

MOODY AIR FORCE BASE
GEORGIA

ENVIRONMENTAL ASSESSMENT

SOUTHWEST LAND PURCHASE PROPERTY



FINAL
March 2017

**FINDING OF NO SIGNIFICANT IMPACT (FONSI) AND
FINDING OF NO PRACTICABLE ALTERNATIVE (FONPA)
SOUTHWEST LAND PURCHASE PROPERTY
MOODY AIR FORCE BASE, GEORGIA**

Pursuant to provisions of the National Environmental Policy Act (NEPA), 42 United States Code (U.S.C.) 4321 to 4370h; Council on Environmental Quality (CEQ) Regulations, 40 Code of Federal Regulations (CFR) 1500-1508; and 32 CFR Part 989, Environmental Impact Analysis Process, the U.S. Air Force prepared the attached environmental assessment (EA) to address the potential environmental consequences associated with purchasing privately-owned land located immediately adjacent to the southwestern boundary of Moody Air Force Base (AFB) to facilitate multiple projects to allow the removal of three airfield waivers issued by Headquarters Air Combat Command (ACC) for violating airfield obstruction clearance requirements.

Purpose and Need

The purpose of the action is to acquire land adjacent to Moody AFB, Georgia, to facilitate multiple projects that will allow the removal of three airfield waivers issued by Headquarters ACC for violating airfield obstruction clearance requirements. The need for the action is a result of a waiver review conducted by Headquarters ACC that determined that a permanent waiver was not appropriate at Moody AFB for Unified Facilities Criteria (UFC) 3-260-01 *Airfield and Heliport Planning and Design* violations, and temporary waivers were granted by ACC until the airfield obstruction issues are resolved.

Description of Proposed Action and Alternatives

The **Proposed Action** involves the purchase of two parcels of privately-owned land totaling 106.10 acres located immediately adjacent to the southwestern boundary of the base. The proposed land purchase will facilitate multiple projects to allow the removal of three airfield waivers issued by Headquarters ACC for violating airfield obstruction clearance requirements. Activities that would occur include relocation of the installation perimeter fence line and the airfield security fence; realignment of Burma Road; clearing of trees; and continued monitoring of remedial actions.

Alternative 1. Under this alternative, 106.10 acres of privately-owned land located immediately adjacent to the southwestern boundary of the base would be purchased and several projects would be implemented to eliminate existing airfield waivers. This alternative would be initiated if the project is implemented after Environmental Restoration Program (ERP) Site LF-01 is closed (estimated to occur on or before the year 2020). This alternative would minimize impacts to wetlands (approximately 1.75 acres), remove the waivers for the graded portion of the Clear Zone violation, and provide adequate radius for weapons trailers, which are a primary user of the road. This alternative is only a practicable alternative after ERP Site LF-01 is closed. Approximately 1,300 linear feet (LF) of existing perimeter fencing would be removed and 1,400 LF of new fencing would be installed to secure the installation. Approximately 850 LF of existing airfield security fencing would be removed and 1,000 LF of new fencing would be installed to secure the graded portion of the southern Clear Zone. Approximately 3,100 LF of new pavement would be installed to realign Burma Road and the bicycle/jogging path to be outside of the graded portion of the Clear Zone. Approximately 99,000 square feet (SF) of pavement would be installed to realign Burma Road and the bicycle/jogging path. After Burma Road has been realigned, approximately 2,100 LF of the old Burma Road and 1,600 LF of an associated paved bicycle/jogging path that passes through the graded portion of the Clear Zone would be removed. Approximately 63,200 SF of pavement would be removed. Approximately 12 acres of trees would be cleared to ensure Moody AFB airfield clearance criteria are maintained; clearing of trees would involve cutting the trees and leaving the stumps.

Alternative 2. Under this alternative, 106.10 acres of privately-owned land located immediately adjacent to the southwestern boundary of the base would be purchased and several projects would be implemented to eliminate existing airfield waivers. This alternative would be initiated if the project is

implemented before ERP Site LF-01 is closed. This alternative would remove the waivers for the graded portion of the Clear Zone violation and provide adequate radius for weapons trailers; however, because the Burma Road realignment would be routed around the active ERP Site, additional wetlands (approximately 6.10 acres) would be impacted. Approximately 1,300 LF of existing perimeter fencing would be removed and 1,500 LF of new fencing would be installed to secure the installation. Approximately 1,600 LF of existing airfield security fencing would be removed and 3,100 LF of new fencing would be installed to secure the graded portion of the southern Clear Zone. Approximately 3,400 LF of new pavement would be installed to realign Burma Road and the bicycle/jogging path to be outside of the graded portion of the Clear Zone and to avoid ERP Site LF-01. Approximately 108,800 SF of pavement would be installed to realign Burma Road and the bicycle/jogging path. After Burma Road has been realigned, approximately 2,100 LF of the old Burma Road and 1,600 LF of an associated paved bicycle/jogging path that passes through the graded portion of the Clear Zone would be removed. Approximately 63,200 SF of pavement would be removed. Approximately 20 acres of trees would be cleared to ensure Moody AFB airfield clearance criteria are maintained; clearing of trees would involve cutting the trees and leaving the stumps. Tree removal activities would be conducted with care (i.e., use of directional tree cutting) so that falling trees do not come in contact with remediation infrastructure.

Under the **No-Action Alternative** the Air Force would not purchase the property and would continue to operate in accordance with temporary airfield waivers.

Summary of Environmental Impacts

The analyses of the affected environment and environmental consequences of implementing proposed activities to eliminate airfield waivers presented in the EA concluded that construction activities will occur within a designated wetland area; therefore, impacts to wetlands will occur regardless of the alternative action. Because wetlands are present within the project area, there is no practicable alternative to implementing the road realignment away from wetlands. This FONSI includes a FONPA because there is no practicable alternative to avoid these impacts.

Due to the presence of wetlands at the project site, work will require permitting under Section 404 of the Clean Water Act (CWA). Measures identified as part of the Section 404 permit will be implemented to minimize impacts to jurisdictional waters and purchase of mitigation credits will occur to offset the loss of wetlands.

Management practices required by the National Pollutant Discharge Elimination System (NPDES) General Permit and Georgia NPDES and Lowndes County Land Disturbance Permit, and associated Stormwater Pollution Prevention Plan (SWPPP) will be implemented during ground-disturbing activities. The NPDES General Permit, together with the required SWPPP, outlines construction site management practices designed to protect the quality of the surface water, ground water, and natural environment through which they flow. Therefore, no significant impacts to geology and soils or water resources are anticipated.

ERP site LF-01 will be closed to residential standards without Land Use Controls. If ERP Site LF-01 is closed prior to initiating construction activities, any remediation infrastructure within the project area would be removed. If ERP Site LF-01 is still active, realignment of Burma Road would avoid contact with remediation infrastructure. Additionally, the Burma Road realignment would not involve excavation to the depth of impacted groundwater in the area; therefore, no significant impact to ERP Site LF-01 would occur.

Construction activities will result in short-term air quality impacts. However, emissions associated with construction activities will not hinder maintenance of the National Ambient Air Quality Standards.

Loss of approximately 12 acres of hardwood/pine woodland and approximately 1 acre of maintained open grass habitat would not result in a significant impact given the wide expanse of these habitats on the southern portion of Moody AFB. Any areas of temporary disturbance that would not be paved or

landscaped would be revegetated with the approved seed mix provided in the Moody AFB Integrated Natural Resources Management Plan. Therefore, no significant impacts to vegetation are anticipated.

Wildlife species temporarily displaced during construction activities will likely return to the area and establish population levels similar to pre-construction levels; therefore, potential effects of construction activities on wildlife will not be significant.

The Air Force has completed informal consultation procedures, as advised under Section 7 of the federal Endangered Species Act, to address potential impacts to federally protected species that may occur at the project site. The U.S. Fish and Wildlife Service, in response to the Air Force Section 7 consultation, concurred with the determination that the proposed activity may affect but is not likely to adversely affect listed species. Although the federally threatened and state threatened eastern indigo snake (*Drymarchon couperi*) and the federal candidate and state threatened gopher tortoise (*Gopherus polyphemus*) are present on Moody AFB, these species have not been identified within the project area. Surveys for threatened and endangered species with the potential to occur, based on habitat requirements, were conducted in support of this EA and identified no listed species. No impacts to resident federally listed threatened and endangered species are anticipated because no listed species have been identified on the property.

Incidental takes of migratory birds may occur if construction activities coincide with the nesting season. The Air Force will make every effort to minimize potential effects; however, the incidental take of migratory birds is exempt from permitting requirements and would not be considered a significant impact on migratory bird populations because of the small area of disturbance within the regional Grand Bay-Banks Lake watershed habitat.

Jurisdictional wetlands (1.75 acres) have been identified within the project area for the Burma Road realignment. To the maximum extent possible, impacts to wetlands will be avoided. The 1.75 acres of wetland identified along the path of the realigned road are in an area that cannot be avoided. Measures identified as part of the Section 404 permit will be implemented in order to reduce potential impacts to jurisdictional waters and wetlands, including purchase of mitigation credits to offset the loss of wetlands. Therefore, no significant impacts to sensitive habitats are anticipated.

The Air Force has completed consultation procedures, as advised, under 54 U.S.C 306108 (commonly known as Section 106 of the National Historic Preservation Act), to address potential impacts to historic buildings and properties that may occur at the project site. No historic buildings, historic structures, or archaeological resources, eligible for listing on the National Register of Historic Places have been identified in the project area. The Georgia State Historic Preservation Office, in response to the Air Force, concurred with the determination that no historic properties would be affected by this Proposed Action. Based on consultation with representatives of Native American groups, no traditional cultural resources, sacred sites, or traditional use areas have been identified in the vicinity of the project area.

Cumulative Impacts

The EA considered cumulative impacts that could result from the incremental impact of proposed construction activities when added to other past, present, or reasonably foreseeable future actions. The Air Force intends to install a natural gas line within the same utility alignment as the existing electrical and sewer alignment that runs through the graded portion of the Clear Zone (along the existing Burma Road). Because the location of the project is remote, no off-base developments have been identified in the vicinity of the project that could contribute to cumulative impacts. Construction activities associated with installing a new natural gas line would generally be expected to result in some increased noise, increased air emissions, potential for erosion, and generation of small amounts of hazardous materials and wastes. Construction activities generally would be expected to result in short-term job creation and materials procurement. These types of short-term, construction-related effects would occur regardless of project location and are not constraints to development. In the absence of unique constraints, the potential for

environmental effects of a construction project smaller in scope than those analyzed as the Proposed Action in this EA would be expected to result in less than significant environmental effects.

Mitigations

The EA concluded that no significant impacts to the environment will result from proposed construction activities with implementation of measures identified as part of the NPDES General Permit, Georgia NPDES and Lowndes County Land Disturbance Permit, and Section 404 permit. Avoidance and minimization measures will be implemented, as well as measures identified as part of the CWA Section 404 permit for disturbance within wetlands, including purchase of mitigation credits to offset the loss of wetlands.

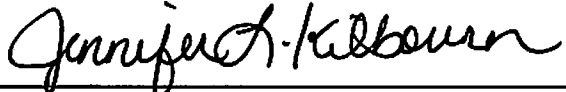
Conclusion

Based on the provisions set forth in the Proposed Action, proposed construction activities to eliminate temporary airfield waivers were found to comply with the criteria or standards of environmental quality and coordinated with the appropriate federal, state, and local agencies. The attached EA and a draft of this FONSI/FONPA were made available to the public on February 10, 2017 for a 30-day review period.

Findings

Finding of No Practicable Alternative. Due to the presence of wetlands at the project site, work will require permitting under Section 404 of the CWA. Additionally, a NPDES General Permit and Georgia NPDES and Lowndes County Land Disturbance Permit will also be obtained. Measures identified as part of these permits will be implemented to minimize impacts to jurisdictional waters and wetlands. Because wetlands are present, there is no practicable alternative to implementing road realignment activities outside of the wetlands. Pursuant to Executive Order 11990 and the authority delegated by Secretary of the Air Force Order 791.11, and taking the above information into account, I find that there is no practicable alternative to this action and that the proposed actions include all practicable measures to minimize harm to the environment. This decision has been made after taking into account all submitted information, and considering a full range of practical alternatives that meet project requirements and are within the legal authority of the U.S. Air Force.

