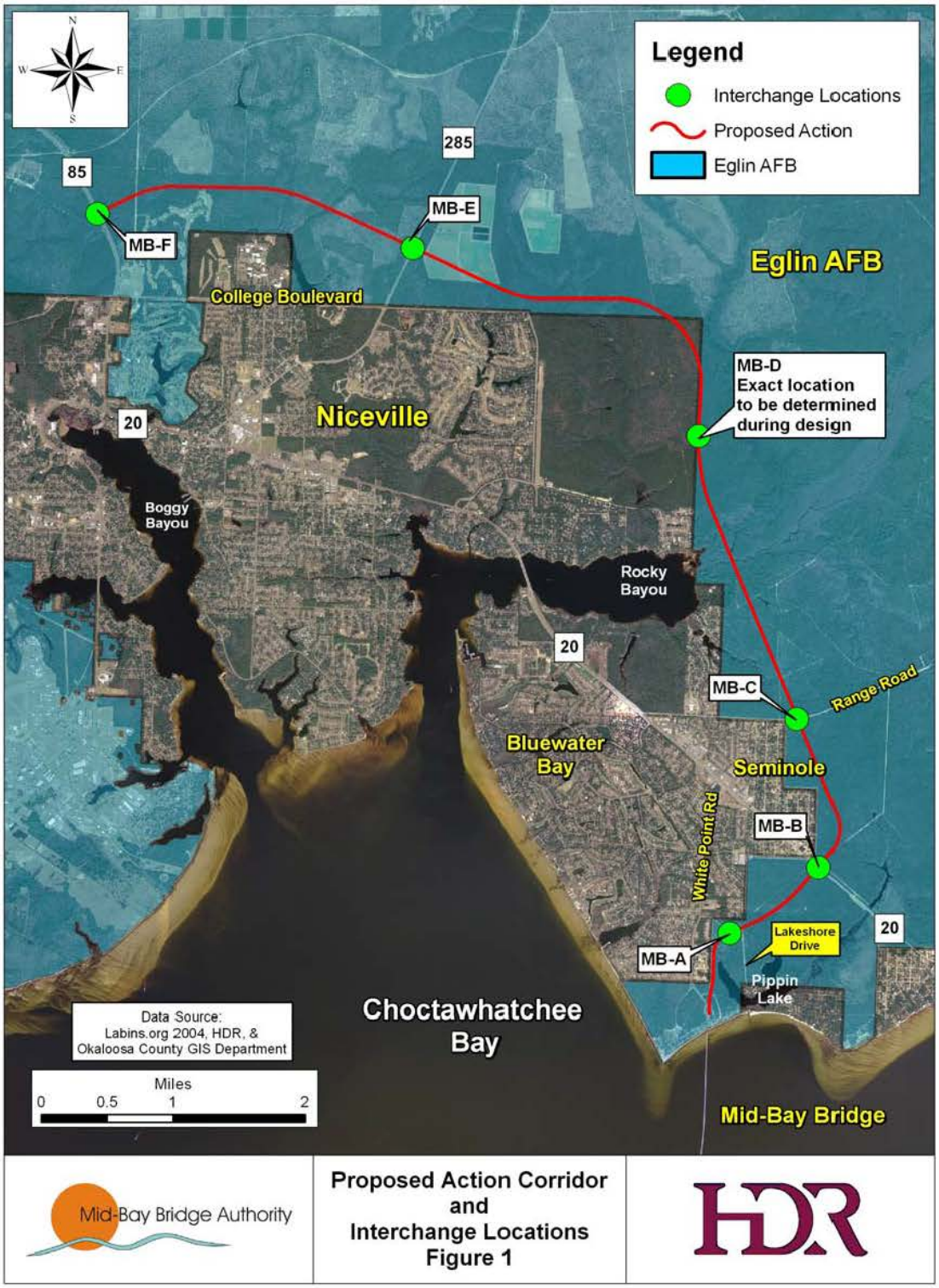
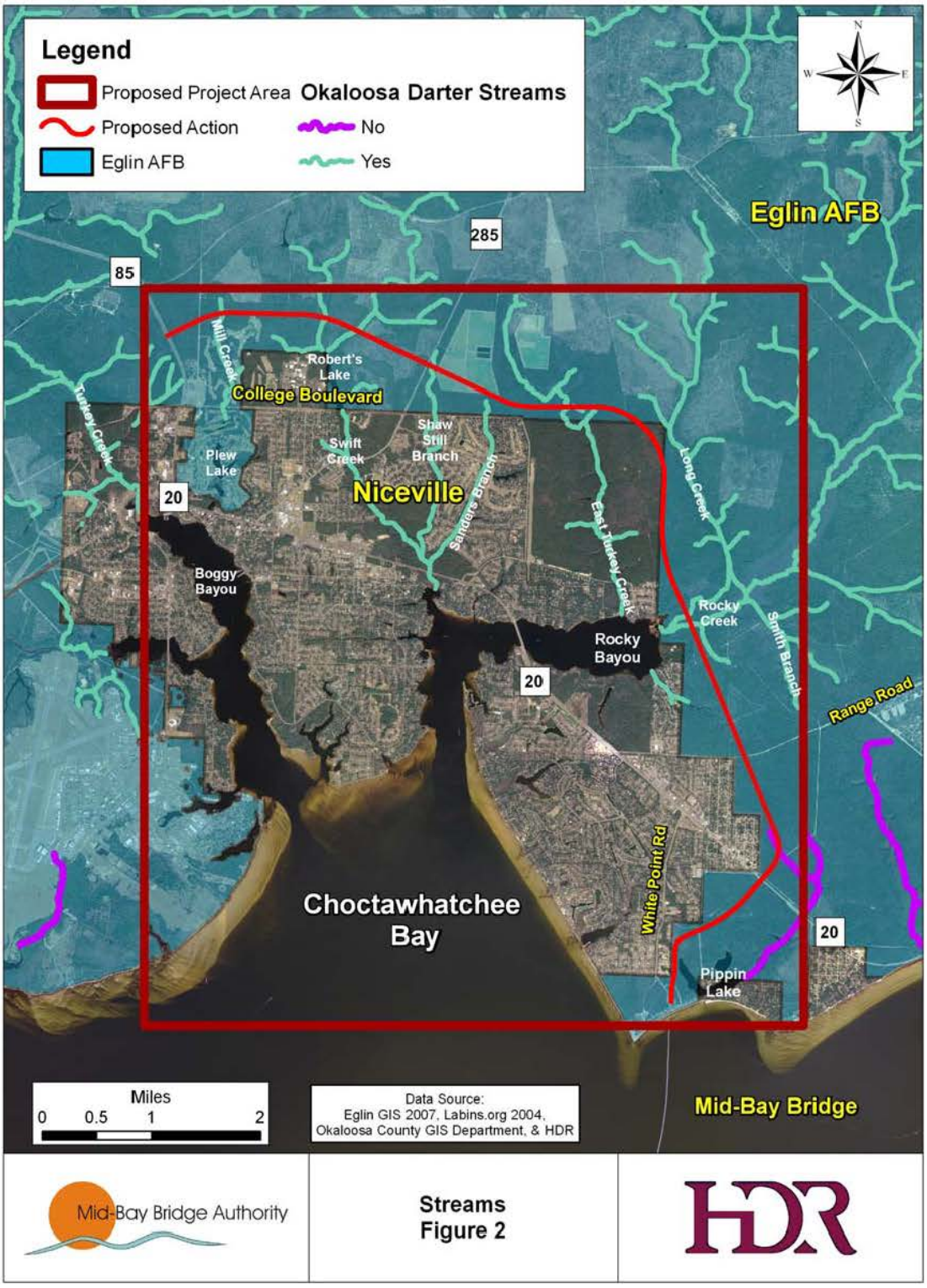
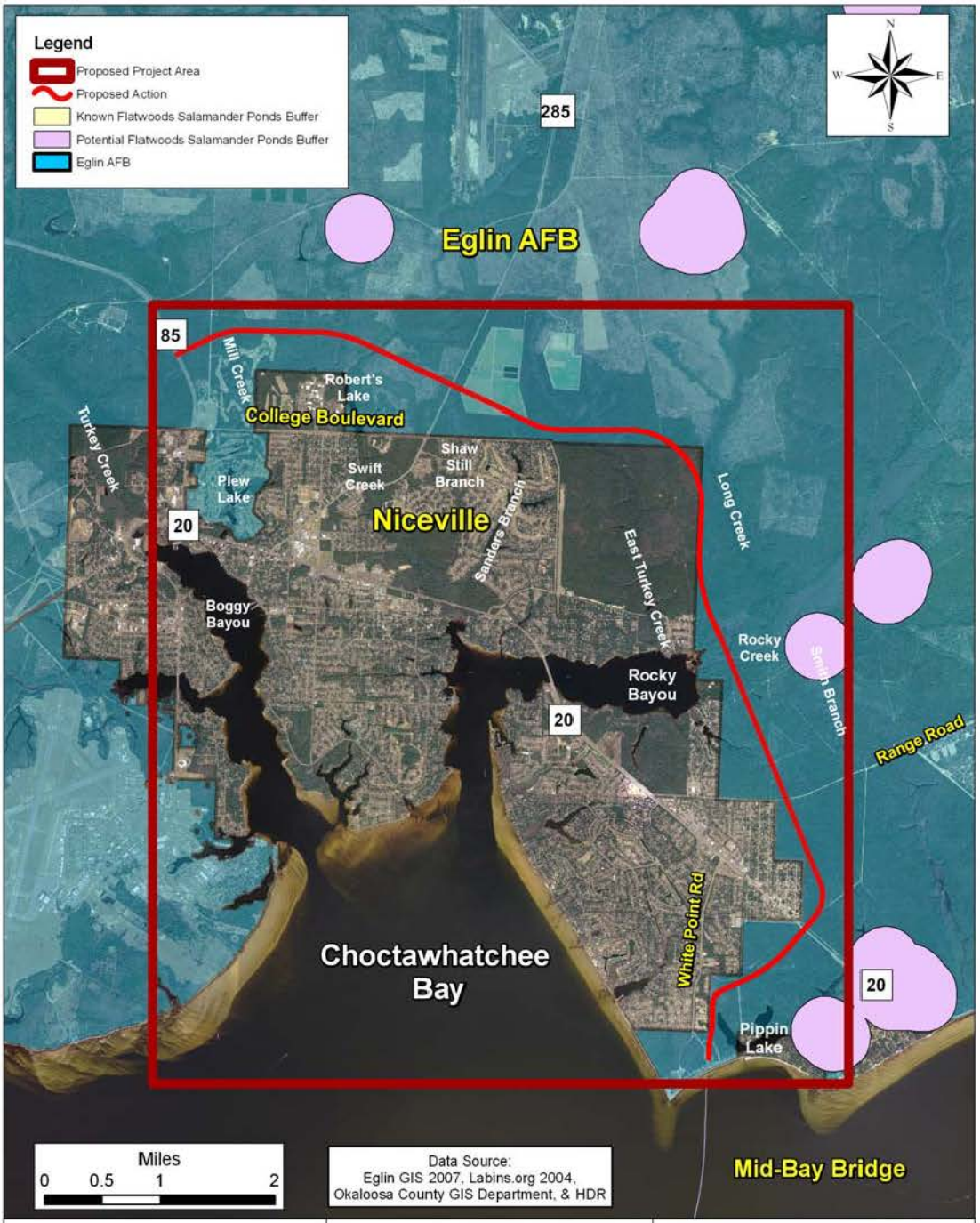
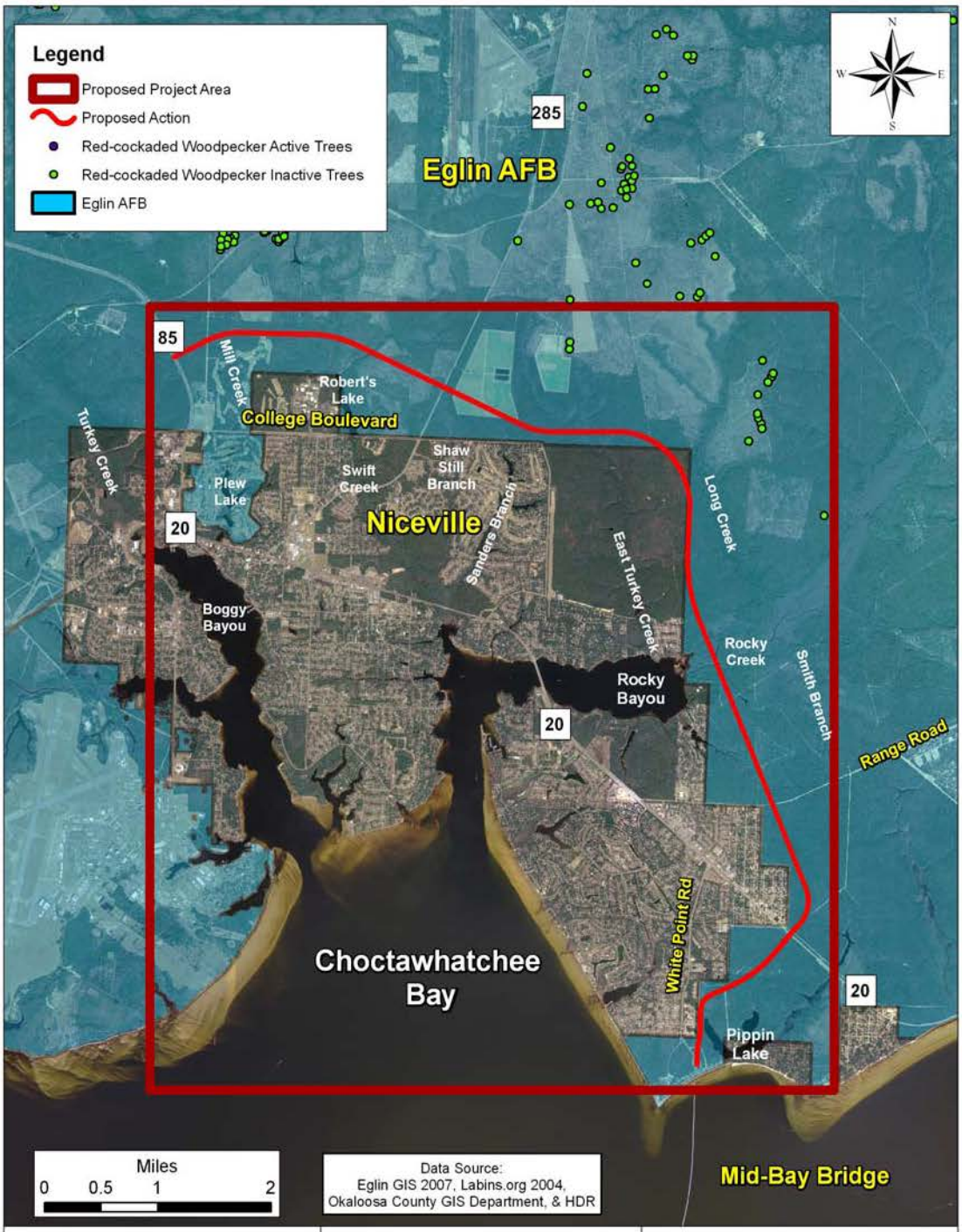