Finding of No Significant Impact. After review of the EA prepared in accordance with the requirements of NEPA; CEQ regulations; and 32 CFR Part 989, *Environmental Impact Analysis Process*, and which is hereby incorporated by reference, I have determined that the proposed activities to eliminate airfield waivers will not have a significant impact on the quality of the human or natural environment. Accordingly, an Environmental Impact Statement will not be prepared. This decision has been made after taking into account all submitted information, and considering a full range of practical alternatives that meet project requirements and are within the legal authority of the U.S. Air Force. The signing of this FONSI/FONPA completes the environmental impact analysis process.



JENNIFER L. KILBOURN, Colonel, USAF
Chief, Civil Engineer Division (ACC/A4C)



Date

Attachment:
Environmental Assessment for Southwest Land Purchase Property

FINAL
ENVIRONMENTAL ASSESSMENT
SOUTHWEST LAND PURCHASE
MOODY AFB, GEORGIA

March 2017

COVER SHEET

ENVIRONMENTAL ASSESSMENT SOUTHWEST LAND PURCHASE MOODY AFB, GEORGIA

- a. Lead Agency: U.S. Air Force
- b. Proposed Action: Purchase 106.10 acres of privately-owned land located immediately adjacent to the southwestern boundary of Moody Air Force Base (AFB), Georgia to facilitate multiple projects to allow the removal of three airfield waivers.
- c. Written comments and inquiries regarding this document should be directed to: Mr. Henry Santicola, 23 CES/CEIEA, 3485 Georgia Street, Moody AFB, GA 31699, Moody AFB, GA 80914.
- d. Designation: Environmental Assessment (EA)
- e. Abstract: This EA evaluates the potential environmental impacts associated with purchasing 106.10 acres of privately-owned land located immediately adjacent to the southwestern boundary of Moody AFB to facilitate multiple projects to allow the removal of three airfield waivers.

The Proposed Action involves relocation of the installation perimeter fence line and the airfield security fence; realignment of Burma Road; clearing of trees; and continued monitoring of remedial actions at Environmental Restoration Program (ERP) Site LF-01. Two alternatives have been identified:

Under Alternative 1, 106.10 acres of land located adjacent to the southwestern boundary of the base would be purchased and several projects would be implemented to eliminate existing airfield waivers. This alternative would be initiated if the project is implemented after ERP Site LF-01 is closed (estimated to occur on or before the year 2020). This alternative would minimize impacts to wetlands and support removal of the airfield waivers. This alternative is only a practicable alternative after ERP Site LF-01 is closed.

Under Alternative 2, 106.10 acres of land located adjacent to the southwestern boundary of the base would be purchased and several projects would be implemented to eliminate existing airfield waivers. This alternative would be initiated if the project is implemented before ERP Site LF-01 is closed and would support removal of the airfield waivers. Because the Burma Road realignment would be routed around the active ERP Site, additional wetlands would be impacted.

Under the No-Action Alternative, the Air Force would not purchase the property and would continue to operate in accordance with temporary airfield waivers.

All environmental resources were analyzed in this EA; however, only the environmental resources potentially affected by the Proposed Action and alternatives were analyzed in-depth, including land use/aesthetics, ERP sites, geology and soils, water resources, air quality, biological resources, and cultural resources. Based on the analysis of the Proposed Action and alternatives, the Air Force has determined that with incorporation of best management practices and mitigation measures for disturbance of wetlands, as outlined in the EA, no significant impacts would occur.

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TABLE OF CONTENTS

		<u>Page</u>
1.0	PURPOSE OF AND NEED FOR ACTION	1-1
1.1	PURPOSE AND NEED	1-1
1.2	LOCATION OF THE PROPOSED ACTION	1-5
1.3	SCOPE OF THE ENVIRONMENTAL ASSESSMENT	1-5
1.4	FEDERAL, STATE, AND LOCAL PERMITS, LICENSES, AND FEES.....	1-13
1.5	INTERAGENCY AND INTERGOVERNMENTAL COORDINATION FOR ENVIRONMENTAL PLANNING, NATIVE AMERICAN CONSULTATION, AND PUBLIC INVOLVEMENT.....	1-13
1.6	DECISION TO BE MADE.....	1-17
2.0	ALTERNATIVES INCLUDING THE PROPOSED ACTION.....	2-1
2.1	INTRODUCTION	2-1
2.2	PROPOSED ACTION	2-1
2.3	ALTERNATIVES TO THE PROPOSED ACTION	2-1
2.3.1	Selection Standards	2-1
2.3.2	Alternative 1	2-1
2.3.3	Alternative 2.....	2-9
2.4	NO-ACTION ALTERNATIVE.....	2-13
2.5	ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER CONSIDERATION	2-13
2.6	OTHER FUTURE ACTIONS IN THE REGION.....	2-14
2.7	COMPARISON OF ENVIRONMENTAL IMPACTS.....	2-14
3.0	AFFECTED ENVIRONMENT.....	3-1
3.1	INTRODUCTION	3-1
3.2	PROJECT SETTING.....	3-1
3.2.1	Land Use/Aesthetics.....	3-1
3.3	HAZARDOUS MATERIALS AND HAZARDOUS WASTE MANAGEMENT.....	3-5
3.3.1	Environmental Restoration Program Sites.....	3-5
3.4	NATURAL ENVIRONMENT	3-6
3.4.1	Geology and Soils	3-6
3.4.1.1	Geology.....	3-6
3.4.1.2	Soils.....	3-9
3.4.2	Water Resources.....	3-9
3.4.3	Air Quality	3-10
3.4.3.1	National Ambient Air Quality Standards.....	3-10
3.4.3.2	Existing Air Quality Conditions.	3-11
3.4.4	Biological Resources	3-15
3.4.5	Cultural Resources	3-19
4.0	ENVIRONMENTAL CONSEQUENCES	4-1
4.1	INTRODUCTION	4-1
4.2	PROJECT SETTING.....	4-1
4.2.1	Land Use/Aesthetic	4-1
4.2.1.1	Alternative 1.....	4-1
4.2.1.2	Alternative 2.....	4-2
4.2.1.3	No-Action Alternative.	4-2
4.3	HAZARDOUS MATERIALS AND HAZARDOUS WASTE MANAGEMENT.....	4-2
4.3.1	Environmental Restoration Program Sites.....	4-2
4.3.1.1	Alternative 1.....	4-2
4.3.1.2	Alternative 2.....	4-3
4.3.1.3	No-Action Alternative.	4-3

4.4	NATURAL ENVIRONMENT	4-7
4.4.1	Geology and Soils	4-7
4.4.1.1	Alternative 1.....	4-7
4.4.1.2	Alternative 2.....	4-8
4.4.1.3	No-Action Alternative.....	4-8
4.4.2	Water Resources.....	4-8
4.4.2.1	Alternative 1.....	4-8
4.4.2.2	Alternative 2.....	4-12
4.4.2.3	No-Action Alternative.....	4-15
4.4.3	Air Quality	4-15
4.4.3.1	Alternative 1.....	4-15
4.4.3.2	Alternative 2.....	4-17
4.4.3.3	No-Action Alternative.....	4-17
4.4.4	Biological Resources.....	4-17
4.4.4.1	Alternative 1.....	4-17
4.4.4.2	Alternative 2.....	4-19
4.4.4.3	No-Action Alternative.....	4-20
4.4.5	Cultural Resources.....	4-20
4.4.5.1	Alternative 1.....	4-20
4.4.5.2	Alternative 2.....	4-21
4.4.5.3	No-Action Alternative.....	4-21
4.5	COMPATIBILITY OF THE PROPOSED ACTION WITH OBJECTIVES OF FEDERAL, STATE, REGIONAL, AND LOCAL LAND USE PLANS AND POLICIES	4-22
4.6	RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND LONG-TERM PRODUCTIVITY.....	4-22
4.7	IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES.....	4-22
4.8	CUMULATIVE ENVIRONMENTAL CONSEQUENCES.....	4-22
5.0	CONSULTATION AND COORDINATION.....	5-1
6.0	LIST OF PREPARERS AND CONTRIBUTORS.....	6-1
7.0	BIBLIOGRAPHY.....	7-1
8.0	DISTRIBUTION LIST.....	8-1

APPENDICES

Appendix A	Consultation Letters
Appendix B	Criteria and Hazardous Pollutants and Greenhouse Gas Emissions Analysis
Appendix C	Phase I Cultural Resource Assessment for the Southwest Land Purchase at Moody AFB and Cultural Resource Assessment Addendum for the Southwest Land Purchase at Moody AFB

LIST OF TABLES

	<u>Page</u>
1-1	Representative Federal Permits, Licenses, and Entitlements 1-15
2-1	Summary of Influencing Factors and Environmental Impacts..... 2-15
3-1	National and Georgia Ambient Air Quality Standards 3-12
3-2	Moody AFB Emissions Inventory, 2012 (ton/yr)..... 3-13
3-3	Federal and State Listed Species with the Potential to Occur within the ROI..... 3-17
4-1	Total Net and Net Percent Increase in Annual Emissions (tons) 4-16

LIST OF FIGURES

	<u>Page</u>
1-1	Airfield Obstruction Violations and ERP Sites 1-3
1-2	Regional Map Moody AFB 1-7
1-3	Southwest Land Purchase Property Location Map..... 1-9
2-1	Southwest land Purchase Property..... 2-3
2-2	Alternative 1 2-7
2-3	Alternative 2 2-11
3-1	Land Use 3-3
3-2	ERP Site LF-01..... 3-7
4-1	Alternative 2 ERP Site Avoidance..... 4-5
4-2	Alternative 1 Wetland Impacts 4-9
4-3	Alternative 2 Wetland Impacts 4-13

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LIST OF ACRONYMS/ABBREVIATIONS

23 CES	23d Civil Engineer Squadron
ACC	Air Combat Command
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing material
AFB	Air Force Base
AICUZ	Air Installation Compatible Use Zone
AIRFA	American Indian Religious Freedom Act
APE	Area of Potential Effect
BCC	Birds of Conservation Concern
BMP	best management practice
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CH ₄	methane
CO	carbon monoxide
CO ₂	carbon dioxide
CO _{2e}	carbon dioxide equivalent
CWA	Clean Water Act
dBA	A-weighted sound levels
DNL	day-night average sound level
DNR	Department of Natural Resources
DoD	Department of Defense
EA	environmental assessment
EO	Executive Order
EPA	Environmental Protection Agency
ERP	Environmental Restoration Program
FEMA	Federal Emergency Management Agency
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
GBBL	Grand Bay-Banks Lake
GHG	greenhouse gas
GWP	global warming potential
HAP	Hazardous Air Pollutant
HFC	hydrofluorocarbon
ICRMP	Integrated Cultural Resources Management Plan
IICEP	Interagency and Intergovernmental Coordination for Environmental Planning
INRMP	Integrated Natural Resources Management Plan
IPAC	Information, Planning, and Conservation System
LBP	lead-based paint
LF	linear feet
MBTA	Migratory Bird Treaty Act
µg/m ³	micrograms per cubic meter
MILCON	Military Construction
NAAQS	National Ambient Air Quality Standards

**LIST OF ACRONYMS/ABBREVIATIONS
(Continued)**

National Register	National Register of Historic Places
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NNSR	Nonattainment New Source Review
NOA	Notice of Availability
N ₂ O	nitrous oxide
NO ₂	nitrogen dioxide
NO _x	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
OCPM	Outer Coastal Plain Mixed
PCB	polychlorinated biphenyl
PFC	perfluorocarbon
PM _{2.5}	particulate equal to or less than 2.5 microns in diameter
PM ₁₀	particulate equal to or less than 10 microns in diameter
POL	petroleum, oils, and lubricants
ppm	parts per million
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
ROI	region of influence
SF	square feet
SF ₆	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SO ₂	sulfur dioxide
SWPPP	Stormwater Pollution Prevention Plan
tpy	tons per year
UFC	Unified Facilities Criteria
U.S.C.	U.S. Code
USFWS	U.S. Fish and Wildlife Service
VOC	volatile organic compound

1.0 PURPOSE OF AND NEED FOR ACTION

This Environmental Assessment (EA) evaluates the potential environmental impacts associated with the purchase of privately-owned land located immediately adjacent to the southwestern boundary of Moody Air Force Base (AFB), Georgia, and the implementation of multiple projects on the property that will allow the removal of three airfield waivers.

This document has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended (42 United States Code [U.S.C.] 4321, et seq.), the Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and Air Force policy and procedures (32 CFR Part 989).

1.1 PURPOSE AND NEED

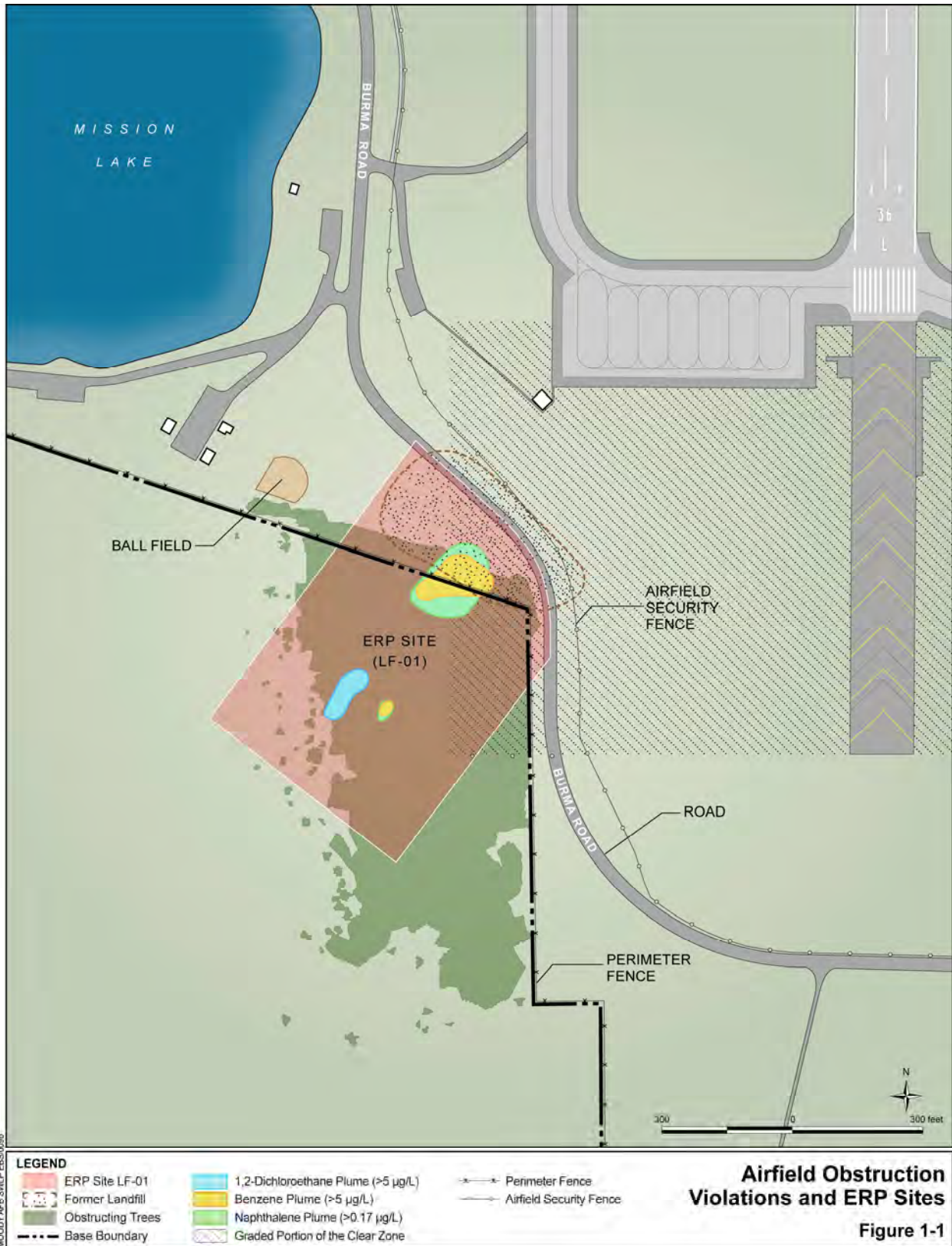
The purpose of the Proposed Action is to acquire land adjacent to Moody AFB, Georgia, to facilitate multiple projects that will allow the removal of three airfield waivers issued by Headquarters Air Combat Command (ACC) for violating airfield obstruction clearance requirements; reduce third party liability from an off-installation groundwater contamination plume; and enhance encroachment management with the addition of restricted wetlands that prevent land development adjacent to the base boundary.

Currently, the installation's perimeter fence line, the flightline security fence, and the Burma Road access road cut across the graded portion of the Runway 36L/18R southern Clear Zone. This condition violates Department of Defense (DoD) requirements for airfield management outlined under Unified Facilities Criteria (UFC) 3-260-01. Additionally, trees off the installation violate airfield clearance criteria. Continued airfield operations are currently permitted under temporary airfield waiver issued by ACC including:

- Temporary airfield waiver (QSEU052W) for the base perimeter fence and flightline security fence condition, which violate UFC 3-260-01, Table 3-7, Item 4 requirements prohibiting obstructions within the graded portion of the Clear Zone.
- Temporary airfield waiver (QSEU052W) for the Burma Road condition, which violates UFC 3-260-01, Table 3-7, Item 4 requirements prohibiting roadways within the graded portion of the Clear Zone.
- Temporary airfield waiver (QSEU009W) for trees located on property adjacent to the southwest boundary that penetrate the 50:1 approach departure clearance surface, which violates UFC 3-260-01, Table 3-7, Item 7, as well as trees protruding through the 7:1 transitional surface which violates UFC 3-260-01, Table 3.7, Item 30 requirements prohibiting obstructions within the graded portion of the Clear Zone.

A former landfill site and associated area of groundwater contamination is located within the Runway 36L/18R southern Clear Zone. This site is managed by Moody AFB's Environmental Restoration Program (ERP); on-installation remediation efforts are nearly complete; however, a groundwater contamination plume extends underneath two acres of the property proposed for acquisition. Figure 1-1 illustrates the location of the airfield obstruction violations and the ERP site.

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The proposed action is needed because during a waiver review conducted by Headquarters ACC, it was determined that the violation could be reasonably corrected and that the violation posed little threat to flying operations; therefore, a permanent waiver was not deemed appropriate at Moody AFB for UFC 3-260-01 *Airfield and Heliport Planning and Design* violations, and temporary waivers were granted by ACC until the above issues are resolved. As a result, the base civil engineer has developed a military construction (MILCON) project to correct non-permanent waivers.

1.2 LOCATION OF THE PROPOSED ACTION

Moody AFB is situated in south-central Georgia, in Lowndes and Lanier counties, approximately 9 miles northeast of the City of Valdosta (Figure 1-2). The property proposed for acquisition is adjacent to the southwestern boundary of Moody AFB, has no facility improvements, and consists of forested uplands and wetlands (Figure 1-3).

1.3 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

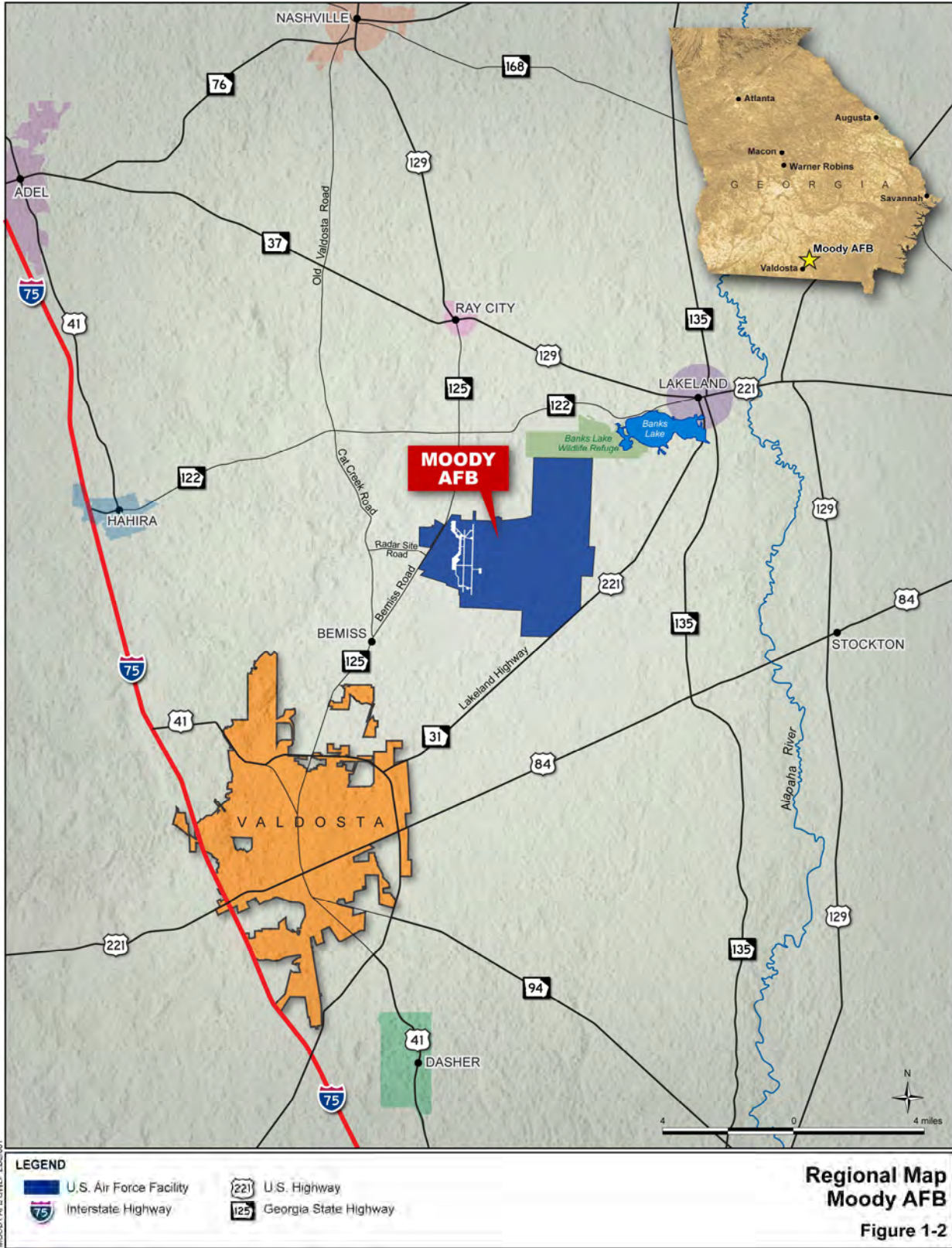
Consistent with the CEQ regulations, the scope of analysis presented in this EA is defined by the potential range of environmental impacts that would result from implementation of the Proposed Action or alternatives. CEQ regulations (40 CFR Part 1501.7) state that an agency shall identify and eliminate from detailed study those issues that are not likely to be relevant or that have been covered by prior environmental review. This document is “issue driven,” in that it concentrates on those resources that may be affected by implementation of the Proposed Action or alternatives.

Resources that have a potential for impact were considered in detail in order to determine if implementing the Proposed Action or alternatives would have a significant impact on environmental resources. The resources analyzed in detail include land use/aesthetics, ERP sites, geology and soils, water resources, air quality, biological resources, and cultural resources. The affected environment and the potential environmental consequences relative to these resources are described in Chapter 3.0, Affected Environment and Chapter 4.0, Environmental Consequences.