Legend
Interchange Locations
Proposed Action
Eglin AFB
N
W
E
S
85
285
MB-E
MB-F
Eglin AFB
College Boulevard
MB-D
Exact location
to be determined
during design
20
Niceville
Boggy
Bayou
Rocky
Bayou
20
MB-C
Range Road
Bluewater
Bay
Seminole
White Point Rd
MB-B
Lakeshore
Drive
20
MB-A
Pippin
Lake
Data Source:
Labins.org 2004, HDR, &
Okaloosa County GIS Department
Choctawhatchee
Bay
Miles
0 0.5 1 2
Mid-Bay Bridge
Mid-Bay Bridge Authority
Proposed Action Corridor
and
Interchange Locations
Figure 1
HDR


Legend
Proposed Project Area
Proposed Action
Eglin AFB
Okaloosa Darter Streams
No
Yes
N
W
E
S
Eglin AFB
285
85
20
Mill Creek
Robert's Lake
College Boulevard
Turkey Creek
Plew Lake
Swift Creek
Shaw Still Branch
Niceville
Sanders Branch
East Turkey Creek
Long Creek
Boggy Bayou
Rocky Creek
Smith Branch
Rocky Bayou
Range Road
White Point Rd
Choctawhatchee Bay
Pippin Lake
Miles
0 0.5 1 2
Data Source:
Eglin GIS 2007, Labins.org 2004,
Okaloosa County GIS Department, & HDR
Mid-Bay Bridge
Mid-Bay Bridge Authority
Streams
Figure 2
HDR

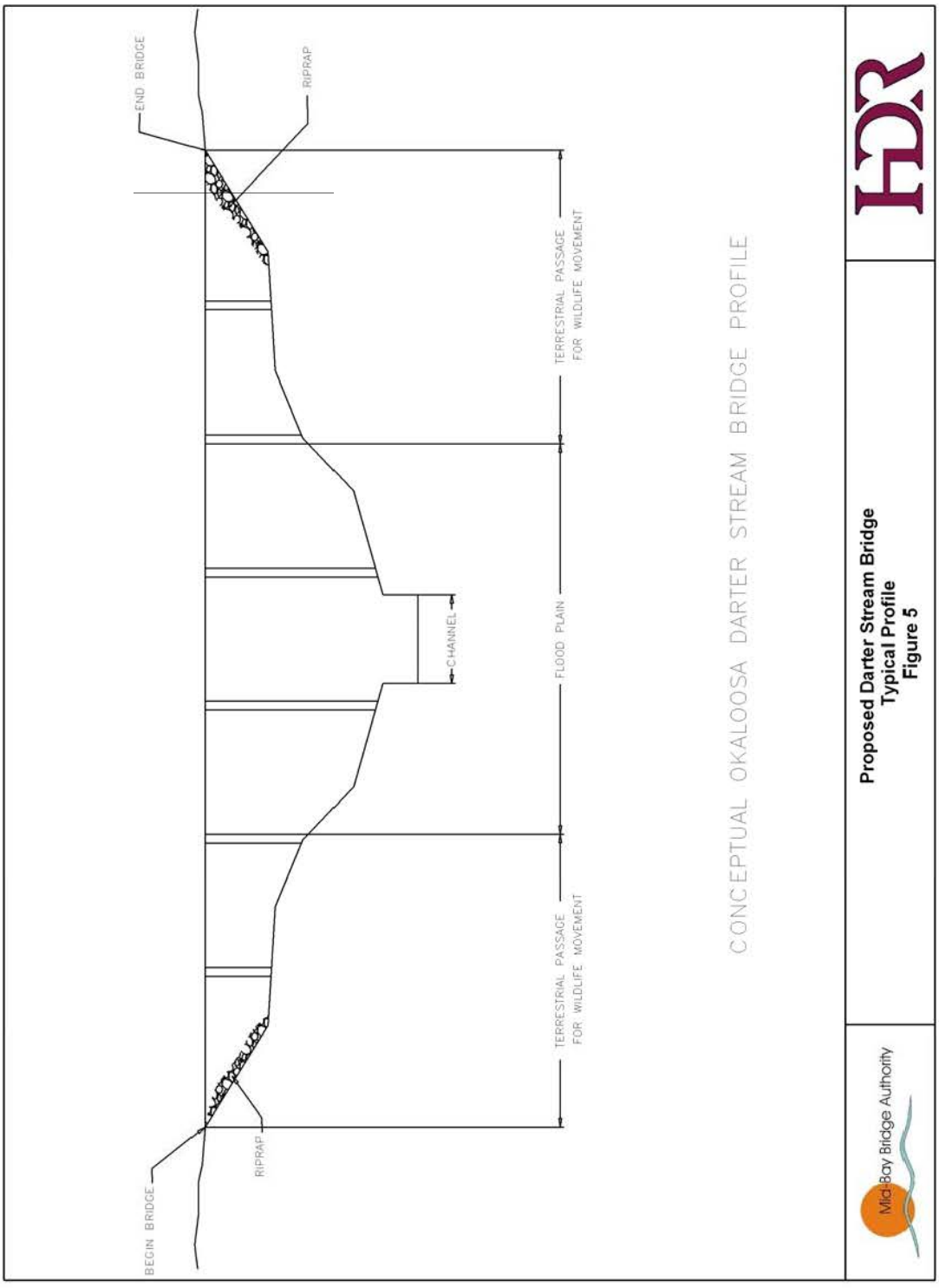

Legend
Proposed Project Area
Proposed Action
Known Flatwoods Salamander Ponds Buffer
Potential Flatwoods Salamander Ponds Buffer
Eglin AFB
N
W
E
S
285
Eglin AFB
85
Mill Creek
Robert's Lake
College Boulevard
Turkey Creek
Plew Lake
Swift Creek
Shaw Still Branch
Niceville
Sanders Branch
East Turkey Creek
Long Creek
20
Boggy Bayou
Rocky Creek
Smith Branch
Rocky Bayou
20
Range Road
White Point Rd
Choctawhatchee Bay
20
Pippin Lake
Miles
0 0.5 1 2
Data Source:
Eglin GIS 2007, Labins.org 2004,
Okaloosa County GIS Department, & HDR
Mid-Bay Bridge
Mid-Bay Bridge Authority
Flatwoods Salamander Habitat
Figure 3
HDR



Mid-Bay Bridge Authority

Red-cockaded Woodpecker Active and Inactive Trees Figure 4

HDR


END BRIDGE
RIPRAP
TERRESTRIAL PASSAGE
FOR WILDLIFE MOVEMENT
CHANNEL
FLOOD PLAIN
TERRESTRIAL PASSAGE
FOR WILDLIFE MOVEMENT
RIPRAP
BEGIN BRIDGE
CONCEPTUAL OKALOOSA DARTER STREAM BRIDGE PROFILE
Mid-Bay Bridge Authority
Proposed Darter Stream Bridge
Typical Profile
Figure 5
HDR

Mid-Bay Bridge Authority (MBBA) Connector Projects to Mitigate Potential Impacts to the Federally Endangered Okaloosa Darter

The following mitigation plan lists specific projects to assist the USFWS in the evaluation process from potential impacts associated with the MBBA Connector. The MBBA commits to working with USFWS in the planning and implementation of all mitigation projects being offered. These projects will be designed and constructed with the continued existence of the Okaloosa darter as their main objective. The projects are categorized in three groups (data collection, easements and agreements, and restoration) as follows:

Data Collection Projects

Okaloosa darter Before and After monitoring for MBBA Connector:

Before and after monitoring will be necessary to fill data gaps and provide information on construction impacts on Okaloosa darters and their habitat. The MBBA will provide funding to allow the USFWS to work with scientific partners (US Geological Survey and Loyola University) to prepare a monitoring program for this particular project. Darter population estimates will be needed to provide pre-construction comparisons and support preparation of the biological assessment and determination of project impacts during Section 7 consultation. Post-construction monitoring will likely be needed for a minimum of 5 years after project completion. Portions of this project could be conducted as part of student research projects as an educational component. The funding will allow approximately 15-20 sites per year.

Okaloosa darter Population Genetics:

The USFWS working with University of Florida (UF) has limited data on the genetic integrity of the Okaloosa darters in the smaller watersheds within the Boggy and Rocky Bayou drainages. The MBBA will provide funding that will enable the USFWS and UF to develop molecular primers for 10-12 loci as part of the molecular DNA portion of the study. In order to assess the genetic impacts of the Connector Road, the USFWS will need genetic data from 25-30 loci.

Water Quality Monitoring:

In order to assess the impacts of roadway runoff and other potential water quality impacts of roadway construction through floodplains and across streams, the USFWS and the Northwest Florida State College are developing a comprehensive water quality monitoring plan that targets specific chemical impairments derived from roadways (e.g., petroleum products) and other associated impacts (e.g., nutrient or oxygen balance). This information will be necessary for the USFWS, Eglin, and FDEP to effectively determine chemical impacts of this project on Okaloosa darters, Eglin aquatic resources, and the Rocky Bayou Aquatic Preserve.

Stream Geomorphology:

Monitoring geomorphic features provides data to determine departures from existing conditions or changes in stream channel stability resulting from a variety of potential impacts. The USFWS will evaluate the physical changes in the stream channel character by measuring stream dimension, pattern profile, bed material, and erosion processes. Cross-sectional and longitudinal surveys of the impacted stream reaches will be conducted prior to construction, one, three, and five year intervals post construction. These data will allow the USFWS, FDEP, and Eglin to assess the response of the impacted streams to bridge construction.

Restoration Projects

Restoration of Hicks Branch:

Many tributaries to Rocky and Boggy Bayous have been impaired by road-stream crossings and other urbanization. Restoration of these systems will include: replacement of road crossing structures, possible stormwater treatment basins or settling chambers and possible stream channel creation. This work will be in conjunction with the City of Niceville stormwater plan. Hicks Branch has been identified by the City of Niceville Public Works Department as a potential project site. This project will require the replacement of three road-stream crossings, beaver removal, and construction of stormwater treatment facilities. Also, the project will include an open channel construction and living shoreline at Lions Park.

Project components:

- Road-Stream Crossing Replacements along
  - Palm Blvd.
  - Cedar Ave.
  - Bayshore Ave.
- Beaver control and maintenance
- Stormwater treatment facilities
- Lions Park open channel construction
- Living shoreline

Swift Creek south of SR 190 (College Blvd.):

Project would be designed to assess the condition of the stream and its tributaries to ensure adequate protection to the riparian areas from future development pressures.

Swift Creek at abandoned Railroad Crossing (off of SR 285):

Project would be designed to remove this impoundment and adequately restore the natural stream channel.

Shaw Still Branch:

Project would be designed to reconnect an isolated Okaloosa darter population north of College Blvd. with the Swift Creek population. Project would consist of Beaver removal, assessing water quality inputs associated with the Niceville-Valparaiso-Okaloosa County (NVOC) sprayfields, and assessing an off-channel impoundment in the Swift Creek residential community. Once these assessments are complete, a restoration plan would be designed and implemented to address these issues.

East Turkey at Rocky Bayou Drive (entrance to Huntington Place Estates):

This project entails culvert removal and replacement that will restore stream flows and benefit the Okaloosa darter. The project will include the construction of a span structure approximately 30-40 ft. in length. MBBA will obtain easements or the necessary R/W from adjacent property owners and coordinate construction with Okaloosa County in order to complete this project.

Beaver Control: The project will also include the removal of beavers from the system. USDA - Wildlife Services will be utilized to remove beavers in the East Turkey Creek. An agreement will have to be reached with Ruckel Properties for site access to perform beaver removal.

Study of the Restoration of College Pond (aka Roberts Pond):

Removal of this impoundment would reestablish approximately one mile of stream habitat for the Okaloosa darter, restore hydrology, and improve water quality in the Swift Creek System. From cursory inspection, it appears that the drain pipe for the pond is rusted through and potentially failing. The concrete box culvert underneath SR 190 (aka College Blvd.) appears to be of sufficient size and placed at or close to the stream bed elevation. It is anticipated to remove the spillway to empty the pond bed; however, the existing culvert maybe be utilized "as is". Stream reconstruction would be minimized to allow for natural stream regeneration. Placement of instream features and other wood structures will likely be necessary. Much of this will be determined after the pond has been emptied and the Swift Creek attempts to reestablish its natural channel. The floodplain and pond bed will be stabilized with native vegetation. It is anticipated that one or two smaller recreational impoundments could be created within the pond bed. Restoration monitoring and maintenance would also be necessary. *Based on the complexity of this potential project, extensive coordination with Eglin, the USFWS, Northwest Florida State College, and others will be required. The MBBA will provide funding to study the feasibility of this potential project.*

Project components:

- Project Study
- Stream Restoration (If feasible)
  - Water drawdown
  - Structure removal
  - Stream channel structuring
  - Off-channel impoundment construction
  - Floodplain vegetation
  - Monitoring and maintenance (5 years)

Anderson Pond stream restoration:

Jackson Guard plans to rebuild the impoundment structure at Anderson Pond. The USFWS proposes to restore stream channel to this segment of Anderson Branch by extending the impoundment structure to the east and re-establishing floodplain and stream channel around the north side of the new impoundment. A spanning structure will be place in RR 231 to eliminate a second beaver impoundment at the roadway. This project will shift Anderson Pond from an in-

line impoundment to an off-line impoundment, remove two fish passage barriers, restore hydrology in Anderson Branch, and reconnect an isolated population of Okaloosa darters with the Turkey Creek population.

Mill Creek:

Plew Lake and Trout Pond on the Eglin Eagle golf course prevent reconnection of Mill Creek to Boggy Bayou. Conversion of these impoundments from in-line to off-line impoundments by construction of new impoundment structures and stream channel around the eastern or western margin of the existing lakes will restore hydrology to the Mill Creek watershed. In conjunction with these projects, beaver removal will be necessary in both ponds as well as the beaver impoundment at Hwy 20.