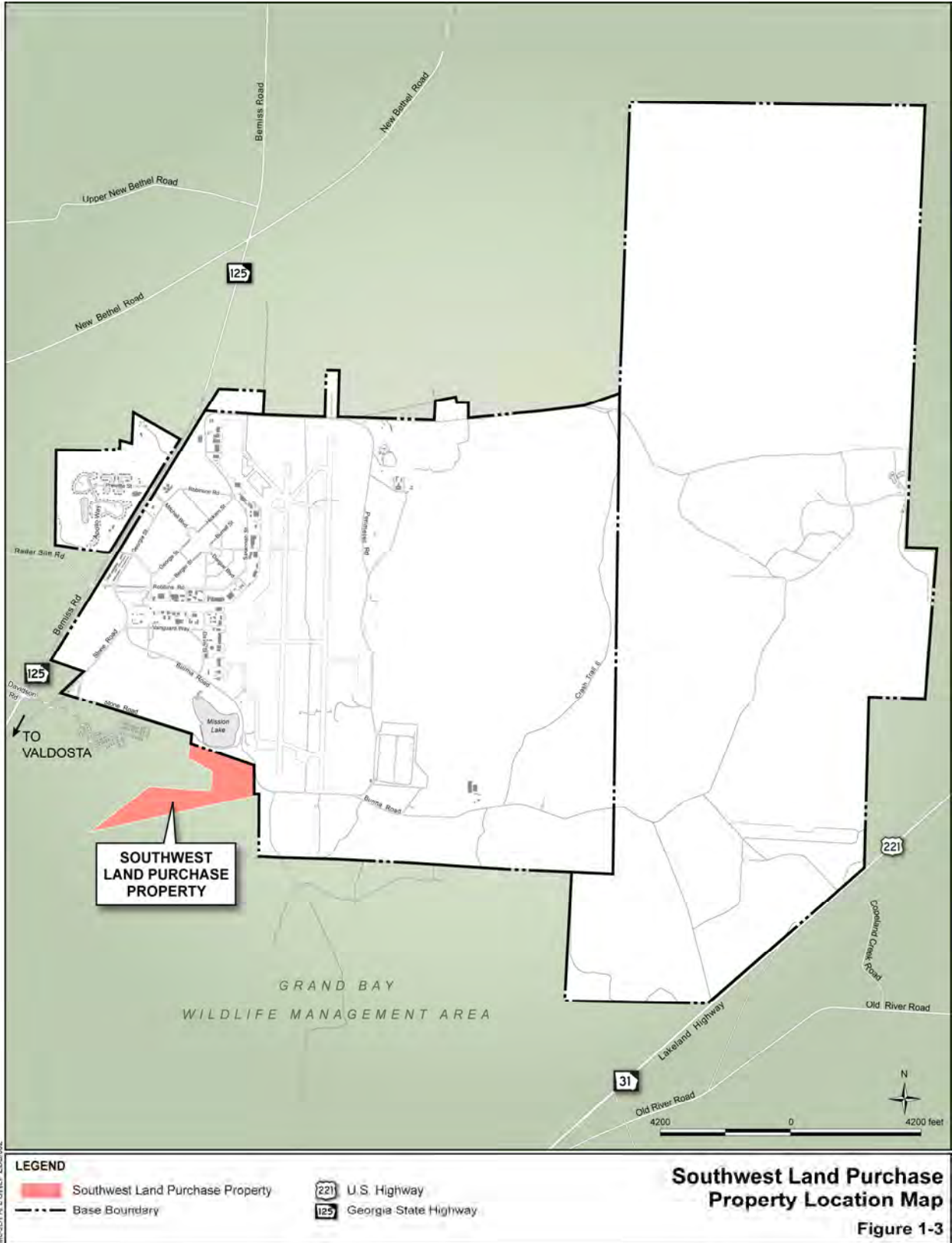
Initial analysis of the Proposed Action indicates that activities would not result in impacts to socioeconomics, environmental justice, transportation, utilities, airspace, hazardous materials management, hazardous waste management, storage tanks, asbestos-containing material (ACM), lead-based paint (LBP), polychlorinated biphenyls (PCBs), pesticide usage, radon, ordnance, radioactive materials, medical/biohazardous waste, and noise. The reasons for not addressing these resources in detail are briefly discussed in the following paragraphs.

Socioeconomics. The use of local construction workers would produce increases in local sales volumes, payroll taxes, and the purchases of goods and services resulting in a beneficial increase in the local economy. The proposed projects are not anticipated to increase the number of persons employed at Moody AFB. Acquisition of the two parcels that make up the Southwest Land Purchase Property would result in a minimal decrease in annual property tax revenue for Lowndes County totaling \$5,718 (Lowndes County, 2016). Therefore, significant impacts on socioeconomics are not expected and are not analyzed further in this EA.

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Environmental Justice. Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was issued by the President on February 11, 1994. Objectives of the EO, as it pertains to this EA, include development of federal agency implementation strategies, and identification of low-income and minority populations potentially affected because of proposed federal actions. In addition to environmental justice issues are concerns pursuant to EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*. This EO directs federal agencies to identify and assess environmental health and safety risks that may disproportionately affect children. Potential environmental impacts identified for resource areas in this EA would occur primarily on a remote portion of Moody AFB at the southern end of Runway 36L/18R (air quality impacts are regional); on- and off-installation populations would not be affected. Based on these findings, disproportional impacts to low-income, minority, and child populations are not expected and are not analyzed further in this EA.

Transportation. Proposed construction activities would result in a temporary increase in traffic during the construction period. Construction activities would result in increased traffic associated with contractor vehicles and transporting construction equipment to the project area. The minimal traffic generated during construction and tree clearing activities would not substantially increase traffic or affect the existing level of service on any road. During construction, Burma Road would remain open; upon completion of the road realignment, traffic on the original Burma Road would be routed to the new segment. No change in traffic levels on Burma Road is anticipated. Because construction activities would not substantially increase traffic or affect vehicle access around Moody AFB, significant impacts to transportation would not be expected and are not analyzed further in this EA.

Utilities. Utilities are not provided on the Southwest Land Purchase Property. Utility requirements during construction and tree clearing activities would be supplied by the contractor in the form of portable generators, portable lavatories, and water trucks. The proposed projects are not anticipated to increase utility demands at Moody AFB. Any solid waste generated during construction activities would be hauled away and disposed by the contractor. Prior to initiating construction activities, the contractor would identify utility lines in the area to ensure construction activities do not affect local utility systems. Existing buried utility lines (i.e., electrical and sewer) that follow the current Burma Road alignment would remain in place. Therefore, utilities impacts are not anticipated and are not analyzed further in this EA.

Airspace. No change in Moody AFB airspace would result from implementing the Proposed Action or alternatives. Implementation of the Proposed Action or alternatives would result in a beneficial impact from removal of trees on the Southwest Land Purchase Property that violate airfield clearance criteria. Therefore, airspace impacts are not anticipated and are not analyzed further in this EA.

Hazardous Materials Management. During construction activities, small amounts of hazardous materials are expected to be utilized by the contractor. Storage, handling, and transportation of hazardous materials during construction activities would be conducted in accordance with applicable regulations and established procedures. Hazardous materials likely to be utilized during construction activities could include adhesives, motor fuels, paints, thinners, solvents, and petroleum, oil, and lubricants (POLs). Any spills or releases of hazardous materials would be cleaned up by the contractor and disposed at an approved off-base treatment, storage, or disposal facility by Moody AFB. Because hazardous materials would be managed in accordance with applicable regulations, hazardous materials impacts are not anticipated and are not analyzed further in this EA.

Hazardous Waste Management. Small quantities of hazardous waste could be generated during construction activities. The construction contractor would be responsible for following applicable

regulations (including the Moody AFB Hazardous Waste Management Plan) for management of any hazardous waste generated during construction activities. Any spills or releases of fuel or oil from construction equipment would be cleaned up by the contractor. Moody AFB would be responsible for the off-base disposal of any hazardous waste generated during construction activities in accordance with applicable regulations. Because hazardous waste would be managed in accordance with applicable regulations, hazardous waste impacts are not anticipated and are not analyzed further in this EA.

Storage Tanks. There are no storage tanks associated with the Southwest Land Purchase Property and none would be required during proposed activities; therefore, impacts from storage tanks are not anticipated and are not analyzed further in this EA.

Asbestos-Containing Material. No ACM would be disturbed during proposed activities; therefore, impacts from ACM are not expected and are not analyzed further in this EA.

Lead-Based Paint. No painted surfaces would be disturbed during proposed activities; therefore, impacts from LBP are not expected and are not analyzed further in this EA.

Polychlorinated Biphenyls. No transformers, capacitors, or switches containing PCBs are present on the Southwest Land Purchase Property; therefore, impacts from PCBs are not expected and are not analyzed further in this EA.

Pesticide Usage. Pesticide/herbicide usage at Moody AFB is coordinated by the 23d Civil Engineer Squadron (23 CES) Entomology Shop in accordance with their Integrated Pest Management Plan. Only Air Force approved pesticides and herbicides may be utilized and only authorized and certified personnel are permitted to apply pesticides. Pesticides are not applied on the Southwest Land Purchase Property and pesticide application would not be required during proposed activities. The Proposed Action and alternatives would not involve any changes in pesticide storage or usage at Moody AFB; therefore, impacts from pesticide usage would not be expected and are not analyzed further in this EA.

Radon. Lowndes and Lanier counties have been designated as being in Radon Potential Zone 3 – Lowest Potential (less than 2 picocuries per liter) (U.S. Environmental Protection Agency, 2016). Because proposed activities do not involve construction of permanently occupied structures, impacts from radon are not expected and are not analyzed further in this EA.

Ordnance. Ordnance has not been stored, used, or disposed of on the Southwest Land Purchase Property. Proposed activities would not require the use of ordnance. Therefore, impacts from ordnance are not expected and are not analyzed further in this EA.

Radioactive Materials. Radioactive materials have not been stored, used, or disposed of on the Southwest Land Purchase Property. Proposed activities would not require the use of radioactive materials. Therefore, impacts from radioactive materials are not expected and are not analyzed further in this EA.

Medical/Biohazardous Waste. Medical/biohazardous waste has not been generated on the Southwest Land Purchase Property and none would be generated during proposed activities. Therefore, impacts from medical/biohazardous waste are not expected and are not analyzed further in this EA.

Noise. In accordance with the Air Installation Compatible Use Zone (AICUZ) program, a program designed to achieve compatible uses of public and private lands in the vicinity of military airfields, Moody

AFB has conducted noise studies for the base. The Southwest Land Purchase Property and Runway 36L/18R southern Clear Zone are within an area exposed to sound levels less than 70 decibel (DNL [day-night average sound level]) (Moody AFB, 2015a). Proposed use of the Southwest Land Purchase Property (open space and Clear Zone) would be compatible with airfield noise levels. Short-term noise generated from construction activities would be isolated to the Southwest Land Purchase Property and Runway 36L/18R southern Clear Zone, which are situated within a remote location on Moody AFB. The nearest noise-sensitive receptor is a housing tract, approximately 3,000 feet west of the project site. Typical noise levels at construction sites have been measured from 85 to 88 decibels (dBA [A-weighted sound levels]) at a distance of 50 feet. This would attenuate to about 78 to 82 dBA at 100 feet, 72 to 76 dBA at 200 feet, and below 65 dBA at 800 feet (U.S. Environmental Protection Agency, 1971). Noise generated from construction activities would be intermittent and short term, and would primarily occur at the construction site. Once construction activities are completed, proposed use of the property is not expected to generate a substantial amount of noise. Therefore, significant noise impacts are not expected and are not analyzed further in this EA. Potential effects of construction noise on biological resources are provided in Section 4.4.

1.4 FEDERAL, STATE, AND LOCAL PERMITS, LICENSES, AND FEES

Representative federal permits, licenses, and entitlements that may be required during implementation of the Proposed Action or alternatives at Moody AFB are presented in Table 1-1. The table is presented for illustrative purposes only, and does not include state or local permits, licenses, or entitlements that may be required.

1.5 INTERAGENCY AND INTERGOVERNMENTAL COORDINATION FOR ENVIRONMENTAL PLANNING, NATIVE AMERICAN CONSULTATION, AND PUBLIC INVOLVEMENT

IICEP. The 23 CES at Moody AFB, as the responsible agency, has implemented the Interagency and Intergovernmental Coordination for Environmental Planning (IICEP) process. Through the IICEP process, 23 CES notifies relevant federal, state, and local agencies about the Proposed Action and alternatives. The IICEP process provides 23 CES the opportunity to cooperate with and consider state and local views in implementing the Proposed Action or alternatives. In December 2015, a discussion of the Proposed Action was provided to federal, state, and local agencies as well as other stakeholders identified in the IICEP that provides the means to comment on the Proposed Action and alternatives. The comment period was open for thirty days to allow agencies to respond to the Proposed Action and alternatives. The Georgia Department of Natural Resources (DNR), Wildlife Resources Division provided input on known occurrences of protected species in the vicinity of the project; the Environmental Protection Division recommended the proposed effort be coordinated with the installation ERP Manager to ensure on-going corrective actions are not impeded; and the Historic Preservation Division indicated they look forward to receiving the Section 106 compliance documentation. Agency responses have been considered in developing the final scope of the EA. IICEP materials for this EA are included in Appendix A.

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Table 1-1. Representative Federal Permits, Licenses, and Entitlements

Federal Permit, License, or Entitlement	Typical Activity, Facility, or Category of Persons Required to Obtain the Federal Permit, License, or Entitlement	Authority	Regulatory Agency
Clean Air Act (CAA) Title V permit	Any major sources (sources that emits more than 100 tons/year of criteria pollutant in a nonattainment area for that pollutant or is otherwise defined in Title I of CAA as a major source); affected sources as defined in Title IV of CAA; sources subject to Section 111 regarding New Source Performance Standards; sources of air toxics regulated under Section 112 of CAA; sources required to have new source or modification permits under Parts C or D of Title I of CAA; and any other source designated by U.S. Environmental Protection Agency regulations	Title V of CAA, as amended by the 1990 CAA Amendments, Title V of CAA	U.S. Environmental Protection Agency
National Pollutant Discharge Elimination System (NPDES) permit	Discharge of pollutant from any point source into waters of the United States	Section 402 of Clean Water Act, 33 U.S.C. Section 1342	U.S. Environmental Protection Agency
Section 404 (Dredge and Fill) permit	Any project activities resulting in the discharge of dredged or fill material into bodies of water, including wetlands, within the United States	Section 404 of Clean Water Act, 33 U.S.C. Section 1344	U.S. Department of Defense – Army Corps of Engineers, in consultation with U.S. Environmental Protection Agency
Hazardous waste treatment, storage, or disposal (TSD) facility permit	Owners or operators of a new or existing hazardous waste TSD facility	Resource Conservation and Recovery Act (RCRA) as amended, 42 U.S.C. Section 6901; 40 CFR 270	U.S. Environmental Protection Agency
U.S. Environmental Protection Agency identification number	Generators or transporters (off-site transport) of hazardous waste	40 CFR 262.10 (generators); 40 CFR 263, Subpart B (transporters)	U.S. Environmental Protection Agency
Archaeological Resources Protection Act permit	Excavation and/or removal of archaeological resources from public lands or Indian lands and carrying out activities associated with such excavation and/or removal	Archaeological Resource Protection Act of 1979, 16 U.S.C. Section 470cc.	U.S. Department of the Interior – National Park Service
Endangered Species Act Section 10 permit	Taking endangered or threatened wildlife species; engaging in certain commercial trade of endangered or threatened plants or removing such plants on property subject to federal jurisdiction	Section 10 of Endangered Species Act, 16 U.S.C. Section 1539; 50 CFR 17 Subparts C, D, F, and G	U.S. Department of the Interior – Fish and Wildlife Service

CAA = Clean Air Act

CFR = Code of Federal Regulations

NPDES = National Pollutant Discharge Elimination System

RCRA = Resource Conservation and Recovery Act

TSD = treatment, storage, or disposal

U.S.C. = United States Code

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Native American Tribal Consultation. EO 13175, *Consultation and Coordination with Indian Tribal Governments*, directs federal agencies to coordinate and consult with Native American tribal governments whose interests might be directly and substantially affected by activities on federally administered lands. To comply with legal mandates, federally recognized tribes that are historically affiliated with the Moody AFB geographic region are invited to consult on proposed undertakings that have a potential to affect properties of cultural, historical, or religious significance to the tribes. Because many tribes were historically displaced from their original homelands, tribes with cultural roots in an area might not currently reside in the region where the undertaking is to occur. Effective consultation requires identification of tribes based on ethnographic and historical data and not simply a tribe's current proximity to a project area. The goal of the tribal consultation process is not to simply consult on a particular undertaking but rather to build constructive relationships with appropriate Native American tribes. Consultation should lead to constructive dialogs in which the Native American tribes are active participants in the planning process. Native American groups consulted include the Poarch Band of Creeks, Thlopthlocco Tribal Town, Seminole Nation of Oklahoma, Kialagee Tribal Town, Coushatta Tribe of Louisiana, Muscogee Nation of Florida, and the Muscogee (Creek) Nation. Native American tribal government coordination materials for this EA are included in Appendix A.

Public Involvement. An early public notice was published in the *Valdosta Daily Times* on June 23, 2016 and the *Lanier County News* on June 23, 2016 to disclose that the proposed land acquisition is taking place within a wetland. The Air Force requested advanced public comment on the proposed project to determine if there were any public concerns regarding the project's potential impacts and solicit public input on potential project alternatives. No input was received during the 30-day period.

A Notice of Availability (NOA) for the Draft EA and Draft Finding of No Significant Impact (FONSI)/Finding of No Practicable Alternative (FONPA) was published in the *Valdosta Daily Times* on February 12, 2016 announcing that these materials were made available to the public for a 30-day review period. The NOA briefly described the Proposed Action, solicited public comments on the Draft EA, provided dates of the 30-day public comment period, and announced that the EA would be available for review electronically and at public libraries. Copies of the Draft EA and Draft FONSI were made available to individuals and agencies listed in Chapter 8 of the EA as well as at the Valdosta Lowndes County Library for a 30-day review and comment period (February 13 to March 13). Comments were reviewed and addressed, when applicable. Agency comments received are attached in Appendix A.

1.6 DECISION TO BE MADE

The purpose of this EA is to provide information for interrelated decisions concerning the purchase of privately-owned land located immediately adjacent to the southwestern boundary of Moody AFB. Additionally, this EA provides the decision-maker and the public with the information required to understand the potential environmental consequences of implementing multiple projects on the property. After considering the environmental information presented in the EA, the Air Force will decide if the environmental consequences resulting from the Proposed Action and alternatives support a FONSI/FONPA. The Air Force will also decide whether or not to implement the projects after considering this EA and other pertinent documents and information.

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2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

2.1 INTRODUCTION

This chapter describes the Proposed Action and alternatives for the purchase of privately-owned land located immediately adjacent to the southwestern boundary of Moody AFB, and the implementation of multiple projects on the property. Section 2.2 describes the Proposed Action; Section 2.3 identifies alternatives to the Proposed Action; Section 2.4 discusses the No-Action Alternative; Section 2.5 discusses alternatives considered but eliminated from further consideration; and Section 2.6 discusses other future actions in the region. The potential environmental impacts of the Proposed Action and alternative are summarized in Table 2-1 at the end of this chapter.

2.2 PROPOSED ACTION

The Proposed Action involves the purchase of two parcels of privately-owned land totaling 106.10 acres located immediately adjacent to the southwestern boundary of the base. Parcel 0181 025D is 93.48 acres in size; Parcel 0181 025C is 12.61 acres in size (Figure 2-1). There are no structures or infrastructure improvements on the property, which consists of vacant woodlands. The proposed land purchase will facilitate multiple projects to allow the removal of three airfield waivers issued by Headquarters ACC for violating airfield obstruction clearance requirements; reduce third party liability from an off-installation groundwater contamination plume; and enhance encroachment management with the addition of restricted wetlands that prevent land development near the base boundary. Activities that would occur include relocation of the installation perimeter fence line and the airfield security fence; realignment of Burma Road; clearing of trees; and continued monitoring of remedial actions.

2.3 ALTERNATIVES TO THE PROPOSED ACTION

2.3.1 Selection Standards

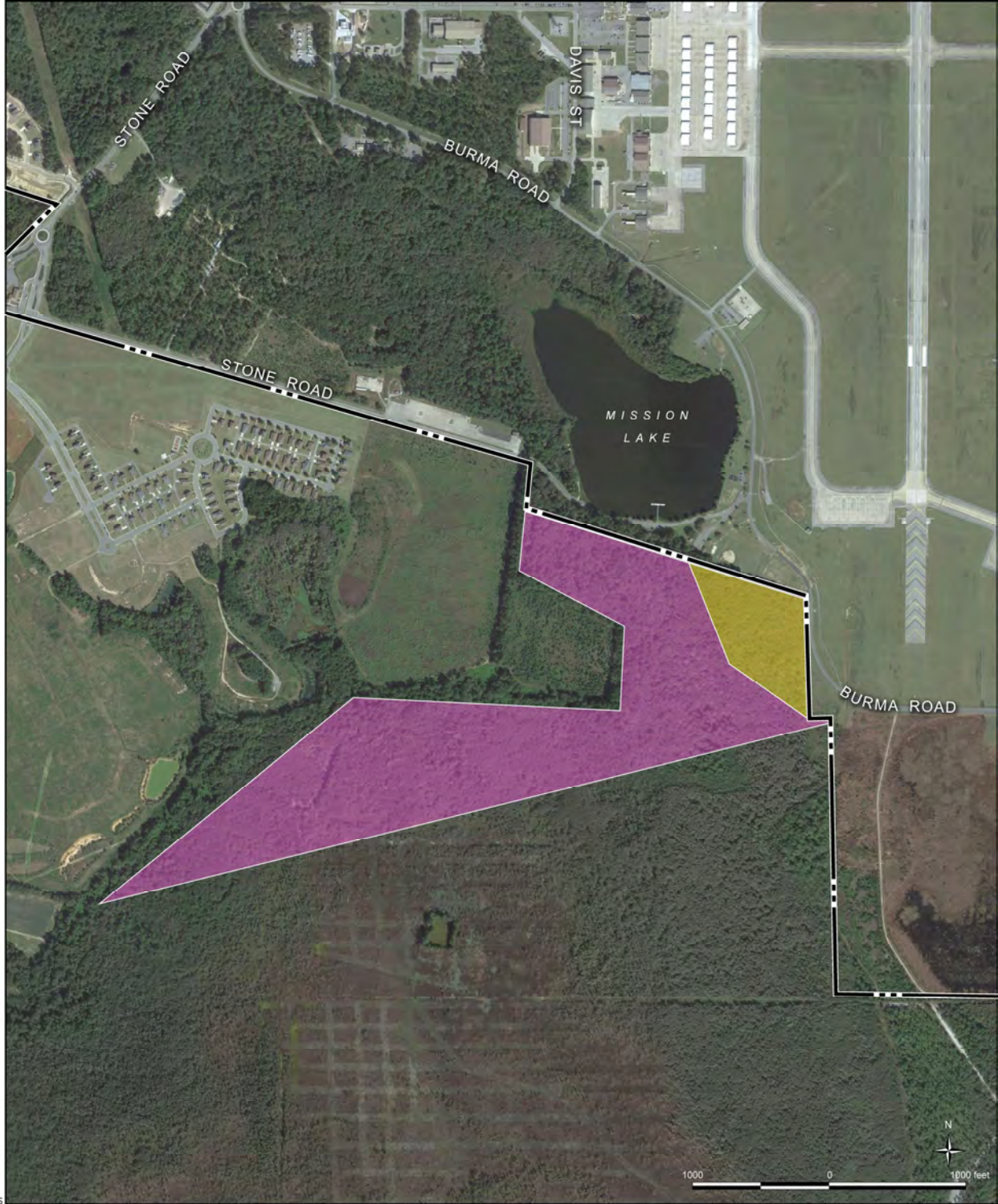
The proposed projects have undergone an intensive review by Civil Engineer Planning and Installation Management staff. The best operational and engineering solutions were identified based on the following selection standards:

- Maximize removal of the three previously stated temporary airfield waivers for trees, airfield fence, and Burma Road
- Be compatible for weapons trailer transit to the flight line from the weapons storage area (e.g., distance of transit, public safety, turn radius of vehicle, etc.)
- Minimize 3rd party liability from Moody AFB contaminated ground water on off-base land.

2.3.2 Alternative 1

Under this alternative, 106.10 acres of privately-owned land located immediately adjacent to the southwestern boundary of the base would be purchased and several projects would be implemented to eliminate existing airfield waivers. This alternative would be initiated if the project is implemented after ERP Site LF-01 is closed by the state (estimated to occur on or before the year 2020). This alternative would minimize impacts to wetlands (approximately 1.75 acres), remove the waivers for the graded portion of the Clear Zone violation,

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MOODY AFB SWLP EBS007

LEGEND

- Parcel 0181 025D (93.48 acres)
- Parcel 0181 025C (12.61 acres)
- Base Boundary

**Southwest Land Purchase
Property
Figure 2-1**

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and provide adequate radius for weapons trailers, which are a primary user of the road. This alternative is only a practicable alternative after ERP Site LF-01 is closed. Construction activities are anticipated to occur over a six-month period.