Old Eglin railroad crossings:

The Eglin railroad bed crosses Swift, Turkey, and Toms creeks. During construction of these crossings, the floodplain was filled and culverts were placed in the streams. The culverts in all three crossings are rusted and potentially failing. The roadbed at the Turkey Creek crossing is actively piping and in jeopardy of collapsing. The Toms Creek crossing has been impounded by beavers. Some stream channel restoration will likely be necessary. Removal of these structures will re-establish floodplain and riparian zones for these watersheds, restore hydrology, and prevent catastrophic events resulting from collapse.

Eglin AFB range roads:

Improperly constructed road-stream crossings alter in-stream habitat and the associated riparian zone. Barriers to fish passage, improperly engineered stream crossing structures, and sources of sediment inputs have been defined for road-stream crossings on Eglin. Eglin natural resources branch and the 96th Civil Engineers Operations group have partnered with USFWS to evaluate necessary actions for rehabilitation of road-stream crossings and monitor success of road crossing rehabilitation projects. Elimination of sediment inputs and fish passage barriers associated with road-stream crossings will improve aquatic and riparian communities on Eglin and facilitate the recovery of the Okaloosa darter. A total of 31 sites have been identified for removal (15) or replacement (16). A design template has been prepared for the replacement structures.

Easements and Agreements

The MBBA will assist the USFWS with the coordination necessary to facilitate easements and agreements with adjacent property owners where studies or potential projects are deemed necessary and feasible.

The MBBA commits to work with the USFWS in the planning and implementation of additional mitigation projects that will be required by FDEP/USACE during the permitting process of each construction phase of the Mid-Bay Connector project. These projects will be designed and constructed with the continued existence of the Okaloosa darter as their main objective.

To facilitate these projects, coordination with Bruce Price, City of Niceville Director of Public Works and Danielle Slaterpryce, Okaloosa County Director of Public Works has been initiated. These projects will require permitting by FDEP and USACE, therefore the plan concepts are subject to change during the permitting process. The MBBA will be responsible for obtaining all applicable permits prior to construction activities.

APPENDIX C

SUPPORTING NOISE DATA

APPENDIX C: SUPPORTING NOISE DATA

Table C-1: Existing Noise Levels		
Noise Receptor	**NAC (dBA)**	**Existing Hourly LAeq1h (dBA)**
NSA "A"		
1 - Residence	67	52[1]
2 - Residence	67	52[1]
3 - Residence	67	52[1]
4 - Residence	67	52[1]
5 - Residence	67	52[1]
6 - Residence	67	52[1]
7 - Residence	67	52[1]
8 - Residence	67	52[1]
9 - Residence	67	52[1]
10 - Residence	67	52[1]
11 - Residence	67	52[1]
12 - Residence	67	52[1]
13 - Residence	67	52[1]
14 - Residence	67	52[1]
15 - Residence	67	52[1]
16 - Residence	67	52[1]
17 - Residence	67	52[1]
18 - Residence	67	52[1]
19 - Residence	67	52[1]
20 - Residence	67	52[1]

Table C-1: Existing Noise Levels		
Noise Receptor	**NAC (dBA)**	**Existing Hourly LAeq1h (dBA)**
21 - Residence	67	52[1]
22 - Residence	67	52[1]
23 - Residence	67	52[1]
24 - Residence	67	52[1]
25 - Residence	67	52[1]
26 - Residence	67	52[1]
27 - Commercial	71	52[1]
28 - Commercial	71	52[1]
29 - Residence	67	52[1]
30 - Residence	67	52[1]
31 - Residence	67	52[1]
32 - Residence	67	52[1]
33 - Residence	67	52[1]
34 - Residence	67	52[1]
35 - Residence	67	52[1]
36 - Residence	67	52[1]
37 - Residence	67	52[1]
38 - Residence	67	52[1]
39 - Residence	67	52[1]
40 - Residence	67	52[1]
41 - Residence	67	52[1]
42 - Residence	67	52[1]

Table C-1: Existing Noise Levels		
Noise Receptor	**NAC (dBA)**	**Existing Hourly LAeq1h (dBA)**
43 - Residence	67	52[1]
44 - Residence	67	52[1]
45 - Residence	67	52[1]
46 - Residence	67	52[1]
NSA "C"		
47 - Residence	67	52[1]
48 - Residence	67	52[1]
49 - Residence	67	52[1]
50 - Residence	67	52[1]
51 - Residence	67	52[1]
52 - Residence	67	52[1]
53 - Residence	67	52[1]
54 - Residence	67	52[1]
55 - Residence	67	52[1]
56 - Residence	67	52[1]
57 - Residence	67	52[1]
58 - Residence	67	52[1]
59 - Residence	67	52[1]
60 - Residence	67	52[1]
61 - Residence	67	52[1]
62 - Residence	67	52[1]
NSA "D"		

Table C-1: Existing Noise Levels		
Noise Receptor	**NAC (dBA)**	**Existing Hourly LAeq1h (dBA)**
63 - Residence	67	52[1]
64 - Residence	67	52[1]
65 - Residence	67	52[1]
66 - Residence	67	52[1]
67 - Residence	67	52[1]
68 - Residence	67	52[1]
69 - Residence	67	52[1]
70 - Residence	67	52[1]
71 - Residence	67	52[1]
72 - Residence	67	52[1]
73 - Residence	67	52[1]
74 - Residence	67	52[1]
75 - Residence	67	52[1]
76 - Residence	67	52[1]
77 - Residence	67	52[1]
78 - Residence	67	52[1]
79 - Residence	67	52[1]
80 - Residence	67	52[1]
81 - Residence	67	52[1]
82 - Residence	67	52[1]
83 - Residence	67	52[1]
84 - Residence	67	52[1]

Table C-1: Existing Noise Levels		
Noise Receptor	**NAC (dBA)**	**Existing Hourly LAeq1h (dBA)**
85 - Residence	67	52[1]
86 - Residence	67	52[1]
87 - Residence	67	52[1]
88 - Residence	67	52[1]
89 - Residence	67	52[1]
90 - Residence	67	52[1]
91 - Residence	67	52[1]
92 - Residence	67	52[1]
93 - Residence	67	52[1]
94 - Residence	67	52[1]
95 - Residence	67	52[1]
96 - Residence	67	52[1]
97 - Residence	67	52[1]
98 - Residence	67	52[1]
99 - Residence	67	52[1]
100 - Residence	67	52[1]
101 - Residence	67	52[1]
102 - Residence	67	52[1]
103 - Residence	67	52[1]
104 - Residence	67	52[1]
105 - Residence	67	52[1]
NSA "B"		

Table C-1: Existing Noise Levels		
Noise Receptor	**NAC (dBA)**	**Existing Hourly LAeq1h (dBA)**
W1 - Residence	67	60
W2 - Residence	67	63
W3 - Residence	67	63
W4 - Residence	67	63
W5 - Residence	67	63
W6 - Residence	67	63
W7 - Residence	67	63
W8 - Residence	67	63
W9 - Residence	67	59
W10 - Residence	67	63
W11 - Residence	67	63
W12 - Residence	67	63
W13 - Residence	67	63
W14 - Residence	67	62
W15 - Residence	67	61
W16 - Residence	67	60
W17 - Residence	67	60
W18 - Residence	67	60
W19 - Residence	67	60
W20 - Residence	67	61
W21 - Residence	67	58
W22 - Residence	67	59

Table C-1: Existing Noise Levels		
Noise Receptor	**NAC (dBA)**	**Existing Hourly LAeq1h (dBA)**
W23 - Residence	67	60
W24 - Residence	67	63
W25 - Residence	67	63
W26 - Residence	67	60
W27 - Residence	67	62
W28 - Residence	67	62
W29 - Residence	67	62
W30 - Residence	67	62
W31 - Residence	67	61
W32 - Residence	67	60
W33 - Residence	67	60
W34 - Residence	67	60
W35 - Residence	67	62
W36 - Residence	67	60
W37 - Residence	67	60
W38 - Residence	67	59
W39 - Residence	67	61
W40 - Residence	67	61
W41 - Residence	67	61
W42 - Residence	67	62
W43 - Residence	67	62
W44 - Residence	67	61

Table C-1: Existing Noise Levels		
Noise Receptor	**NAC (dBA)**	**Existing Hourly LAeq1h (dBA)**
W45 - Residence	67	61
W46 - Residence	67	61
W47 - Residence	67	61
W48 - Residence	67	59
W49 - Residence	67	61
W50 - Residence	67	61
W51 - Residence	67	61
W52 - Residence	67	61
W53 - Residence	67	60
W54 - Residence	67	60
W55 - Residence	67	60
W56 - Residence	67	60
W57 - Commercial	72	64
W58 - Residence	67	61
W59 - Residence	67	55
W60 - Residence	67	57
W61 - Residence	67	58
W62 - Residence	67	58
W63 - Residence	67	60
W64 - Residence	67	61
W65 - Residence	67	63
W66 - Residence	67	63

Table C-1: Existing Noise Levels		
Noise Receptor	**NAC (dBA)**	**Existing Hourly LAeq1h (dBA)**
W67 - Residence	67	61
W68 - Residence	67	59
W69 - Residence	67	64
W70 - Residence	67	64
W71 - Residence	67	65
W72 - Residence	67	65
W73 - Residence	67	64
W74 - Residence	67	64
W75 - Residence	67	64
W76 - Residence	67	65
W77 - Residence	67	65
W78 - Residence	67	64
W79 - Residence	67	65
W80 - Residence	67	64
W81 - Residence	67	64
W82 - Residence	67	65
W83 - Residence	67	60
W84 - Residence	67	63
W85 - Residence	67	64
W86 - Residence	67	63
W87 - Residence	67	64
W88 - Residence	67	64

Table C-1: Existing Noise Levels		
Noise Receptor	**NAC (dBA)**	**Existing Hourly LAeq1h (dBA)**
W89 - Residence	67	65
W90 - Residence	67	59
W91 - Residence	67	58
W92 - Residence	67	58
W93 - Residence	67	58
W94 - Residence	67	57
E1 - Residence	67	59
E2 - Residence	67	62
E3 - Residence	67	61
E4 - Residence	67	60
E5 - Residence	67	60
E6 - Residence	67	60
E7 - Residence	67	60
E8 - Residence	67	60
E9 - Residence	67	60
E10 - Residence	67	60
E11 - Residence	67	60
E12 - Residence	67	60
E13 - Residence	67	60
E14 - Residence	67	60
E15 - Residence	67	60
E16 - Residence	67	60

Table C-1: Existing Noise Levels		
Noise Receptor	**NAC (dBA)**	**Existing Hourly LAeq1h (dBA)**
E17 - Residence	67	60
E18 - Residence	67	60
E19 - Residence	67	60
E20 - Residence	67	59
E21 - Residence	67	61
E22 - Residence	67	64
E23 - Residence	67	57
E24 - Residence	67	57
E25 - Residence	67	58
E26 - Residence	67	58
E27 - Residence	67	58
E28 - Residence	67	59
E29 - Residence	67	59
E30 - Residence	67	60
E31 - Residence	67	58
E32 - Residence	67	58
E33 - Residence	67	59
E34 - Residence	67	58
E35 - Residence	67	60
E36 - Residence	67	60
E37 - Residence	67	58
E38 - Residence	67	60

Table C-1: Existing Noise Levels		
Noise Receptor	**NAC (dBA)**	**Existing Hourly LAeq1h (dBA)**
E39 - Residence	67	60
E40 - Residence	67	60
E41 - Residence	67	59
E42 - Residence	67	58
E43 - Residence	67	60
E44 - Residence	67	60
E45 - Residence	67	60
E46 - Residence	67	60
E47 - Residence	67	60
E48 - Residence	67	60
E49 - Residence	67	60
E50 - Residence	67	60
E51 - Residence	67	60
E52 - Residence	67	60
E53 - Residence	67	60
E54 - Residence	67	60
E55 - Residence	67	60
E56 - Residence	67	60
E57 - Residence	67	60
E58 - Residence	67	60
E59 - Residence	67	60
E60 - Residence	67	60

Table C-1: Existing Noise Levels		
Noise Receptor	**NAC (dBA)**	**Existing Hourly LAeq1h (dBA)**
E61 - Residence	67	60
E62 - Residence	67	58
E63 - Residence	67	54
E64 - Residence	67	58
E65 - Residence	67	54
E66 - Residence	67	52
E67 - Residence	67	56
E68 - Residence	67	54
E69 - Residence	67	54
E70 - Residence	67	52
E71 - Residence	67	51
E72 - Residence	67	50
E73 - Residence	67	49
E74 - Residence	67	66
E75 - Residence	67	60
E76 - Residence	67	57
E77 - Residence	67	55
E78 - Residence	67	53
E79 - Residence	67	52
E80 - Residence	67	50
E81 - Residence	67	48
E84 - Residence	67	60

Table C-1: Existing Noise Levels		
Noise Receptor	**NAC (dBA)**	**Existing Hourly LAeq1h (dBA)**
E85 - Residence	67	63
E86 - Residence	67	63
E87 - Residence	67	65
E88 - Residence	67	65
E89 - Residence	67	64
E90 - Residence	67	64
E91 - Residence	67	65
E92 - Residence	67	65
E93 - Residence	67	65
E94 - Residence	67	65
E95 - Residence	67	65
E96 - Residence	67	65
E97 - Residence	67	67
E98 - Residence	67	66
E99 - Residence	67	66
E100 - Residence	67	66
E101 - Residence	67	64

Table C-2: Predicted Noise Levels

Receptor		Hourly Leq (dBA)										
		NAC (dBA)	2007 Existing	2030 No-Action	2030 Predicted Noise Levels				Increase Over Existing			
					Alt A	Alt B	Alt C	Alt D	Alt A	Alt B	Alt C	Alt D
NSA "A"	1 - Residence	67	52	52	63	N/A	63	63	11	N/A	11	11
	2 - Residence	67	52	52	**66**	N/A	**66**	**66**	14	N/A	14	14
	3 - Residence	67	52	52	64	N/A	64	64	12	N/A	12	12
	4 - Residence	67	52	52	61	N/A	61	61	9	N/A	9	9
	5 - Residence	67	52	52	**66**	N/A	**66**	**66**	14	N/A	14	14
	6 - Residence	67	52	52	**66**	N/A	**66**	**66**	14	N/A	14	14
	7 - Residence	67	52	52	**66**	N/A	**66**	**66**	14	N/A	14	14
	8 - Residence	67	52	52	**66**	N/A	**66**	**66**	14	N/A	14	14
	9 - Residence	67	52	52	**66**	N/A	**66**	**66**	14	N/A	14	14
	10- Residence	67	52	52	**66**	N/A	**66**	**66**	14	N/A	14	14
	11 - Residence	67	52	52	**66**	N/A	**66**	**66**	14	N/A	14	14
	12 - Residence	67	52	52	**66**	N/A	**66**	**66**	14	N/A	14	14
	13 - Residence	67	52	52	**66**	N/A	**66**	**66**	14	N/A	14	14
	14 - Residence	67	52	52	**66**	N/A	**66**	**66**	14	N/A	14	14
	15 - Residence	67	52	52	64	N/A	64	64	12	N/A	12	12
	16 - Residence	67	52	52	63	N/A	63	63	11	N/A	11	11
	17 - Residence	67	52	52	61	N/A	61	61	9	N/A	9	9
	18 - Residence	67	52	52	60	N/A	60	60	8	N/A	8	8