Relocation of the Perimeter Fence and Airfield Security Fence. The installation's perimeter fence and airfield security fence currently traverse the graded portion of the Runway 36L/18R southern Clear Zone violating DoD requirements for airfield management.

Perimeter Fence. Approximately 1,300 linear feet (LF) of existing perimeter fencing would be removed and 1,400 LF of new fencing would be installed to secure the installation. The new perimeter fence line would coincide with the realigned Burma Road, approximately 20 feet from the paved roadway surface (Figure 2-2). The new fence would be approximately 6 feet in height consisting of chain-link fencing with three strands of barb wire along the top and support posts placed approximately 20 feet apart. A 10-foot clearance on each side of the fence would be provided to allow access for perimeter security patrols.

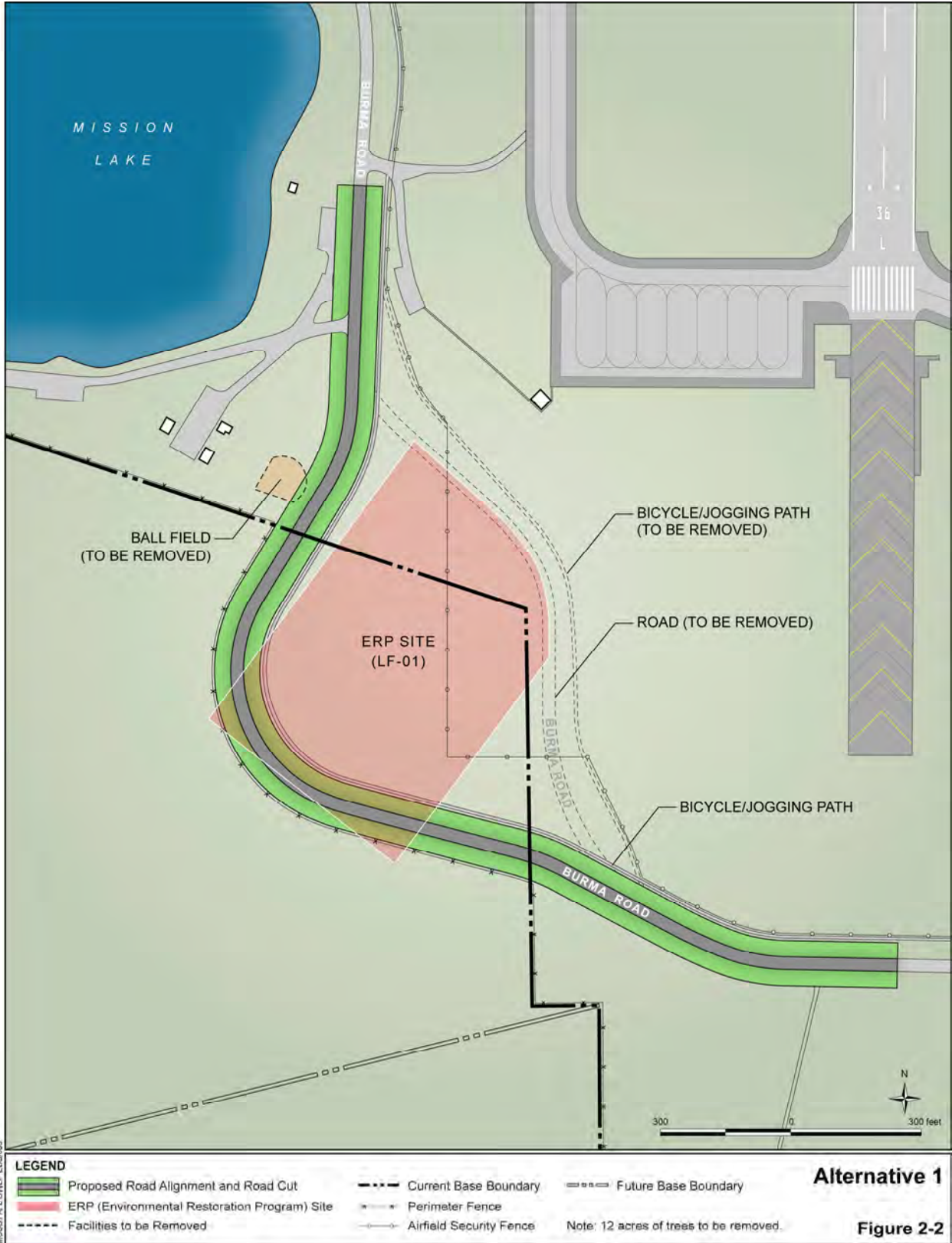
Airfield Security Fence. Approximately 850 LF of existing airfield security fencing would be removed and 1,000 LF of new fencing would be installed to secure the graded portion of the southern Clear Zone of Runway 36L/18R (see Figure 2-2). The new fence would be approximately 6 feet in height consisting of chain-link fencing with three strands of barb wire along the top and support posts placed approximately 20 feet apart. The new fence line would be installed through the closed ERP Site LF-01 area.

Realignment of Burma Road. Burma Road currently passes through the graded portion of the Runway 36L/18R southern Clear Zone violating DoD requirements specified in UFC 3-260-01 *Airfield and Heliport Planning and Design* for airfield management. Approximately 3,100 LF of new pavement would be installed to realign Burma Road and the bicycle/jogging path to be outside of the graded portion of the Clear Zone (see Figure 2-2). The Burma Road and bicycle/jogging path realignment would pass through the ERP Site LF-01 area (once the site is closed). Additionally, the existing softball field in the area would be removed (including the backstop, fencing, and portable bleachers) to allow construction of the road realignment; replacement of the softball field would not occur. The realigned Burma Road would be a 2-lane, 24 foot wide asphalt paved surface (undivided, one lane in each direction) with 6 foot unpaved shoulders. The bicycle/ jogging path would be an 8 foot wide asphalt paved surface. The total distance of road cut would be 50 feet on centerline on each side of the road (100 feet total). Approximately 99,000 square feet (SF) of pavement would be installed to realign Burma Road and the bicycle/jogging path.

After Burma Road has been realigned, approximately 2,100 LF of the old Burma Road and 1,600 LF of an associated paved bicycle/jogging path that passes through the graded portion of the Clear Zone would be removed. Approximately 63,200 SF of pavement would be removed from the base to an asphalt/concrete recycling facility and stockpiled for future use in the region. Ground disturbed during construction activities that does not include site improvements would be reseeded with appropriate species as specified in the Moody AFB Integrated Natural Resources Management Plan (INRMP).

Clearing of Trees. Approximately 12 acres of trees on the Southwest Land Purchase Property and on DNR property would be cleared to ensure Moody AFB airfield clearance criteria are maintained (see Figure 2-2). Clearing of trees would involve cutting the trees and leaving the stumps.

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Continued Monitoring of Remedial Actions. This alternative would be initiated if the project is implemented after ERP Site LF-01 is closed by the state (estimated to occur on or before the year 2020) (see Figure 2-2). Monitoring wells, injection wells, and treatment utilities that are in place on Moody AFB and on the Southwest Land Purchase Property would be removed. 23 CES would no longer be required to monitor remediation efforts for ERP Site LF-01.

2.3.3 Alternative 2

Under this alternative, 106.10 acres of privately-owned land located immediately adjacent to the southwestern boundary of the base would be purchased and several projects would be implemented to eliminate existing airfield waivers. This alternative would be initiated if the project is implemented before ERP Site LF-01 is closed by the state (estimated to occur on or before the year 2020). This alternative would remove the waivers for the graded portion of the Clear Zone violation and provide adequate radius for weapons trailers, which are a primary user of the road; however, because the Burma Road realignment would be routed around the active ERP Site, additional wetlands (approximately 6.10 acres) would be impacted. Construction activities are anticipated to occur over a six-month period.

Relocation of the Perimeter Fence and Airfield Security Fence. The installation's perimeter fence and airfield security fence currently traverse the graded portion of the Runway 36L/18R southern Clear Zone violating DoD requirements for airfield management.

Perimeter Fence. Approximately 1,300 LF of existing perimeter fencing would be removed and 1,500 LF of new fencing would be installed to secure the installation. The new perimeter fence line would coincide with the realigned Burma Road, approximately 20 feet from the outside curve of the paved roadway surface (Figure 2-3). The new fence would be approximately 6 feet in height consisting of chain-link fencing with three strands of barb wire along the top and support posts placed approximately 20 feet apart. A 10-foot clearance on each side of the fence would be provided to allow access for perimeter security patrols. The new fence line would avoid existing monitoring wells in the area.

Airfield Security Fence. Approximately 1,600 LF of existing airfield security fencing would be removed and 3,100 LF of new fencing would be installed to secure the graded portion of the southern Clear Zone of Runway 36L/18R (see Figure 2-3). The new fence would be approximately 6 feet in height consisting of chain-link fencing with three strands of barb wire along the top and support posts placed approximately 20 feet apart. The new fence line would coincide with the realigned Burma Road, approximately 20 feet from the inside curve of the paved roadway surface. The new fence line would avoid existing monitoring wells in the area.

Realignment of Burma Road. Burma Road currently passes through the graded portion of the Runway 36L/18R southern Clear Zone violating DoD requirements for airfield management. Approximately 3,400 LF of new pavement would be installed to realign Burma Road and the bicycle/jogging path to be outside of the graded portion of the Clear Zone and to avoid ERP Site LF-01 (see Figure 2-3). The Burma Road and bicycle/jogging path realignment would avoid existing monitoring wells, injection wells, and treatment utilities that are in place on Moody AFB and on the Southwest Land Purchase Property. Additionally, the existing softball field in the area would be removed (including the backstop, fencing, and portable bleachers) to allow construction of the road realignment; replacement of the softball field would not occur. The realigned Burma Road would be a 2-lane, 24 foot wide asphalt paved surface (undivided, one lane in each direction) with 6 foot unpaved shoulders. The bicycle/jogging path would be an 8 foot wide asphalt paved surface. The total distance of road cut would be 50 feet on centerline on each side of the road (100 feet total). Approximately 108,800 SF of pavement would be installed to realign Burma Road and bicycle/jogging path.

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After Burma Road has been realigned, approximately 2,100 LF of the old Burma Road and 1,600 LF of an associated paved bicycle/jogging path that passes through the graded portion of the Clear Zone would be removed. Approximately 63,200 SF of pavement would be removed from the base and stockpiled for future use. Ground disturbed during construction activities that does not include site improvements would be reseeded with appropriate species as specified in the Moody AFB INRMP (Moody AFB, 2013a).

Clearing of Trees. Approximately 20 acres of trees on the Southwest Land Purchase Property would be cleared to ensure Moody AFB airfield clearance criteria are maintained (see Figure 2-3). Clearing of trees would involve cutting the trees and leaving the stumps.

Continued Monitoring of Remedial Actions. A former landfill site and associated area of groundwater contamination is located within the Runway 36L/18R southern Clear Zone with the groundwater plume migrating beneath the Southwest Land Purchase Property (see Figure 2-3). 23 CES would continue to monitor ERP remediation efforts; as well as maintain monitoring wells and treatment utilities that are in place on Moody AFB and on the Southwest Land Purchase Property. Site remediation is anticipated to be completed in fiscal year 2020.

2.4 NO-ACTION ALTERNATIVE

CEQ regulations require consideration of the No-Action Alternative. The No-Action Alternative serves as a baseline against which the impacts of the Proposed Action can be compared.

Under the No-Action Alternative, the Air Force would not purchase the property and would continue to operate in accordance with temporary airfield waivers. The Air Force would continue to be responsible for maintaining monitoring wells and associated treatment utilities for on-going remedial actions on the off-base property. This alternative is not viable due to the requirement for the base civil engineer to develop a MILCON program or other project to correct non-permanent waivers to comply with UFC 3-260-01. However, in accordance with NEPA, this alternative will be evaluated as it provides a baseline for EA analysis.

2.5 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER CONSIDERATION

The Air Force has considered reasonable alternatives to the Proposed Action; however, only those alternatives that are able to fulfill the purpose and need for the Proposed Action warrant detailed analysis. Based on the purpose and need and the selection standards, three alternatives were considered but eliminated from detailed analysis. These alternatives include:

Limited Acquisition Alternative. This alternative would involve obtaining only the 12 acre parcel of land needed to meet the purpose and need. However, if only 12 acres were purchased, it would leave the landowner with a 93-acre tract of land with no access. The land to the west is privatized housing, the land to the south is owned by Georgia DNR, and the land to the north and east is Moody AFB property. Therefore, the land owner was not willing to sell only the 12-acre parcel and this alternative was eliminated from further consideration.

Leased Land Alternative. This alternative would involve obtaining a lease for the 12 acre parcel of land needed to meet the purpose and need. However, the land owner that approached the Air Force to sell the property had no interest in retaining the property as the owner would continue to be responsible for paying taxes on property that could not be developed for beneficial use and would not be able to receive adequate compensation to cover his tax liability. Additionally, 32 CFR 644.141 (f) *Alterations and Construction on Leased Real Property* specifies that if permanent construction is to be placed on land,

the Government must have fee title or acquire title to the land or a permanent easement must be secured. Because the land owner was not willing to lease only the 12-acre parcel and constructing permanent facilities on leased land is prohibitive, this alternative was eliminated from further consideration.

Close Burma Road Alternative. This alternative would involve closing Burma Road to eliminate the graded portion of the Clear Zone violation. However, this alternative would not meet the need of maintaining a compatible route for the delivery of weapons to the flight line from the munitions storage area. Additionally, this alternative would not completely eliminate the graded portion of the Clear Zone violation as the installation perimeter fence and airfield security fence intrusion would still exist; therefore, this alternative was eliminated from consideration.

2.6 OTHER FUTURE ACTIONS IN THE REGION

Cumulative impacts result from “the incremental impact of actions when added to other past, present, and reasonably foreseeable future actions regardless of what agency undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (Council on Environmental Quality, 1978).

Based on a review of regional developments, one other recently completed or future actions in the vicinity of the Southwest Land Purchase Property adjacent to Moody AFB was identified that could contribute to cumulative impacts. The Air Force intends to install a natural gas line within the same utility alignment as the existing electrical and sewer alignment that runs through the graded portion of the Clear Zone. Because the location of the project is remote, no off-base developments have been identified in the vicinity of the Southwest Land Purchase Property that could contribute to cumulative impacts.

2.7 COMPARISON OF ENVIRONMENTAL IMPACTS

Table 2-1 presents a comparative analysis of the alternatives for each resource (i.e., land use/aesthetics, ERP sites, geology and soils, water resources, air quality, biological resources, and cultural resources) evaluated in this EA. A detailed discussion of potential effects is presented in Chapter 4.0, Environmental Consequences. The alternatives are not anticipated to have a significant impact on the environment.

Table 2-1. Summary of Influencing Factors and Environmental Impacts
Page 1 of 5

Resource	Alternative 1	Alternative 2	No-Action Alternative
Land Use/Aesthetics	<p>Impacts</p> <ul style="list-style-type: none"> • Road realignment would result in a reduction in recreational land use • Use of the area as a roadway would be compatible with adjacent land uses • Road realignment and relocation of the fence lines would result in a beneficial impact to the airfield land use • No significant change in the appearance of the property <p>Mitigation Measures</p> <ul style="list-style-type: none"> • None 	<p>Impacts</p> <ul style="list-style-type: none"> • Potential impacts would be similar to those described under Alternative 1 <p>Mitigation Measures</p> <ul style="list-style-type: none"> • None 	<p>Impacts</p> <ul style="list-style-type: none"> • Proposed land acquisition and construction activities would not occur • No change to land use or aesthetics of the base <p>Mitigation Measures</p> <ul style="list-style-type: none"> • None
ERP Sites	<p>Impacts</p> <ul style="list-style-type: none"> • No impact to ERP Site LF-01 as the site would be closed <p>Mitigation Measures</p> <ul style="list-style-type: none"> • None 	<p>Impacts</p> <ul style="list-style-type: none"> • Proposed activities would avoid existing ERP Site LF-01 infrastructure • ERP activities would continue until site closure is achieved <p>Mitigation Measures</p> <ul style="list-style-type: none"> • None 	<p>Impacts</p> <ul style="list-style-type: none"> • Proposed land acquisition and construction activities would not occur • ERP activities would continue till site closure is achieved <p>Mitigation Measures</p> <ul style="list-style-type: none"> • None

Table 2-1. Summary of Influencing Factors and Environmental Impacts
Page 2 of 5

Resource	Alternative 1	Alternative 2	No-Action Alternative
Geology and Soils	<p>Impacts</p> <ul style="list-style-type: none"> • Short-term impacts would occur as a result of ground disturbance associated with construction activities • Compliance with NPDES General Permit and associated SWPPP requirements would reduce the potential for erosion effects • Once construction activities are complete, disturbed areas would be covered with pavement or reseeded to reduce erosion potential <p>Mitigation Measures</p> <ul style="list-style-type: none"> • None 	<p>Impacts</p> <ul style="list-style-type: none"> • Potential impacts would be similar to those described under Alternative 1 <p>Mitigation Measures</p> <ul style="list-style-type: none"> • None 	<p>Impacts</p> <ul style="list-style-type: none"> • Proposed land acquisition and construction activities would not occur <p>Mitigation Measures</p> <ul style="list-style-type: none"> • None
Water Resources	<p>Impacts</p> <ul style="list-style-type: none"> • Temporary impacts to surface water drainage patterns may occur during construction activities • Construction activities would comply with NPDES General Permit and associated SWPPP requirements to reduce the potential for impacts to surface water • Measures identified as part of the Section 404 permit would be implemented to minimize impacts to wetlands <p>Mitigation Measures</p> <ul style="list-style-type: none"> • None 	<p>Impacts</p> <ul style="list-style-type: none"> • Potential impacts would be similar to those described under Alternative 1 <p>Mitigation Measures</p> <ul style="list-style-type: none"> • None 	<p>Impacts</p> <ul style="list-style-type: none"> • Proposed land acquisition and construction activities would not occur <p>Mitigation Measures</p> <ul style="list-style-type: none"> • None

Table 2-1. Summary of Influencing Factors and Environmental Impacts
Page 3 of 5

Resource	Alternative 1	Alternative 2	No-Action Alternative
Air Quality	<p>Impacts</p> <ul style="list-style-type: none"> • Construction activities would result in short-term air quality impacts • Standard construction practices would be used to reduce emissions of dust and particulate matter • Emissions would not hinder maintenance of the NAAQS <p>Mitigation Measures</p> <ul style="list-style-type: none"> • None 	<p>Impacts</p> <ul style="list-style-type: none"> • Potential impacts would be similar to those described under Alternative 1 <p>Mitigation Measures</p> <ul style="list-style-type: none"> • None 	<p>Impacts</p> <ul style="list-style-type: none"> • Proposed land acquisition and construction activities would not occur <p>Mitigation Measures</p> <ul style="list-style-type: none"> • None

Table 2-1. Summary of Influencing Factors and Environmental Impacts
Page 4 of 5

Resource	Alternative 1	Alternative 2	No-Action Alternative
Biological Resources	<p>Impacts</p> <ul style="list-style-type: none"> • Construction activities would cause short-term impacts to wildlife • Most species near the site are disturbance-tolerant • Federally-listed threatened and endangered species have not been identified at the site • As necessary, conservation measures focusing on avoidance and minimization of impacts to breeding, wintering, and migratory birds would be implemented during construction activities • Measures identified as part of the Section 404 Permit would be implemented to minimize impacts to wetlands • Approximately 1.75 acres of wetlands would be impacted from road realignment activities <p>Mitigation Measures</p> <ul style="list-style-type: none"> • Mitigation credits would be purchased to offset the loss of wetlands 	<p>Impacts</p> <ul style="list-style-type: none"> • Construction activities would cause short-term impacts to wildlife • Most species near the site are disturbance-tolerant • Federally-listed threatened and endangered species have not been identified at the site • As necessary, conservation measures focusing on avoidance and minimization of impacts to breeding, wintering, and migratory birds would be implemented during construction activities • Measures identified as part of the Section 404 Permit would be implemented to minimize impacts to wetlands • Approximately 6.1 acres of wetlands would be impacted from road realignment activities <p>Mitigation Measures</p> <ul style="list-style-type: none"> • Mitigation credits would be purchased to offset the loss of wetlands 	<p>Impacts</p> <ul style="list-style-type: none"> • Proposed land acquisition and construction activities would not occur <p>Mitigation Measures</p> <ul style="list-style-type: none"> • None

Table 2-1. Summary of Influencing Factors and Environmental Impacts
Page 5 of 5

Cultural Resources	Impacts	Impacts	Impacts
	<ul style="list-style-type: none"> • No significant impact to prehistoric or historic archaeological resources as no National Register-eligible sites have been identified • The structure on Moody AFB considered eligible for listing in the National Register would not be affected by construction activities • No traditional cultural resources, sacred areas, or traditional use areas have been identified <p>Mitigation Measures</p> <ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Potential impacts would be similar to those described under Alternative 1 <p>Mitigation Measures</p> <ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Proposed land acquisition and construction activities would not occur <p>Mitigation Measures</p> <ul style="list-style-type: none"> • None

AFB	=	Air Force Base
ERP	=	Environmental Restoration Program
NAAQS	=	National Ambient Air Quality Standards
NPDES	=	National Pollutant Discharge Elimination System
National Register	=	National Register of Historic Places
SWPPP	=	Storm Water Pollution Prevention Plan

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3.0 AFFECTED ENVIRONMENT

3.1 INTRODUCTION

This chapter describes the existing environmental conditions at the project site on the southern portion of Moody AFB including the Southwest Land Purchase Property. It provides information to serve as a baseline from which to identify and evaluate environmental changes associated with implementation of proposed projects to remove three airfield waivers at Moody AFB. The environmental components addressed include relevant natural or human environments likely to be affected by the Proposed Action and alternatives.

Based on the nature of the activities that would occur under the Proposed Action and alternatives, it was determined that the potential exists for the following resources to be affected or to create environmental effects: land use/aesthetics, ERP sites, geology and soils, water resources, air quality, biological resources, and cultural resources.

The region of influence (ROI) to be studied will be defined for each resource area affected by the proposed projects. The ROI determines the geographical area to be addressed as the Affected Environment. Although the southern portion of Moody AFB including the Southwest Land Purchase Property may constitute the ROI limit for some resources, potential impacts associated with certain issues (e.g., air quality) transcend these limits.

3.2 PROJECT SETTING

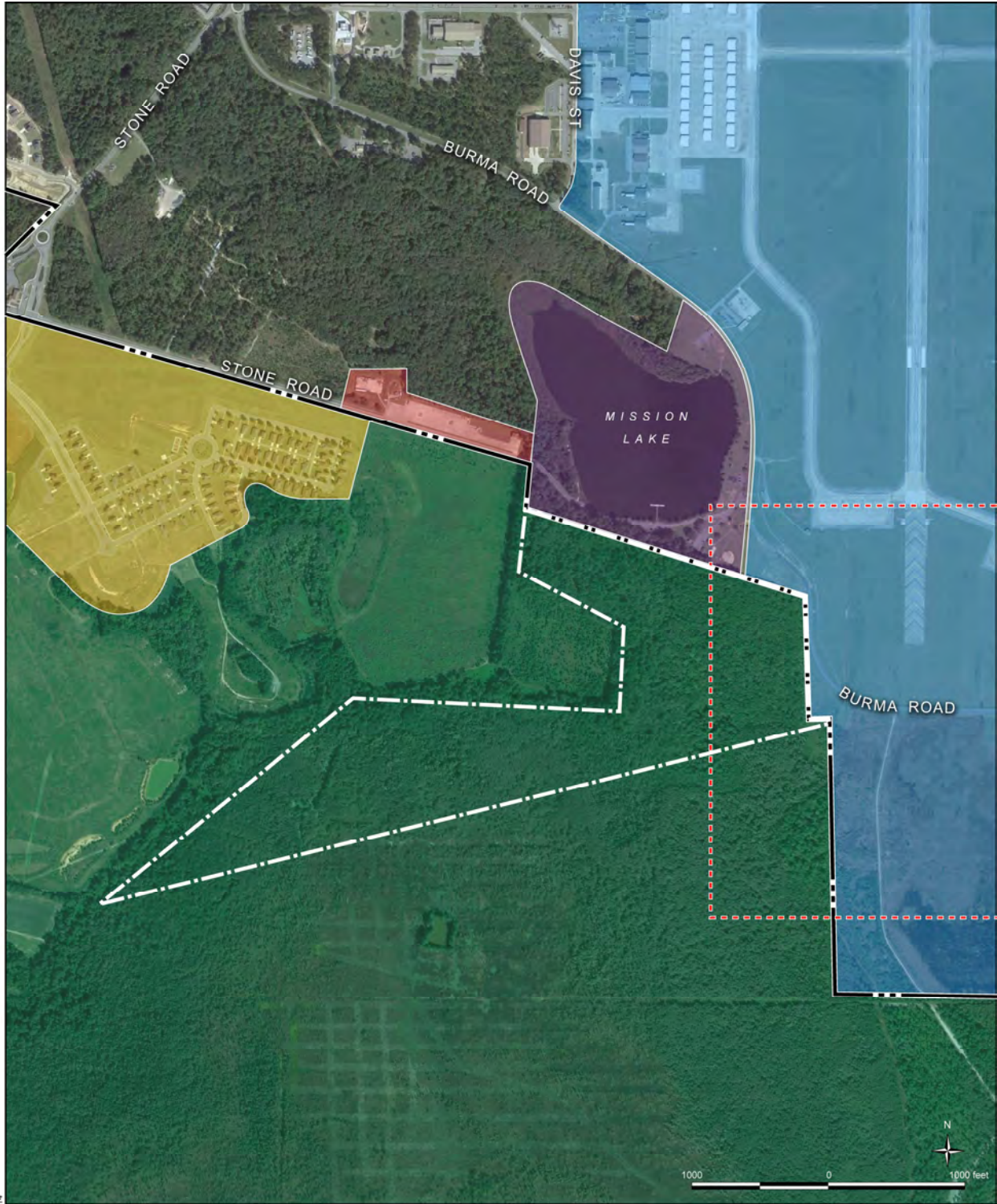
3.2.1 Land Use/Aesthetics

The ROI for land use and aesthetics includes the southern portion of Moody AFB including the Southwest Land Purchase Property and surrounding areas.