Table C-2: Predicted Noise Levels

Receptor		Hourly Leq (dBA)										
		NAC (dBA)	2007 Existing	2030 No-Action	2030 Predicted Noise Levels				Increase Over Existing			
					Alt A	Alt B	Alt C	Alt D	Alt A	Alt B	Alt C	Alt D
	19 - Residence	67	52	52	57	N/A	57	58	5	N/A	5	6
	20 - Residence	67	52	52	59	N/A	59	60	7	N/A	7	8
	21 - Residence	67	52	52	60	N/A	60	62	8	N/A	8	10
	22 - Residence	67	52	52	57	N/A	57	59	5	N/A	5	7
	23 - Residence	67	52	52	55	N/A	55	58	3	N/A	3	6
	24 - Residence	67	52	52	54	N/A	53	56	2	N/A	1	4
	25 - Residence	67	52	52	52	N/A	52	55	0	N/A	0	3
	26 - Residence	67	52	52	52	N/A	52	54	0	N/A	0	2
	27 - Commercial	71	52	52	58	N/A	54	**72**	6	N/A	2	**20**
	28 - Commercial	71	52	52	57	N/A	55	**73**	5	N/A	3	**21**
	29 - Residence	67	52	52	54	N/A	53	**69**	2	N/A	1	**17**
	30 - Residence	67	52	52	52	N/A	53	**68**	0	N/A	1	**16**
	31 - Residence	67	52	52	52	N/A	53	**70**	0	N/A	1	**18**
	32 - Residence	67	52	52	52	N/A	53	**69**	0	N/A	1	**17**
	33 - Residence	67	52	52	52	N/A	54	**71**	0	N/A	2	**19**
	34 - Residence	67	52	52	52	N/A	54	**71**	0	N/A	2	**19**
	35 - Residence	67	52	52	52	N/A	54	**72**	0	N/A	2	**20**
	36 - Residence	67	52	52	53	N/A	54	**71**	1	N/A	2	**19**

Table C-2: Predicted Noise Levels

Receptor		Hourly Leq (dBA)										
		NAC (dBA)	2007 Existing	2030 No-Action	2030 Predicted Noise Levels				Increase Over Existing			
					Alt A	Alt B	Alt C	Alt D	Alt A	Alt B	Alt C	Alt D
	37 - Residence	67	52	52	54	N/A	54	**71**	2	N/A	2	**19**
	38 - Residence	67	52	52	55	N/A	54	**72**	3	N/A	2	**20**
	39 - Residence	67	52	52	57	N/A	55	**71**	5	N/A	3	**19**
	40 - Residence	67	52	52	57	N/A	55	**70**	5	N/A	3	**18**
	41 - Residence	67	52	52	55	N/A	53	62	3	N/A	1	10
	42 - Residence	67	52	52	53	N/A	52	59	1	N/A	0	7
	43 - Residence	67	52	52	54	N/A	56	58	2	N/A	4	6
	44 - Residence	67	52	52	54	N/A	58	59	2	N/A	6	7
	45 - Residence	67	52	52	55	N/A	58	60	3	N/A	6	8
	46 - Residence	67	52	52	56	N/A	62	62	4	N/A	10	10
NSA "C"	47 - Residence	67	52	52	55	61	58	61	3	9	6	9
	48 - Residence	67	52	52	56	63	59	63	4	11	7	11
	49 - Residence	67	52	52	55	62	57	61	3	10	5	9
	50 - Residence	67	52	52	56	63	59	63	4	11	7	11
	51 - Residence	67	52	52	56	62	58	63	4	10	6	11
	52 - Residence	67	52	52	62	55	59	**69**	10	3	7	**17**
	53 - Residence	67	52	52	64	57	59	**69**	12	5	7	**17**
	54 - Residence	67	52	52	64	59	60	**70**	12	7	8	**18**
	55 - Residence	67	52	52	63	59	58	**68**	11	7	6	**16**

Table C-2: Predicted Noise Levels

Receptor		Hourly Leq (dBA)										
		NAC (dBA)	2007 Existing	2030 No-Action	2030 Predicted Noise Levels				Increase Over Existing			
					Alt A	Alt B	Alt C	Alt D	Alt A	Alt B	Alt C	Alt D
	56 - Residence	67	52	52	62	60	59	64	10	8	7	12
	57 - Residence	67	52	52	62	60	59	64	10	8	7	12
	58 - Residence	67	52	52	62	60	58	64	10	8	6	12
	59 - Residence	67	52	52	63	60	58	**69**	11	8	6	**17**
	60 - Residence	67	52	52	63	60	58	**70**	11	8	6	**18**
	61 - Residence	67	52	52	63	60	58	**69**	11	8	6	**17**
	62 - Residence	67	52	52	62	59	58	**69**	10	7	6	**17**
NSA "D"	63 - Residence	67	52	52	59	59	58	64	7	7	6	12
	64 - Residence	67	52	52	59	61	59	**71**	7	9	7	**19**
	65 - Residence	67	52	52	57	59	58	**69**	5	7	6	**17**
	66 - Residence	67	52	52	57	61	59	**71**	5	9	7	**19**
	67 - Residence	67	52	52	55	59	58	**69**	3	7	6	**17**
	68 - Residence	67	52	52	54	61	60	**72**	2	9	8	**20**
	69 - Residence	67	52	52	52	61	59	**71**	0	9	7	**19**
	70 - Residence	67	52	52	52	62	60	**73**	0	10	8	**21**
	71 - Residence	67	52	52	52	64	60	**73**	0	12	8	**21**
	72 - Residence	67	52	52	52	63	59	**70**	0	11	7	**18**
	73 - Residence	67	52	52	52	64	60	**72**	0	12	8	**20**
	74 - Residence	67	52	52	52	61	59	**69**	0	9	7	**17**

Table C-2: Predicted Noise Levels												
Receptor		**Hourly Leq (dBA)**										
		NAC (dBA)	**2007 Existing**	**2030 No-Action**	**2030 Predicted Noise Levels**				**Increase Over Existing**			
					Alt A	**Alt B**	**Alt C**	**Alt D**	**Alt A**	**Alt B**	**Alt C**	**Alt D**
	75 - Residence	67	52	52	52	61	59	59	0	9	7	7
	76 - Residence	67	52	52	52	64	60	62	0	12	8	10
	77 - Residence	67	52	52	52	64	62	62	0	12	10	10
	78 - Residence	67	52	52	52	65	62	63	0	13	10	11
	79 - Residence	67	52	52	52	**66**	63	64	0	14	11	12
	80 - Residence	67	52	52	52	**66**	63	64	0	14	11	12
	81 - Residence	67	52	52	52	**72**	**70**	**71**	0	**20**	**18**	**19**
	82 - Residence	67	52	52	52	**72**	**70**	**71**	0	**20**	**18**	**19**
	83 - Residence	67	52	52	52	**75**	**71**	**73**	0	**23**	**19**	**21**
	84 - Residence	67	52	52	52	**72**	**70**	**71**	0	**20**	**18**	**19**
	85 - Residence	67	52	52	52	**72**	**70**	**70**	0	**20**	**18**	**18**
	86 - Residence	67	52	52	52	**72**	**70**	**70**	0	**20**	**18**	**18**
	87 - Residence	67	52	52	52	**72**	**70**	**71**	0	**20**	**18**	**19**
	88 - Residence	67	52	52	52	**72**	**70**	**70**	0	**20**	**18**	**18**
	89 - Residence	67	52	52	52	**72**	**70**	**70**	0	**20**	**18**	**18**
	90 - Residence	67	52	52	52	**73**	**71**	**70**	0	**21**	**19**	**18**
	91 - Residence	67	52	52	52	**73**	**71**	**70**	0	**21**	**19**	**18**
	92 - Residence	67	52	52	52	**73**	**72**	**70**	0	**21**	**20**	**18**
	93 - Residence	67	52	52	52	**73**	**72**	**70**	0	**21**	**20**	**18**

Table C-2: Predicted Noise Levels

Receptor		Hourly Leq (dBA)										
		NAC (dBA)	2007 Existing	2030 No-Action	2030 Predicted Noise Levels				Increase Over Existing			
					Alt A	Alt B	Alt C	Alt D	Alt A	Alt B	Alt C	Alt D
	94 - Residence	67	52	52	52	**73**	**72**	**70**	0	**21**	**20**	**18**
	95 - Residence	67	52	52	52	**73**	**72**	**70**	0	**21**	**20**	**18**
	96 - Residence	67	52	52	52	**73**	**71**	**70**	0	**21**	**19**	**18**
	97 - Residence	67	52	52	52	**73**	**71**	**69**	0	**21**	**19**	**17**
	98 - Residence	67	52	52	52	**73**	**72**	**69**	0	**21**	**20**	**17**
	99 - Residence	67	52	52	52	**73**	**72**	**70**	0	**21**	**20**	**18**
	100 - Residence	67	52	52	52	**72**	**71**	**69**	0	**20**	**19**	**17**
	101 - Residence	67	52	52	52	**72**	**72**	**69**	0	**20**	**20**	**17**
	102 - Residence	67	52	52	52	**72**	**71**	**69**	0	**20**	**19**	**17**
	103 - Residence	67	52	52	52	**72**	**71**	**69**	0	**20**	**19**	**17**
	104 - Residence	67	52	52	52	**71**	**71**	**69**	0	**19**	**19**	**17**
	105 - Residence	67	52	52	52	**71**	**70**	**68**	0	**19**	**18**	**16**
NSA "B"	W1 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	W2 - Residence	67	63	63	N/A	**67**	N/A	N/A	N/A	4	N/A	N/A
	W3 - Residence	67	63	63	N/A	**67**	N/A	N/A	N/A	4	N/A	N/A
	W4 - Residence	67	63	63	N/A	**66**	N/A	N/A	N/A	3	N/A	N/A
	W5 - Residence	67	63	63	N/A	**67**	N/A	N/A	N/A	4	N/A	N/A
	W6 - Residence	67	63	63	N/A	**67**	N/A	N/A	N/A	4	N/A	N/A
	W7 - Residence	67	63	63	N/A	**67**	N/A	N/A	N/A	4	N/A	N/A

Table C-2: Predicted Noise Levels

Receptor	Hourly Leq (dBA)										
	NAC (dBA)	2007 Existing	2030 No-Action	2030 Predicted Noise Levels				Increase Over Existing			
				Alt A	Alt B	Alt C	Alt D	Alt A	Alt B	Alt C	Alt D
W8 - Residence	67	63	63	N/A	**67**	N/A	N/A	N/A	4	N/A	N/A
W9 - Residence	67	59	59	N/A	62	N/A	N/A	N/A	3	N/A	N/A
W10 - Residence	67	63	63	N/A	**67**	N/A	N/A	N/A	4	N/A	N/A
W11 - Residence	67	63	63	N/A	**66**	N/A	N/A	N/A	3	N/A	N/A
W12 - Residence	67	63	63	N/A	**67**	N/A	N/A	N/A	4	N/A	N/A
W13 - Residence	67	63	63	N/A	**66**	N/A	N/A	N/A	3	N/A	N/A
W14 - Residence	67	62	62	N/A	65	N/A	N/A	N/A	3	N/A	N/A
W15 - Residence	67	61	61	N/A	65	N/A	N/A	N/A	4	N/A	N/A
W16 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
W17 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
W18 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
W19 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
W20 - Residence	67	61	61	N/A	65	N/A	N/A	N/A	4	N/A	N/A
W21 - Residence	67	58	58	N/A	62	N/A	N/A	N/A	4	N/A	N/A

Table C-2: Predicted Noise Levels

Receptor		Hourly Leq (dBA)										
		NAC (dBA)	2007 Existing	2030 No-Action	2030 Predicted Noise Levels				Increase Over Existing			
					Alt A	Alt B	Alt C	Alt D	Alt A	Alt B	Alt C	Alt D
	W22 - Residence	67	59	59	N/A	63	N/A	N/A	N/A	4	N/A	N/A
	W23 - Residence	67	60	60	N/A	63	N/A	N/A	N/A	3	N/A	N/A
	W24 - Residence	67	63	63	N/A	**66**	N/A	N/A	N/A	3	N/A	N/A
	W25 - Residence	67	63	63	N/A	**67**	N/A	N/A	N/A	4	N/A	N/A
	W26 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	W27 - Residence	67	62	62	N/A	**66**	N/A	N/A	N/A	4	N/A	N/A
	W28 - Residence	67	62	62	N/A	**66**	N/A	N/A	N/A	4	N/A	N/A
	W29 - Residence	67	62	62	N/A	65	N/A	N/A	N/A	3	N/A	N/A
	W30 - Residence	67	62	62	N/A	65	N/A	N/A	N/A	3	N/A	N/A
	W31 - Residence	67	61	61	N/A	64	N/A	N/A	N/A	3	N/A	N/A
	W32 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	W33 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	W34 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A

Table C-2: Predicted Noise Levels

Receptor	Hourly Leq (dBA)										
	NAC (dBA)	2007 Existing	2030 No-Action	2030 Predicted Noise Levels				Increase Over Existing			
				Alt A	Alt B	Alt C	Alt D	Alt A	Alt B	Alt C	Alt D
W35 - Residence	67	62	62	N/A	65	N/A	N/A	N/A	3	N/A	N/A
W36 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
W37 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
W38 - Residence	67	59	59	N/A	63	N/A	N/A	N/A	4	N/A	N/A
W39 - Residence	67	61	61	N/A	65	N/A	N/A	N/A	4	N/A	N/A
W40 - Residence	67	61	61	N/A	65	N/A	N/A	N/A	4	N/A	N/A
W41- Residence	67	61	61	N/A	65	N/A	N/A	N/A	4	N/A	N/A
W42 - Residence	67	62	62	N/A	65	N/A	N/A	N/A	3	N/A	N/A
W43 - Residence	67	62	62	N/A	65	N/A	N/A	N/A	3	N/A	N/A
W44 - Residence	67	61	61	N/A	65	N/A	N/A	N/A	4	N/A	N/A
W45 - Residence	67	61	61	N/A	65	N/A	N/A	N/A	4	N/A	N/A
W46 - Residence	67	61	61	N/A	65	N/A	N/A	N/A	4	N/A	N/A
W47 - Residence	67	61	61	N/A	65	N/A	N/A	N/A	4	N/A	N/A

Table C-2: Predicted Noise Levels

Receptor	Hourly Leq (dBA)										
	NAC (dBA)	2007 Existing	2030 No-Action	2030 Predicted Noise Levels				Increase Over Existing			
				Alt A	Alt B	Alt C	Alt D	Alt A	Alt B	Alt C	Alt D
W48 - Residence	67	59	59	N/A	62	N/A	N/A	N/A	4	N/A	N/A
W49 - Residence	67	61	61	N/A	65	N/A	N/A	N/A	4	N/A	N/A
W50 - Residence	67	61	61	N/A	65	N/A	N/A	N/A	4	N/A	N/A
W51 - Residence	67	61	61	N/A	65	N/A	N/A	N/A	4	N/A	N/A
W52 - Residence	67	61	61	N/A	65	N/A	N/A	N/A	4	N/A	N/A
W53 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
W54 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
W55 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
W56 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
W57 - Commercial	72	64	64	N/A	67	N/A	N/A	N/A	3	N/A	N/A
W58 - Residence	67	61	61	N/A	65	N/A	N/A	N/A	4	N/A	N/A
W59 - Residence	67	55	55	N/A	59	N/A	N/A	N/A	4	N/A	N/A
W60 - Residence	67	57	57	N/A	61	N/A	N/A	N/A	4	N/A	N/A

Table C-2: Predicted Noise Levels

Receptor	Hourly Leq (dBA)										
	NAC (dBA)	2007 Existing	2030 No-Action	2030 Predicted Noise Levels				Increase Over Existing			
				Alt A	Alt B	Alt C	Alt D	Alt A	Alt B	Alt C	Alt D
W61 - Residence	67	58	58	N/A	61	N/A	N/A	N/A	3	N/A	N/A
W62 - Residence	67	58	58	N/A	62	N/A	N/A	N/A	4	N/A	N/A
W63 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
W64 - Residence	67	61	61	N/A	65	N/A	N/A	N/A	4	N/A	N/A
W65 - Residence	67	63	63	N/A	**67**	N/A	N/A	N/A	4	N/A	N/A
W66 - Residence	67	63	63	N/A	**67**	N/A	N/A	N/A	4	N/A	N/A
W67 - Residence	67	61	61	N/A	64	N/A	N/A	N/A	3	N/A	N/A
W68 - Residence	67	59	59	N/A	63	N/A	N/A	N/A	4	N/A	N/A
W69 - Residence	67	64	64	N/A	**68**	N/A	N/A	N/A	4	N/A	N/A
W70 - Residence	67	64	64	N/A	**68**	N/A	N/A	N/A	4	N/A	N/A
W71 - Residence	67	65	65	N/A	**69**	N/A	N/A	N/A	4	N/A	N/A
W72 - Residence	67	65	65	N/A	**69**	N/A	N/A	N/A	4	N/A	N/A
W73 - Residence	67	64	64	N/A	**68**	N/A	N/A	N/A	4	N/A	N/A

Table C-2: Predicted Noise Levels

Receptor		Hourly Leq (dBA)										
		NAC (dBA)	2007 Existing	2030 No-Action	2030 Predicted Noise Levels				Increase Over Existing			
					Alt A	Alt B	Alt C	Alt D	Alt A	Alt B	Alt C	Alt D
	W74 - Residence	67	64	64	N/A	**68**	N/A	N/A	N/A	4	N/A	N/A
	W75 - Residence	67	64	64	N/A	**68**	N/A	N/A	N/A	4	N/A	N/A
	W76 - Residence	67	65	65	N/A	**69**	N/A	N/A	N/A	4	N/A	N/A
	W77 - Residence	67	65	65	N/A	**68**	N/A	N/A	N/A	3	N/A	N/A
	W78 - Residence	67	64	64	N/A	**68**	N/A	N/A	N/A	4	N/A	N/A
	W79 - Residence	67	65	65	N/A	**68**	N/A	N/A	N/A	3	N/A	N/A
	W80 - Residence	67	64	64	N/A	**68**	N/A	N/A	N/A	4	N/A	N/A
	W81 - Residence	67	64	64	N/A	**68**	N/A	N/A	N/A	4	N/A	N/A
	W82 - Residence	67	65	65	N/A	**68**	N/A	N/A	N/A	3	N/A	N/A
	W83 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	W84 - Residence	67	63	63	N/A	**67**	N/A	N/A	N/A	4	N/A	N/A
	W85 - Residence	67	64	64	N/A	**68**	N/A	N/A	N/A	4	N/A	N/A
	W86 - Residence	67	63	63	N/A	**67**	N/A	N/A	N/A	4	N/A	N/A

Table C-2: Predicted Noise Levels

Receptor		Hourly Leq (dBA)										
		NAC (dBA)	2007 Existing	2030 No-Action	2030 Predicted Noise Levels				Increase Over Existing			
					Alt A	Alt B	Alt C	Alt D	Alt A	Alt B	Alt C	Alt D
	W87 - Residence	67	64	64	N/A	**68**	N/A	N/A	N/A	4	N/A	N/A
	W88 - Residence	67	64	64	N/A	**68**	N/A	N/A	N/A	4	N/A	N/A
	W89 - Residence	67	65	65	N/A	**69**	N/A	N/A	N/A	4	N/A	N/A
	W90 - Residence	67	59	59	N/A	63	N/A	N/A	N/A	4	N/A	N/A
	W91 - Residence	67	58	58	N/A	62	N/A	N/A	N/A	4	N/A	N/A
	W92 - Residence	67	58	58	N/A	62	N/A	N/A	N/A	4	N/A	N/A
	W93 - Residence	67	58	58	N/A	61	N/A	N/A	N/A	3	N/A	N/A
	W94 - Residence	67	57	57	N/A	61	N/A	N/A	N/A	4	N/A	N/A
	E1 - Residence	67	59	59	N/A	63	N/A	N/A	N/A	4	N/A	N/A
	E2 - Residence	67	62	62	N/A	**66**	N/A	N/A	N/A	4	N/A	N/A
	E3 - Residence	67	61	61	N/A	65	N/A	N/A	N/A	4	N/A	N/A
	E4 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E5 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E6 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E7 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A

Table C-2: Predicted Noise Levels

Receptor		Hourly Leq (dBA)										
		NAC (dBA)	2007 Existing	2030 No-Action	2030 Predicted Noise Levels				Increase Over Existing			
					Alt A	Alt B	Alt C	Alt D	Alt A	Alt B	Alt C	Alt D
	E8 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E9 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E10 - Residence	67	60	60	N/A	63	N/A	N/A	N/A	3	N/A	N/A
	E11 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E12 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E13 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E14 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E15 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E16 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E17 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E18 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E19 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E20 - Residence	67	59	59	N/A	63	N/A	N/A	N/A	4	N/A	N/A
	E21 - Residence	67	61	61	N/A	65	N/A	N/A	N/A	4	N/A	N/A
	E22 - Residence	67	64	64	N/A	**68**	N/A	N/A	N/A	4	N/A	N/A
	E23 - Residence	67	57	57	N/A	61	N/A	N/A	N/A	4	N/A	N/A
	E24 - Residence	67	57	57	N/A	61	N/A	N/A	N/A	4	N/A	N/A
	E25 - Residence	67	58	58	N/A	61	N/A	N/A	N/A	3	N/A	N/A
	E26 - Residence	67	58	58	N/A	62	N/A	N/A	N/A	4	N/A	N/A

Table C-2: Predicted Noise Levels

Receptor	Hourly Leq (dBA)										
	NAC (dBA)	2007 Existing	2030 No-Action	2030 Predicted Noise Levels				Increase Over Existing			
				Alt A	Alt B	Alt C	Alt D	Alt A	Alt B	Alt C	Alt D
E27 - Residence	67	58	58	N/A	62	N/A	N/A	N/A	4	N/A	N/A
E28 - Residence	67	59	59	N/A	63	N/A	N/A	N/A	4	N/A	N/A
E29 - Residence	67	59	59	N/A	63	N/A	N/A	N/A	4	N/A	N/A
E30 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
E31 - Residence	67	58	58	N/A	61	N/A	N/A	N/A	3	N/A	N/A
E32 - Residence	67	58	58	N/A	62	N/A	N/A	N/A	4	N/A	N/A
E33 - Residence	67	59	59	N/A	62	N/A	N/A	N/A	4	N/A	N/A
E34 - Residence	67	58	58	N/A	62	N/A	N/A	N/A	4	N/A	N/A
E35 - Residence	67	60	60	N/A	63	N/A	N/A	N/A	3	N/A	N/A
E36 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
E37 - Residence	67	58	58	N/A	62	N/A	N/A	N/A	4	N/A	N/A
E38 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
E39 - Residence	67	60	60	N/A	63	N/A	N/A	N/A	3	N/A	N/A
E40 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
E41 - Residence	67	59	59	N/A	62	N/A	N/A	N/A	4	N/A	N/A
E42 - Residence	67	58	58	N/A	62	N/A	N/A	N/A	4	N/A	N/A
E43 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
E44 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
E45 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A

Table C-2: Predicted Noise Levels

Receptor		Hourly Leq (dBA)										
		NAC (dBA)	2007 Existing	2030 No-Action	2030 Predicted Noise Levels				Increase Over Existing			
					Alt A	Alt B	Alt C	Alt D	Alt A	Alt B	Alt C	Alt D
	E46 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E47 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E48 - Residence	67	60	60	N/A	63	N/A	N/A	N/A	3	N/A	N/A
	E49 - Residence	67	60	60	N/A	63	N/A	N/A	N/A	3	N/A	N/A
	E50 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E51 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E52 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E53 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E54 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E55 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E56 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E57 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E58 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E59 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E60 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E61 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E62 - Residence	67	58	58	N/A	62	N/A	N/A	N/A	4	N/A	N/A
	E63 - Residence	67	54	54	N/A	58	N/A	N/A	N/A	4	N/A	N/A
	E64 - Residence	67	58	58	N/A	62	N/A	N/A	N/A	4	N/A	N/A

Table C-2: Predicted Noise Levels

Receptor		Hourly Leq (dBA)										
		NAC (dBA)	2007 Existing	2030 No-Action	2030 Predicted Noise Levels				Increase Over Existing			
					Alt A	Alt B	Alt C	Alt D	Alt A	Alt B	Alt C	Alt D
	E65 - Residence	67	54	54	N/A	58	N/A	N/A	N/A	4	N/A	N/A
	E66 - Residence	67	52	52	N/A	56	N/A	N/A	N/A	4	N/A	N/A
	E67 - Residence	67	56	56	N/A	60	N/A	N/A	N/A	4	N/A	N/A
	E68 - Residence	67	54	54	N/A	58	N/A	N/A	N/A	4	N/A	N/A
	E69 - Residence	67	54	54	N/A	57	N/A	N/A	N/A	3	N/A	N/A
	E70 - Residence	67	52	52	N/A	56	N/A	N/A	N/A	4	N/A	N/A
	E71 - Residence	67	51	51	N/A	54	N/A	N/A	N/A	3	N/A	N/A
	E72 - Residence	67	50	50	N/A	54	N/A	N/A	N/A	4	N/A	N/A
	E73 - Residence	67	49	49	N/A	53	N/A	N/A	N/A	4	N/A	N/A
	E74 - Residence	67	66	66	N/A	**70**	N/A	N/A	N/A	4	N/A	N/A
	E75 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E76 - Residence	67	57	57	N/A	61	N/A	N/A	N/A	4	N/A	N/A
	E77 - Residence	67	55	55	N/A	59	N/A	N/A	N/A	4	N/A	N/A
	E78 - Residence	67	53	53	N/A	57	N/A	N/A	N/A	4	N/A	N/A
	E79 - Residence	67	52	52	N/A	56	N/A	N/A	N/A	4	N/A	N/A
	E80 - Residence	67	50	50	N/A	54	N/A	N/A	N/A	4	N/A	N/A
	E81 - Residence	67	48	48	N/A	52	N/A	N/A	N/A	4	N/A	N/A
	E82 - Residence	67	60	60	N/A	64	N/A	N/A	N/A	4	N/A	N/A
	E83 - Residence	67	63	63	N/A	**67**	N/A	N/A	N/A	4	N/A	N/A

Table C-2: Predicted Noise Levels

Receptor		Hourly Leq (dBA)										
		NAC (dBA)	2007 Existing	2030 No-Action	2030 Predicted Noise Levels				Increase Over Existing			
					Alt A	Alt B	Alt C	Alt D	Alt A	Alt B	Alt C	Alt D
	E84 - Residence	67	63	63	N/A	**67**	N/A	N/A	N/A	4	N/A	N/A
	E85 - Residence	67	65	65	N/A	**69**	N/A	N/A	N/A	4	N/A	N/A
	E86 - Residence	67	65	65	N/A	**69**	N/A	N/A	N/A	4	N/A	N/A
	E87 - Residence	67	65	65	N/A	**69**	N/A	N/A	N/A	4	N/A	N/A
	E88 - Residence	67	65	65	N/A	**68**	N/A	N/A	N/A	4	N/A	N/A
	E89 - Residence	67	64	64	N/A	**68**	N/A	N/A	N/A	4	N/A	N/A
	E90 - Residence	67	64	64	N/A	**67**	N/A	N/A	N/A	3	N/A	N/A
	E91 - Residence	67	65	65	N/A	**68**	N/A	N/A	N/A	3	N/A	N/A
	E92 - Residence	67	65	65	N/A	**68**	N/A	N/A	N/A	3	N/A	N/A
	E93 - Residence	67	65	65	N/A	**68**	N/A	N/A	N/A	3	N/A	N/A
	E94 - Residence	67	65	65	N/A	**69**	N/A	N/A	N/A	4	N/A	N/A
	E95 - Residence	67	65	65	N/A	**69**	N/A	N/A	N/A	4	N/A	N/A
	E96 - Residence	67	65	65	N/A	**69**	N/A	N/A	N/A	4	N/A	N/A
	E97 - Residence	67	67	67	N/A	**70**	N/A	N/A	N/A	3	N/A	N/A
	E98 - Residence	67	66	66	N/A	**69**	N/A	N/A	N/A	3	N/A	N/A
	E99 - Residence	67	66	66	N/A	**70**	N/A	N/A	N/A	4	N/A	N/A
	E100 - Residence	67	66	66	N/A	**70**	N/A	N/A	N/A	4	N/A	N/A
	E101 - Residence	67	64	64	N/A	**68**	N/A	N/A	N/A	4	N/A	N/A

Table C-3: Summary of Noise Impacts			
	Insignificant Impacts	**Significant Impacts**	**Substantial Impacts**
	# of Individual Noise Receptors (Approaching 1dBA of FHWA NAC)	**# of Individual Noise Receptors (Meeting or Exceeding FHWA NAC (67dBA)**	**# of Individual Noise Receptors (15dBA Over Existing)**
Alternative A (Proposed Action)	11	0	0
Alternative B	9	86	25
Alternative C	11	36	25
Alternative D	11	69	58

APPENDIX D

AIR FORCE FORM 813

APPENDIX D: AIR FORCE FORM 813

REQUEST FOR ENVIRONMENTAL IMPACT ANALYSIS		***Report Control Symbol RCS: 07-523***			
INSTRUCTIONS: *Section I to be completed by Proponent. Sections II and III to be completed by Environmental Planning Function. Continue on separate sheets as necessary. Reference appropriate item number(s).*					
SECTION I – PROPONENT INFORMATION					
1. TO *(Environmental Planning Function)*	**2. FROM** *(Proponent Organization and functional address symbol)*	**2a.** TELEPHONE NO.			
96 CEG/CEVSP	**GS-09 Steven Grimm 96CEG/CERR**	**882-8766**			
3. TITLE OF PROPOSED ACTION					
Mid-Bay Bridge Connector					
4. PURPOSE AND NEED FOR ACTION *(Identify decision to be made and need date)*					
(see attached)					
5. DESCRIPTION OF ACTION AND ALTERNATIVES (DOPAA) *(Provide sufficient details for evaluation of the total action)*					
(see attached)					
6. UNIT ENVIRONMENTAL COORDINATOR (Name and Grade)	**6a. SIGNATURE**	**6b. DATE**			
Civ Dwight Berrong	**\\ ELECTRONICALLY SIGNED **	**5/15/2007**			
SECTION II – PRELIMINARY ENVIRONMENTAL SURVEY *(Check appropriate box and describe potential environmental effects including cumulative effects) (+=positive effect; 0=no effect; - = adverse effect; U=unknown effect)*		**+**	**0**	**-**	**U**
7. AIR INSTALLATION COMPATIBLE USE ZONE/LAND USE *(Noise, accident potential, encroachment, etc.)*					**X**
8. AIR QUALITY *(Emissions, attainment status, state implementation plan, etc.)*					**X**
9. WATER RESOURCES *(Quality, quantity, source, etc.)*					**X**
10. SAFETY AND OCCUPATIONAL HEALTH *(Asbestos/radiation/chemical exposure, explosives safety quantity distance, bird/wildlife aircraft hazard, etc.)*					**X**
11. HAZARDOUS MATERIALS/WASTE *(Use/storage/generation, solid waste, etc.)*					**X**
12. BIOLOGICAL RESOURCES *(Wetlands/floodplains, threatened or endangered species, etc.)*					**X**
13. CULTURAL RESOURCES *(Native American burial sites, archaeological, historical, etc.)*					**X**
14. GEOLOGY AND SOILS *(Topography, minerals, geothermal, Installation Restoration Program, seismicity, etc.)*					**X**
15. SOCIOECONOMIC *(Employment/population projections, school and local fiscal impacts, etc.)*					**X**
16. OTHER *(Potential impacts not addressed above.)*					**X**
SECTION III – ENVIRONMENTAL ANALYSIS DETERMINATION					
17.		**PROPOSED ACTION QUALIFIES FOR CATEGORICAL EXCLUSION (CATEX): ; OR**			
	X	**PROPOSED ACTION DOES NOT QUALIFY FOR A CATEX; FURTHER ENVIRONMENTAL ANALYSIS IS REQUIRED.**			
18. REMARKS					
(see attached)					
19. ENVIRONMENTAL PLANNING FUNCTION CERTIFICATION (Name and Grade) **Randall Rowland, GS-13**	**19 a. SIGNATURE \\ ELECTRONICALLY SIGNED **	**19 b. DATE 6/25/2007**			

4.0 PURPOSE AND NEED FOR ACTION

Request your facility examine all environmental considerations in the construction of a toll road from Mid-Bay Bridge (North entrance) to a predetermined connection point with SR 85 (North of Niceville).

The Mission Enhancement Committee granted Conceptual Agreement on 22 May 2006, with several stipulations to be met prior to Conceptual Approval being issued.

5.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

5.1 Description of the Proposed Action

Mid-Bay Bridge Authority personnel are to provide a GIS Shape File (Or other acceptable file type) indicating exact center line route. This road would be multi lane, high speed, toll access highway. Approximate easement width is 400 Feet.

Document attached is for general information use only. Final center line route to be provided by Mid-Bay Bridge Authority document.

5.2 Description of Alternatives

No action.

17.0 CATEX DESCRIPTION (if any)

18.0 REMARKS

An Environmental Assessment or potentially an EIS is required.

APPENDIX E

CULTURAL RESOURCES-SECTION 106 CONSULTATION

APPENDIX E: CULTURAL RESOURCES - SECTION 106 CONSULTATION

The following bullet paper was used as guidance by the MBBA to address cultural resource concerns associated with the Mid-Bay Connector project.

Mid-Bay Bridge Connector Road Cultural Resources Investigations

Survey

There are four areas to survey with the goal of determining if any cultural resources are present. The potential results are as follows.

1. No cultural resources present
    1. Report submitted for review to Eglin CR and Division of Historical Resources
    2. Comments on report addressed and revisions, if any, made
    3. Concurrence from Division of Historical Resources
    4. No further work
    5. Area cleared
2. Cultural resources present
    1. Evaluated as insignificant and ineligible for nomination to the National Register of Historic Places (NRHP)
    2. Report submitted for review to Eglin CR and Division of Historical Resources
    3. Comments on report addressed and revisions, if any, made
    4. Concurrence from Division of Historical Resources
    5. Final report and paperwork submitted
    6. No further work and area cleared
3. Cultural resources present
    1. Evaluated as potentially eligible for NRHP
    2. Report submitted for review to Eglin CR and Division of Historical Resources
    3. Comments on report addressed and revisions, if any, made
    4. Concurrence from Division of Historical Resources
    5. Test and evaluation required
        i. Testing results in evaluation of ineligible for NRHP
            1. Report submitted for review to Eglin CR and Division of Historical Resources
            2. Comments on report addressed and revisions, if any, made
            3. Concurrence from Division of Historical Resources
            4. No further work and area of site cleared
        ii. Testing results in evaluation of eligible for NRHP
            1. Report submitted for review to Eglin CR and Division of Historical Resources
            2. Comments on report addressed and revisions, if any, made
            3. Concurrence from Division of Historical Resources
            4. Mitigation
                a. Avoid and protect
                b. Mitigate adverse effect through data recovery

The number of sites found, if any, is an unknown, as is the number that may require testing and evaluation and/or subsequent data recovery.

Testing

There are eight previously identified sites to be tested[1]. The potential scenarios are as follows.

1. Testing results in evaluation of ineligible for NRHP
    a. Report submitted for review to Eglin CR and Division of Historical Resources
    b. Comments on report addressed and revisions, if any, made
    c. Concurrence from Division of Historical Resources
    d. No further work and area of site cleared
2. Testing results in evaluation of eligible for NRHP
    a. Report submitted for review to Eglin CR and Division of Historical Resources
    b. Comments on report addressed and revisions, if any, made
    c. Concurrence from Division of Historical Resources
    d. Mitigation
        i. Avoid and protect
        ii. Mitigate adverse effect through data recovery

[1] *Excludes any sites found by the survey that require testing, but same basic scenarios present Data Recovery*

Data Recovery

It is unknown whether any sites evaluated as eligible in the testing phase will require mitigation through data recovery. 8OK900 is a large historic naval stores industrial complex located at the proposed College Boulevard interchange. It has been tested and evaluated as eligible for NRHP nomination. If the site cannot be avoided and protected by altering the location of the proposed interchange, data recovery will be required to mitigate the adverse effect posed by construction. The following steps are involved in data recovery.

1. Preparation of data recovery plan, including research design and field strategy
2. Submit plan to Eglin CR and consult with State Historic Preservation Officer (SHPO)
3. Concurrence on plan
4. Undertake data recovery submitted for review
5. Report submitted for review to Eglin CR and Division of Historical Resources
6. Comments on report addressed and revisions, if any, made
7. Concurrence from Division of Historical Resources
8. No further work; adverse effect mitigated

(PTA, 2008).

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

06 NOV 2007

Michael C. Applegate
Chief, Environmental Management Division
501 DeLeon Street, Suite 100
Eglin AFB FL 32542-5133

Mr. Robert Thrower
Poarch Band of Creek Indians of Alabama
5811 Jack Springs Road
Atmore, AL 36502

Dear Mr. Thrower

Eglin Air Force Base (AFB) is sponsoring an Environmental Agency Coordination Meeting regarding a new Mid-Bay Bridge Authority (MBBA) roadway corridor. The meeting will be held Monday, November 19, 2007 from 9:00 to 11:00am at the Okaloosa-Walton College Learning Resources Center.

This meeting is being held to update the resource agencies on the proposed project and allow them an opportunity to ask questions and provide input on the proposed new corridor.

The proposed project will cross Eglin AFB property and connect the north approach of the Mid-Bay Bridge to SR 85, north of Niceville, a distance of approximately 10 miles. The new road will be owned, operated and maintained by MBBA.

An Environmental Assessment (EA) is currently being prepared by the MBBA in cooperation with Eglin AFB. The Proposed Action is segmented into three construction phases, as follows:

* Phase 1; north approach of the Mid-Bay Bridge to Range Road

* Phase 2; Range Road to SR 285

* Phase 3; SR 285 to SR 85, north of Niceville

Archaeological surveys of the proposed corridor are underway. Eglin AFB will consult the Poarch Band of Creek Indians of Alabama about the proposed project when survey results are in. Your input will be greatly appreciated during the design phases of this project. For questions regarding this project please contact Mark Stanley, Archaeology Program Manager, at (850) 882-8459 or stanleym@eglin.af.mil.

Sincerely

MICHAEL C. APPLEGATE

Attachment:
Mid-Bay Bridge Authority Connector Map

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

06 NOV 2007

Michael C. Applegate
Chief, Environmental Management Division
501 DeLeon Street, Suite 100
Eglin AFB FL 32542-5133

Mr. Steve Terry
Miccosukee Tribe of Indians of Florida
P.O. Box 440021
Miami FL 33144-0021

Dear Mr. Terry

Eglin Air Force Base (AFB) is sponsoring an Environmental Agency Coordination Meeting regarding a new Mid-Bay Bridge Authority (MBBA) roadway corridor. The meeting will be held Monday, November 19, 2007 from 9:00 to 11:00am at the Okaloosa-Walton College Learning Resources Center. This meeting is being held to update the resource agencies on the proposed project and allow them an opportunity to ask questions and provide input on the proposed new corridor.

The proposed project will cross Eglin AFB property and connect the north approach of the Mid-Bay Bridge to SR 85, north of Niceville, a distance of approximately 10 miles. The new road will be owned, operated and maintained by MBBA.

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* Phase 2; Range Road to SR 285

* Phase 3; SR 285 to SR 85, north of Niceville

Archaeological surveys of the proposed corridor are underway. Eglin AFB will consult the Miccosukee Tribe of Indians of Florida about the proposed project when survey results are in. Your input will be greatly appreciated during the design phases of this project. For questions regarding this project please contact Mark Stanley, Archaeology Program Manager, at (850) 882-8459 or stanleym@eglin.af.mil.

Sincerely

MICHAEL C. APPLEGATE

Attachment:
Mid-Bay Bridge Authority Connector Map

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

06 NOV 2007

Mr. Michael C. Applegate
Chief, Environmental Management Division
501 DeLeon St, Ste 101
Eglin AFB FL 32542

Ms. Joyce A. Bear
Muskogee (Creek) Nation of Oklahoma
P.O. Box 580
Okmulgee, OK 74447

Dear Ms. Bear

Eglin Air Force Base (AFB) is sponsoring an Environmental Agency Coordination Meeting regarding a new Mid-Bay Bridge Authority (MBBA) roadway corridor. The meeting will be held Monday, November 19, 2007 from 9:00 to 11:00am at the Okaloosa-Walton College Learning Resources Center. This meeting is being held to update the resource agencies on the proposed project and allow them an opportunity to ask questions and provide input on the proposed new corridor.

The proposed project will cross Eglin AFB property and connect the north approach of the Mid-Bay Bridge to SR 85, north of Niceville, a distance of approximately 10 miles. The new road will be owned, operated and maintained by MBBA.

An Environmental Assessment (EA) is currently being prepared by the MBBA in cooperation with Eglin AFB. The Proposed Action is segmented into three construction phases, as follows:

* Phase 1; north approach of the Mid-Bay Bridge to Range Road

* Phase 2; Range Road to SR 285

* Phase 3; SR 285 to SR 85, north of Niceville

Archaeological surveys of the proposed corridor are underway. Eglin AFB will consult the Muskogee Nation of Oklahoma about the proposed project when survey results are in. Your input will be greatly appreciated during the design phases of this project. For questions regarding this project please contact Mark Stanley, Archaeology Program Manager, at (850) 882-8459 or stanleym@eglin.af.mil.

Sincerely

MICHAEL C. APPLEGATE

Attachment:
Mid-Bay Bridge Authority Connector Map

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

06 NOV 2007

Mr. Michael C. Applegate
Chief, Environmental Management Division
501 DeLeon St, Ste 101
Eglin AFB FL 32542

Mr. Bill Steele
Tribal Historic Preservation Officer
Seminole Tribe of Florida
HC 61 Box 21-A
Clewiston FL 33440

Dear Mr. Steele

Eglin Air Force Base (AFB) is sponsoring an Environmental Agency Coordination Meeting regarding a new Mid-Bay Bridge Authority (MBBA) roadway corridor. The meeting will be held Monday, November 19, 2007 from 9:00 to 11:00 am at the Okaloosa-Walton College Learning Resources Center. This meeting is being held to update the resource agencies on the proposed project and allow them an opportunity to ask questions and provide input on the proposed new corridor.

The proposed project will cross Eglin AFB property and connect the north approach of the Mid-Bay Bridge to SR 85, north of Niceville, a distance of approximately 10 miles. The new road will be owned, operated and maintained by MBBA.

An Environmental Assessment (EA) is currently being prepared by the MBBA in cooperation with Eglin AFB. The Proposed Action is segmented into three construction phases, as follows:

* Phase 1; north approach of the Mid-Bay Bridge to Range Road

* Phase 2; Range Road to SR 285

* Phase 3; SR 285 to SR 85, north of Niceville

Archaeological surveys of the proposed corridor are underway. Eglin AFB will consult the Seminole Tribe of Florida about the proposed project when survey results are in. Your input will be greatly appreciated during the design phases of this project. For questions regarding this project please contact Mark Stanley, Archaeology Program Manager, at (850) 882-8459 or stanleym@eglin.af.mil.

Sincerely

MICHAEL C. APPLEGATE

Attachment:
Mid-Bay Bridge Authority Connector Map

Garrett, Michael

From: Stanley Mark CIV USAF 96 CEG/CEVH [mark.stanley@eglin.af.mil]
Sent: Wednesday, November 28, 2007 3:15 PM
To: Rodriguez Maria D CIV USAF 96 CEG/CEVR; Applegate Michael CIV USAF 96 CEG/CEV; Bouchard Jacqueline E Ms CIV USAF AAC/JAV
Cc: Shreve Rhena L CTR USAF 96 CEG/CEVH; Avery Beth A CIV USAF 96 CEG/CEVH; Stanley Mark CIV USAF 96 CEG/CEVH
Subject: FW: MBBA Roadway Corridor

FYI

-----Original Message-----
From: Steve Terry [mailto:SteveT@miccosukeetribe.com]
Sent: Wednesday, November 28, 2007 2:04 PM
To: Stanley Mark CIV USAF 96 CEG/CEVH
Subject: MBBA Roadway Corridor

Dear Mr. Stanley:

The Miccosukee Tribe of Indians of Florida received the letter from Eglin AFB concerning the proposed Mid-Bay Bridge Authroity Roadway Corridor through Eglin AFB. THe Tribe has no direct knowledge of any cultural resources located within the proposed corridor. We understand via the letter that Archaeological surveys of the proposed corridor are underway. We await your consultation when the Archaeological Surveys are completed.

Thank you for consulting with the Miccosukee Tribe. Please contact me at the below number or return e-mail if you have any questions.

Steve Terry
NAGPRA & Section 106 Representative
Miccosukee Tribe
P.O. Box 440021
Miami, FL 33144-0021
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1

SEMINOLE TRIBE OF FLORIDA

TRIBAL HISTORIC PRESERVATION OFFICE

TINA M. OSCEOLA
WILLARD S. STEELE
DR. MARION SMITH
BENJAMIN G. BURY
MITCHELL CYPRESS
RICHARD BOWERS
PRISCILLA D. SAYLES
MICHAEL D. TIGER

Michael C. Applegate
Headquarters 96th Air Base Wing (AFMC)
96 CEG/CEVPA
Eglin AFB, Florida 32542-5000

Thursday, November 01, 2007 THPO: 001188

Subject: Eglin Air Force Base- Mid-Bay Bridge Authority (MBBA) roadway corridor, Florida

Dear Mr. Applegate,

The Tribal Historic Preservation Office of the Seminole Tribe of Florida (STOF-THPO) has reviewed the notification about the forthcoming EIS for Eglin Air Force Base for the Mid-Ba6y Authority project. Unfortunately, the STOF-THPO was unable to attend the meeting held for this project on November 19, 2007. However, due to the fact that this project is within an area of Seminole historical interest, this office would like to be sent copies of the draft and final EIS for review before we make any additional comments about this project.

We thank you for submitting this information for our review. Please reference ***THPO# 001188*** in any future correspondence about this project.

Thank you for your time,

Sincerely,

Rhianna Rogers

FOR: Willard Steele, Tribal Historic Preservation Officer
Seminole Tribe of Florida
Ah-Tah-Thi-Ki Museum
HC-61, Box 21A
Clewiston, FL 33440

Direct routine inquiries to:

Rhianna Rogers, Reviewing Archaeologist
Tribal Historic Preservation Office
Seminole Tribe of Florida
Ah-Tah-Thi-Ki Museum
HC-61, Box 21A
Clewiston, FL 33440

Ah- Tah- Thi- Ki Museum, HC-61, Box 21-A, Clewiston, Florida 33440
Phone (863) 902-1113 ♦ Fax (863) 902-1117

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

07-0036 & 07-0037

17 JUL 2008

Maria D. Rodriguez
Chief, Cultural Resources Branch
96 CEG/CEVH
501 Deleon St., Suite 101
Eglin AFB FL 32542-5105

Frederick Gaske
Director, Division of Historical Resources
Department of State
ATTN: Review and Compliance Section
R.A. Gray Bldg
500 South Bronough St
Tallahassee FL 32399-0250

Dear Mr. Gaske

Enclosed with this letter is a copy of the report Cultural Resources Survey of X-885 & X-886, Cultural Resources Management Support, Eglin Air Force Base, Okaloosa, Santa Rosa, and Walton Counties, Florida, produced by Prentice Thomas and Associates, Inc., along with supplemental documentation. The fieldwork was performed in accordance with procedures and methods described in the Historic Preservation Compliance Review Program (1990).

The X-885 survey resulted in the discovery of four new sites (8OK2621, 8OK2622, 8OK2623, & 8OK2624) and seven archaeological occurrences; four previously known sites (8OK432, 8OK433, 8OK434, & 8OK435) were also revisited. Five sites (8OK433, 8OK434, 8OK435, 8OK2621, & 8OK2622) were evaluated and found potentially eligible for National Register of Historic Places (NRHP) nomination. The remaining three sites were evaluated as ineligible. The archaeological occurrences are categorically ineligible for NRHP nomination. Eglin concurs with the findings of the investigation.

The work at X-866 resulted in the reinvestigation of four sites (8OK186, 8OK198, 8OK427 & 8OK428), the identification of eight new sties (8OK2627, 8OK2628, 8OK2629, 8OK2630, 8OK2631, 8OK2632, 8OK2633, & 8OK2634) and the identification of six archaeological occurrences. Sites 8OK427, 8OK428, 8OK2627, 8OK2630, 8OK2631, & 8OK2632 were evaluated and found potentially eligible for NRHP nomination. The remaining six sites were evaluated as ineligible. The archaeological occurrences are categorically ineligible for NRHP nomination. Eglin concurs with the findings of the investigation.

With this letter Eglin is notifying you, as required by Section 106 of the NHPA, that it has located all cultural resources within the area of investigation. If your office does not respond within 30 days, it is assumed you concur with the determinations and recommendations in the report.

Eglin is again pleased to work with you in protecting the cultural resources of the Base and the state of Florida. Should you have any questions regarding the report, please contact me at 850-882-8454.

Sincerely

MARIA D. RODRIGUEZ, YF-02

8 Attachments:
1. Report
2. Twenty Site Forms
3. Document Checklist
4. Survey Log Sheet
5. SmartForm CD
6. Disk Submission Form
7. Large-scale Plot Map
8. Table of Concordance

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

Ms. Maria D. Rodriguez
Chief, Historic Preservation Division
96 CEG/CEVH
501 Deleon St., Suite 101
Eglin AFB, FL 32542-5105

August 20, 2008

Re: DHR Project File No.: 2008-05403 / Received by DHR: July 16, 2008
Cultural Resources Survey of X-885 & X-886, Cultural Resources Management Support, Eglin Air Force Base, Okaloosa, Santa Rosa, & Walton Counties, Florida

Dear Ms. Rodriguez:

Our office received and reviewed the above referenced survey report in accordance with Section 106 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)*, or otherwise of historical, architectural or archaeological value.

In January through November 2007, Prentice Thomas and Associates, Inc. (PTA) conducted an archaeological and historical cultural resources survey of the X-885 and X-886 units on behalf of the U.S. Air Force. PTA investigated eight previously recorded archaeological sites (8OK432 – 8OK435, 8OK186, 8OK198, 8OK427, and 8OK428), identified twelve previously unrecorded archaeological sites (8OK2621 – 8OK2624, and 8OK2627 – 8OK2634), and found thirteen archaeological occurrences within the surveyed units during the investigation.

PTA determined that Sites 8OK427, 8OK433, 8OKOK434, 8OK435, 8OK2621, 8OK2622, and 8OK2632, multi-component sites, may be potentially eligible for listing on the NRHP under Criterion D for research potential. Most, if not all, of these sites exhibit evidence of Late Gulf Formational occupations that are likely interrelated; some also contain Weeden Island, Pensacola, or historic components. Additional investigation is recommended at the sites to solidify the eligibility determinations and answer questions regarding Late Gulf Formational and Weeden Island settlement patterns.

PTA determined that Site 8OK428, a prehistoric and historic site, is potentially eligible for listing on the NRHP under Criterion D for research potential. The site may represent the Civil War-era Ward homestead, a rare site type that may also be associated with Creek Indian presence.

PTA determined that Sites 8OK2627 and 8OK2631, high density historic artifact scatters likely associated with the Boggy/Bolton Turpentine Still/Camp or the community of Bolton, are potentially eligible for listing on the NRHP under Criterion D for research potential.

PTA determined that Site 8OK2630, a possible Late Paleoindian / Early Archaic site, may be potentially eligible for listing on the NRHP under Criterion D for research potential in Florida point chronology.

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☐ Archaeological Research (850) 245-6444 • FAX: 245-6452
☑ Historic Preservation (850) 245-6333 • FAX: 245-6437

Ms. Rodriguez
August 20, 2008
Page 2

PTA determined that the historic bridge remains at Sites 8OK198 and 8OK432 do not appear to be historically significant or contain research potential and are therefore ineligible for listing on the NRHP.

PTA determined that Site 8OK2624, the remains of a historic plane crash, does not appear to be eligible for listing on the NRHP based on low research potential and scattered remains.

PTA determined that Sites 8OK186, 8OK2623, 8OK2628, 8OK2629, and OK2633, small prehistoric artifact scatters, do not appear to be eligible for listing on the NRHP based on their low density, lack of diagnostic artifacts, and/or low research potential.

PTA determined that Site 8OK2634, a survey benchmark and historic scatter, does not appear to be eligible for listing on the NRHP based on lack of historic significance.

Based on the information provided, our office finds the submitted report complete and sufficient in accordance with Chapter 1A-46, *Florida Administrative Code.*

The U.S. Air Force determined that Sites 8OK427 – 8OK428, 8OK433 – 8OK435, 8OK2621 – 8OK2622, 8OK2627, and 8OK2630 – 8OK2632 are potentially eligible for listing on the NRHP and should be preserved until they can be subjected to additional investigation to make unequivocal eligibility determinations. The U.S. Air Force determined that the remaining sites within units X-885 and X-886 are ineligible and require no further investigation. We concur with the determinations of the U.S. Air Force for all sites except Site 8OK2624.

It is the opinion of this agency that there is insufficient information regarding Site 8OK2624 to make a determination of its historic significance. We recommend additional investigation and archival research of Site 8OK2624.

If you have any questions concerning our comments, please contact April Westerman, Historic Preservationist, by phone at (850) 245-6333, or by electronic mail at amwesterman@dos.state.fl.us. Your continued interest in protecting Florida's historic properties is appreciated.

Sincerely,

Frederick P. Gaske

Frederick P. Gaske, Director, and
State Historic Preservation Officer

Xc: Prentice Thomas and Associates, Inc.

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

Mr. Mark Stanley
Acting Chief, Cultural Resources Branch
96 CEG/CEVH
501 Deleon St., Suite 101
Eglin AFB, FL 32542-5105

September 2, 2008

Re: DHR Project File No.: 2008-04960 / Received by DHR: August 1, 2008
Cultural Resources Survey of X-986, Cultural Resources Management Support, Eglin Air Force Base, Okaloosa, Santa Rosa, & Walton Counties, Florida

Dear Mr. Stanley:

Our office received and reviewed the above referenced survey report 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)*, or otherwise of historical, architectural or archaeological value.

Between March and April 2008, Prentice Thomas and Associates, Inc. (PTA) conducted an archaeological and historical cultural resources survey of the X-986 unit on behalf of the U.S. Air Force. PTA identified no cultural resources within the project area during the investigation. PTA recommends no further investigation of the X-986 parcels.

Based on the information provided, our office concurs with the determinations of the U.S. Air Force and finds the submitted report complete and sufficient in accordance with Chapter 1A-46, *Florida Administrative Code*.

However, for future surveys including discontinuous parcels a significant distance away, please include separate shovel test maps for each portion of the project area so that the scale is more appropriate.

If you have any questions concerning our comments, please contact April Westerman, Historic Preservationist, by phone at (850) 245-6333, or by electronic mail at amwesterman@dos.state.fl.us. Your continued interest in protecting Florida's historic properties is appreciated.

Sincerely,

Frederick P. Gaske

Frederick P. Gaske, Director, and
State Historic Preservation Officer

Xc: Prentice, Thomas & Associates, Inc.

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❒ Archaeological Research (850) 245-6444 • FAX: 245-6452
☑ Historic Preservation (850) 245-6333 • FAX: 245-6437

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

30 JUL 2008

Mark E. Stanley
Acting Chief, Cultural Resources Branch
96 CEG/CEVH
501 Deleon St., Suite 101
Eglin AFB FL 32542-5105

Frederick Gaske
Acting Division Director and Deputy State Historic Preservation Officer
ATTN: Review and Compliance Review
R.A. Gray Bldg
500 South Bronough St
Tallahassee FL 32399-0250

Dear Mr. Gaske

Enclosed with this letter is a copy of the report Cultural Resources Survey of X-986, Cultural Resources Management Support, Eglin Air Force Base, Okaloosa, Santa Rosa, and Walton Counties, Florida, produced by Prentice Thomas and Associates, Inc., along with supplemental documentation. The fieldwork was performed in accordance with procedures and methods described in the Historic Preservation Compliance Review Program (1990).

No cultural resources were identified in any of the four survey areas that make up X-986. No further work is recommended.

With this letter Eglin is notifying you, as required by Section 106 of the NHPA, that it has located all cultural resources within the area of investigation. If your office does not respond within 30 days, it is assumed you concur with the determinations and recommendations in the report.

Eglin is again pleased to work with you in protecting the cultural resources of the Base and the state of Florida. Should you have any questions regarding the report, please contact me at 850-882-8459.

Sincerely

MARK E. STANLEY, GS-12

7 Attachments:
1. Report
2. Document Checklist
3. Survey Log Sheet
4. SmartForm Diskette
5. Disk Submission Form
6. Large-scale Plot Map
7. Table of Concordance

Mid-Bay Bridge Authority
Connector
From North Approach of the Mid-Bay Bridge to SR 85, North of Niceville
Okaloosa County, Florida

ENVIRONMENTAL AGENCY COORDINATION MEETING

Eglin Air Force Base (AFB) is sponsoring an Environmental Agency Coordination Meeting regarding a new Mid-Bay Bridge Authority (MBBA) roadway corridor. The meeting will be held Monday, November 19, 2007 from 9:00 to 11:00am at the Okaloosa-Walton College Learning Resources Center, Room 128 (See Attachments).

This meeting is being held to update the resource agencies on the proposed project and allow them an opportunity to ask questions and provide input on the proposed new corridor.

The proposed project will cross Eglin AFB property and connect the north approach of the Mid-Bay Bridge to SR 85, north of Niceville, a distance of approximately 10 miles. The new road will be owned, operated, and maintained by MBBA.

An Environmental Assessment (EA) is currently being prepared by the MBBA in cooperation with Eglin AFB.

The Proposed Action is segmented into three construction phases, as follows:

- Phase 1; north approach of the Mid-Bay Bridge to Range Road
- Phase 2; Range Road to SR 285
- Phase 3; SR 285 to SR 85, north of Niceville

Your attendance is greatly appreciated and will help during the design phases of this project.

MBBA and Eglin AFB representatives will be available to answer questions during the meeting. Persons with questions regarding this meeting should contact Mick Garrett, HDR Project Manager, at (850) 429-8914 or mick.garrett@hdrinc.com.

Mid-Bay Bridge Authority

E SEMPRE L'ORA

HDR

Table E-1: Cultural Resource Site Status and Impact Determination

	Site status and Impact Determination for Phase II and Phase III of Mid Bay Bridge Connector Road				
Site	**Type**	**Corridor Location**	**Phase of corridor construction**	**Status**	**Adverse effect**
8OK427	prehistoric archaeological deposit	within corridor	Phase 2	eligible	yes
8OK433	prehistoric archaeological deposit	not within corridor	Phase 2	eligible	no
8OK434	prehistoric/historic archaeological deposits	touching corridor	Phase 2	ineligible	no
8OK435	prehistoric archaeological deposit	touching corridor	Phase 2	ineligible	no
8OK2621	prehistoric archaeological deposit	touching corridor	Phase 2	ineligible	no
8OK2627	prehistoric/historic archaeological deposits	not within corridor	Phase 2	ineligible	no
8OK2631	prehistoric/historic archaeological deposits	not within corridor	Phase 2	eligible	no
8OK2632	prehistoric archaeological deposit	not within corridor	Phase 2	eligible	no
8OK900	historic archaeological deposit	within corridor	Phase 3	eligible	yes

APPENDIX F

SUMMARY OF REFERENCED PD&E TECHNICAL REPORTS

APPENDIX F: SUMMARY OF REFERENCED PD&E TECHNICAL REPORTS

FDOT 1994 PD&E Study: The FDOT's 1994 Ft. Walton - Niceville Bypass PD&E study proposed a new multi-lane, limited access roadway, beginning at US 98 in Mary Esther and ending at SR 20 east of Niceville, Figure 1.2-3. During the study; two basic alignments were studied within this corridor. The purpose of this study was to alleviate traffic congestion through the community of Niceville. It was documented during the 1994 PD&E study that the "No Action" alternative did not solve any of the existing corridor traffic problems.

MBBA, 2001-2002 PD&E Study: This PD&E study was initiated as part of the CIP to determine the areas roadway deficiencies, to examine various locations and develop reasonable and affordable alternatives to increase the roadway capacity, to improve safety, and to provide an adequate traffic level of service in the future. The PD&E process is specified by the FDOT for new road development and meets all federal requirements for new road construction and environmental impacts pursuant to NEPA.

The technical reports referenced below were utilized to provide baseline information necessary to analyze the environmental impacts associated with this EA:

SR 293 (White Point Road), Okaloosa County Florida, PD&E Study, Draft Preliminary Engineering Report. HDR. July 2002.

SR 293 (White Point Road), Okaloosa County Florida, PD&E Study, Noise Study Report. DR. July 2002.

SR 293 (White Point Road), Okaloosa County Florida, PD&E Study, Draft Wildlife and Habitat Report. HDR. August 2002.

SR 293 (White Point Road), Okaloosa County Florida, PD&E Study, Draft Contamination Screening Evaluation Report. HDR. August 2002.

SR 293 (White Point Road), Okaloosa County Florida, PD&E Study, Draft Wetland Evaluation Report. HDR. September 2002.

SR 293 (White Point Road), Okaloosa County Florida, PD&E Study, Draft Air Quality Screening Report. HDR. September 2002.

SR 293 (White Point Road), Okaloosa County Florida, Floodplains and Wetlands Study and No Practicable Alternative Site Analysis from the North Approach of the Mid-Bay Bridge to SR 20. HDR. June 2003.

SR 293 (White Point Road), Okaloosa County Florida, PD&E Study, Draft Phase 1 Cultural Resources Investigations. Curren Archeology/HDR. February 2005.

APPENDIX G

PUBLIC REVIEW PROCESS

APPENDIX G: PUBLIC REVIEW PROCESS

The public review process provides an opportunity for the public to comment on federal actions addressed in NEPA documents. A public notice was placed in the Northwest Florida Daily News announcing the availability of copies of the Draft Mid-Bay Bridge Connector EA at area libraries. A copy of the publication as it ran in the newspaper is shown below.

Public Notification

In compliance with the National Environmental Policy Act, Eglin Air Force Base announces the availability of a Draft Environmental Assessment and Finding of No Significant Impact/ Finding of No Practicable Alternative for RCS 07-523, Mid-Bay Bridge Connector on Eglin Air Force Base, Florida, for public review and comment.

The Proposed Action of RCS 07-523, Mid-Bay Bridge Connector on Eglin AFB, Florida, would be for the Mid-Bay Bridge Authority to provide an alternative corridor from the Mid-Bay Bridge to SR 85, north of Niceville.

Your comments on this Draft EA are requested. Letters and other written or oral comments provided may be published in the Final 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 Fort Walton Beach Public Library, 185 SE Miracle Strip Parkway, Fort Walton Beach, Florida, the Destin Public Library, 150 Sibert Avenue, Destin, Florida, the Robert L. F. Sikes Public Library 1445 Commerce Drive, Crestview, Florida, and the Niceville Public Library, 206 N. Partin Drive, Niceville, Florida. Copies will be available for review from 26 September 2008 through 25 October 2008. Comments must be received by 28 October 2008.

For more information or to comment on these proposed actions, contact: Mike Spaits, 96th Air Base Wing Public Affairs, 501 De Leon Street, Suite 101, Eglin AFB, Florida 32542-5133 or email: spaitsm@eglin.af.mil. Tel: (850) 882-2878; Fax: (850) 882-3761.

No public comments were received over the 30-day comment period.

APPENDIX H

EGLIN AFB MISSION ENHANCEMENT COMMITTEE COORDINATION

APPENDIX H: EGLIN AFB MISSION ENHANCEMENT COMMITTEE COORDINATION

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR ARMAMENT CENTER (AFMC)
EGLIN AIR FORCE BASE, FLORIDA

26 DEC 2006

Mr. Robert J. Arnold
Eglin AFB Mission Enhancement Committee
101 West D Avenue, Suite 222
Eglin AFB FL 32542-5492

RECEIVED
DEC 29 2006
MID-BAY BRIDGE AUTHORITY

Mr. Jim D. Vest
Executive Director, Mid-Bay Bridge Authority
P.O. Box 5037
Niceville FL 32578-5037

Dear Mr. Vest

In our 22 May 2006 letter we agreed with the concept of a connector road between the Mid-Bay Bridge and State Road 85. We noted that a number of details needed to be addressed before Eglin AFB would be able to forward its recommendation to the Secretary of the Air Force. A major item, location of the east-west portion of the road has been resolved.

The Eglin AFB Mission Enhancement Committee grants you conceptual approval for a connector road between the Mid-Bay Bridge and State Road 85. Our preferred route for the east-west portion of the road is north of both Okaloosa-Walton College and the Eglin Golf Course. This route supports a key objective of having the connector road serve as a definitive boundary for our range.

Attached is a list of stipulations required to minimize impact to the Eglin mission. In addition, conceptual approval is contingent upon continued coordination and cooperation with The Northwest Florida Transportation Corridor Authority. Our goal is to ensure seamless connectivity for a bypass that stretches from State Road 87 to US 331.

Please prepare and submit to us a Shape GIS file of your connector route that satisfies requirements for a limited access road while minimizing use of Air Force property. Upon receipt of the GIS file, we will work with you to define and finalize required locations for range access and interchange locations.

In parallel with the above, please contact the Eglin AFB Real Estate Office, at (850) 882-1350 to initiate the environmental process. As you know, environmental studies are required by law. You may prepare the environmental documentation yourself or provide funding for its preparation by our Environmental Management Division via AF contract.

The Real Estate Office will eventually require four hard copies of a certified survey for the route, a digital file of the survey, and the legal description to finalize the real estate process. For your information, attached is a paper that outlines the Eglin AFB real estate transaction process.

We look forward to working with you to make the Mid-Bay Bridge Connector a reality in the most expeditious manner possible. In addition, we thank you in advance for your support in helping to make this project a "model for the Mission Enhancement Process."

Sincerely

ROBERT J. ARNOLD
Chairman

Attachments:
1. Stipulations
2. Eglin AFB Real Estate Transaction Process

cc: Mr. Randall McElheney

Stipulations for Mid-Bay Bridge Connector

The Commander, Air Armament Center or AAC/CC's delegate will close any and/or all segments of the connector road whenever he or she determines there is a need to do so. The Mid-Bay Bridge Authority and the public will be notified of any closures in a timely manner, if possible and if consistent with national security concerns.

The Mid-Bay Bridge Authority shall:

- Pay fair market value of Air Force property used for bypass
- MBBA will implement a plan to accommodate road closures in area north of OWC
- Construct a fence line between the highway and the Eglin Reservation (Specifications to be provided)
- Ensure Eglin Security Forces have unfettered access to Air Force land, separated by the road
- During road design, take measures to preclude establishment of isolated pockets of public property that could harbor illegal activities/criminal elements
- Construct overpasses at SR 20, Range Road, and SR 285
- Conduct NEPA analysis, full consultation with USFWS and SHPO, storm water management, wetlands mitigation, water permits all to the satisfaction and approval of the Secretary of the Air Force
- Limit the number of on/off ramps to minimize environmental impact
- Construct route to go around any existing outgrants in place or pay to move whatever is on the outgrant parcel
- Work around or move any government utility, infrastructure, or facilities in route
- Provide four one-foot buried conduits along road for future cable requirements (Specifications to be provided)
- If road impinges on OWC small arms range hazard area, work with OWC to further baffle SA range to ensure safety
- Coordinate/cooperate with the Northwest Florida Transportation Corridor Authority (NWFTCA) to ensure seamless connectivity with their bypass. If the NWFTCA bypass does not materialize, Eglin will reconsider the connector route north of State Route 20.
- Provide to Eglin specifications for any radio-frequency device installed on the connector road. The Eglin Spectrum Manager (96 CG/SC) will approve specifications prior to installation of any device.

Atch 1

Eglin AFB Real Estate Transaction Process

1. The proponent (customer) submits a proposed action to the Mission Enhancement Committee (MEC). If the MEC grants conceptual approval, a copy of the approval letter will be sent to you with instructions to contact the Eglin Real Estate Office. A copy of the letter will also be provided to the Real Estate Office. Except for rare occasions, the proponent will be required to pay fair market value for the property being requested.
Note: Normally a 2 month process.

2. Your next step is to provide the Real Estate Office a set of drawings of the project area (four hard copies of a certified survey, a digital file of the survey, and the legal description). The Real Estate Office should be contacted promptly after the MEC gives conceptual approval to your request. The longer you delay, the longer it will take to get the necessary Air Force documents needed to process your requested action. **The processing time does not begin until the Real Estate Office receives these drawings.**

3. The Real Estate Office prepares an AF Form 813 for the proposed action and provides drawings to the Eglin Environmental Analysis Office.
Note: Normally a two week process.

4. The Environmental Analysis Office reviews the request and will contact you. You will be advised of the needed environmental documents required for the proposed action (Environmental Assessment (EA), Environmental Baseline Survey (EBS), etc.). You will have the option of preparing the environmental documentation in-house or by contract. If you select a contractor that is not familiar with the Federal National Environmental Policy Act process (Air Force specific), it could create additional delays in the processing of the documents. You may also elect to have Eglin's Environmental Management Office prepare the environmental documentation on a cost reimbursable basis. When the necessary environmental documents are complete and approved, copies will be provided to you and the Real Estate Office.
Note: Normally a 9 to 12 month process.

5. DoD and Air Force guidance requires any outgranted land be clear of unexploded ordnance (UXO) before the outgrant is approved. Guidelines are established to ensure we meet our public safety responsibilities on any lands that are outgranted. All requests will be checked to determine if the proposed location is known or suspected to contain UXO. If UXO contamination is known or suspected, a UXO remediation plan will be developed in accordance with AFMAN 91-201, Explosives Safety Standards. The requestor will pay to develop the plan and any necessary UXO removal and disposal.

Note: The timetable to develop and gain approval of the remediation plan could take up to 15-months. Time necessary for removal and disposal of UXO is dependent upon the amount of contamination.

6. An appraisal to determine Fair Market Value will be required at customer expense. This will begin once the EA is complete. However, the independent appraisal must be submitted for

Atch 2

review and certification by the Corps of Engineers, and the cost of the review will be borne by the customer. The appraisal will be completed simultaneously with the EBS.

7. The Real Estate Office takes the necessary actions to issue/or modify the existing real estate instrument after Step 6 is completed.

Note: The timetable for a real estate transaction varies based on the type of request. If it can be executed at the base level, it is normally a 3 to 6 month process. If it must be executed at the Air Force level, then it is normally a 6 to 8 month process. These are estimates only, and do not include the time necessary for the proponent to accomplish their requirements. Also, it should be understood that Eglin AFB is an active duty base, and there may be times when mission-essential duties take precedence that could result in delays.

8. The Real Estate Office will notify you once the real estate instrument has been signed by the appropriate AF authority. This will complete the process.

Atch 2