On-base Land Use. The project area in the southern portion of Moody AFB consists of the Runway 36L/18R southern Clear Zone (airfield land use) and recreational use. The Clear Zone is a 3,000 foot wide by 3,000 foot long area at the end of the runway that has the highest accident potential during aircraft arrival and departure. Currently, within the Runway 36L/18R southern Clear Zone, the area is graded mowed grass with navigational aids. Burma Road and a jogging/bicycle path pass through the Clear Zone. West of the Clear Zone are recreational facilities including a softball field, volleyball court, play ground, Mission Lake, and associated facilities such as vehicle parking lots and rest rooms (Figure 3-1).

Southwest Land Purchase Property. Land use within the Southwest Land Purchase Property consists of vacant land that is forested. No structures are situated on the property.

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MOODY AFB SWLP EBS014

LEGEND

- | | | |
|----------------------------------|-------------------|---------------|
| Southwest Land Purchase Property | Residential | Clear Zone |
| Airfield | Vacant/Open Space | Base Boundary |
| Recreational | Industrial | |

Land Use

Figure 3-1

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Off-Base Land Use. Off-base land to the south and west of the project site primarily include vacant/open space (woodlands and wetlands). The vast area south of Moody AFB is the Grand Bay Wildlife Management Area managed by the Georgia DNR. To the west of Moody AFB and the Southwest Land Purchase Property are vacant woodlands/open space and a residential area. A small area of industrial land use (material loading area) is situated west of Mission Lake (see Figure 3-1).

Aesthetics. Visual resources include natural and man-made features that give a particular environment its aesthetic qualities. Criteria used in the analysis of these resources include visual sensitivity, which is the degree of public interest in a visual resource and concern over adverse changes in its quality. Visual sensitivity is characterized in terms of high, medium, and low levels.

High visual sensitivity exists in areas where views are rare, unique, or in other ways special, such as in a remote pristine environment. High-sensitivity views would include landscapes that have landforms, vegetative patterns, water bodies, or rock formations of unusual or outstanding quality.

Medium visual sensitivity is characteristic of areas where human influence and modern civilization are evident and the presence of motorized vehicles is commonplace. These landscapes generally have features containing varieties in form, line, color, and texture, but tend to be more common than high visual sensitivity areas.

Low visual sensitivity areas tend to have minimal landscape features with little change in form, line, color, and texture.

The area south of Moody AFB is relatively flat with vast areas of wetlands (open space) dominating the landscape. Generally, the area visible from the base is characterized by a low visual sensitivity.

A mixture of open space and military facilities dominates the visual environment in the southern portion of Moody AFB. Within the base, areas are landscaped and maintained and is considered to have a medium visual sensitivity.

3.3 HAZARDOUS MATERIALS AND HAZARDOUS WASTE MANAGEMENT

The ROI for hazardous materials and hazardous waste management includes the southern portion of Moody AFB including the Southwest Land Purchase Property. ERP sites are discussed in this section.

3.3.1 Environmental Restoration Program Sites

The ERP was established to identify, characterize, and remediate CERCLA-related contamination on Air Force installations. The program is designed to evaluate past disposal sites, control the migration of contaminants, and control potential hazards to human health and the environment.

The ERP has been established as the mechanism for the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. Section 9601) process, incorporating applicable Resource Conservation and Recovery Act (RCRA) and State regulations, as well as meeting requirements of the National Oil and Hazardous Substance Pollution Contingency Plan (40 CFR Part 300). To ensure compliance with CERCLA regulations, the ERP was implemented to identify potentially contaminated sites, investigate those sites, and evaluate and select remedial actions.

The Burma Road Landfill (ERP Site LF-01) on Moody AFB covers approximately 1.5 acres and is located in an open grass field approximately 800 feet southeast of Mission Lake and 75 feet north of the Southwest Land Purchase Property (Figure 3-2). The landfill was operated from 1941 to 1946 and from 1951 to 1953 using the cut and fill method. Known material disposed of in the landfill included garbage, paper, lumber, petroleum, contaminated soils, and metal. The landfill material and associated soils were removed from the site in 2014. No soil contamination exists at the site (Moody AFB, 2016b).

The Moody AFB ERP has delineated groundwater contamination both horizontally and vertically at ERP Site LF-01. Contaminants in the groundwater plume include Benzene, 1,2-Dichloroethane, and Naphthalene extending approximately 400 feet south of the base boundary. The depth of contamination is at approximately 20 to 50 feet below ground surface and does not impact the drinking water aquifer. Currently, there are 8 monitoring wells located at ERP Site LF-01 on Moody AFB and an additional 20 monitoring wells located on the Southwest Land Purchase Property. Groundwater samples have been collected during various investigations dating from 1990, and groundwater samples have been collected on a semi-annual basis since October 2001. The latest sampling event was conducted in September 2015. Remedial activities have been ongoing at the site since 2004 to address the groundwater plume. Currently, an air sparge system is operating on the site and is located on Moody AFB property. This system includes 32 injection wells, of which 26 are located off-base on the Southwest Land Purchase Property, as well as piping from the air sparge system to the injection wells (Moody AFB, 2016b).

3.4 NATURAL ENVIRONMENT

This section describes the affected environment for natural resources: geology and soils, water resources, air quality, biological resources, and cultural resources.

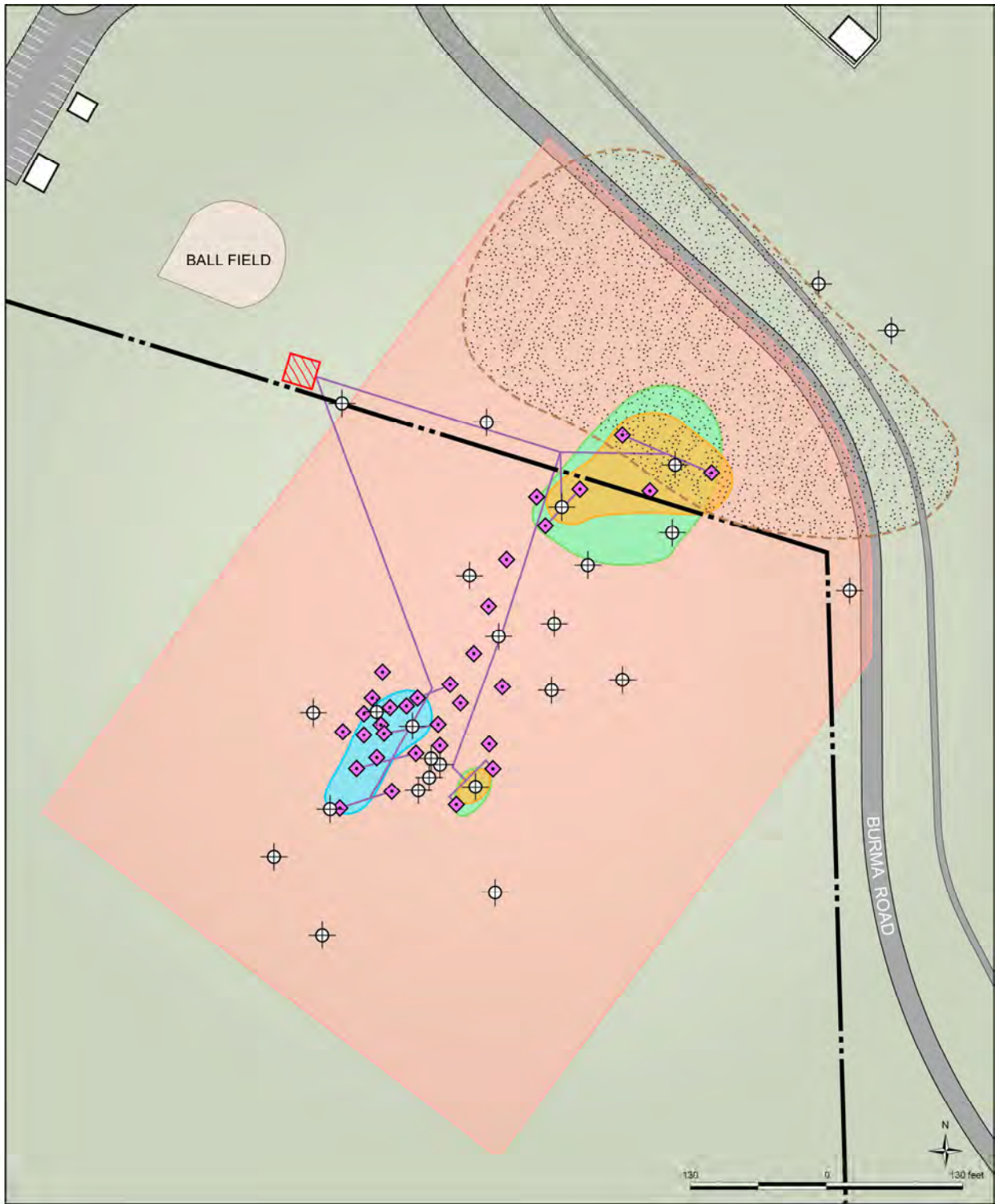
3.4.1 Geology and Soils

The discussion of geology and soils covers features of the physical environment that may be affected by, or have an impact upon, the proposed activities; these include topography, physiography, seismicity, and soils (types and properties). Although the discussion of geology includes the regional discussion needed to understand this setting, the ROI is considered to be localized and limited to the proposed construction area.

3.4.1.1 Geology.

Topography. The area around Moody AFB is characterized by flat to sloping plateaus separated by shallow river valleys, broad wet depressions, and karst topography. The ground surface elevation at the Southwest Land Purchase Property is flat with elevations being approximately 200 feet above mean sea level with a slight slope, downward, to the south (Moody AFB, 2013a, U.S. Geological Survey, 2014a).

Geology. The underlying geology consists of the Miocene Hawthorn Formation that overlies the Miocene Tampa Formation. The Hawthorn Formation averages 150 feet in thickness and is phosphatic in composition. The Tampa Formation is composed of limestone that can be seen in outcrops along the Withlacoochee River. Lowndes County is a karst region, having abundant sinkholes and sinkhole lakes that have formed where the aquifer crops out and the overlying confining unit has been removed by erosion. These are a result of groundwater dissolving the high calcium carbonate content of the underlying limestone formations (Moody AFB, 2015c, Stringfield, 1966).



MOODY AFB SWMLP0106

LEGEND

- ERP Site LF-01
- Former Landfill
- Groundwater Monitoring Wells
- Biosparge Wells
- Biosparge System
- Biosparge Distribution Piping
- 1,2-Dichloroethane Concentration (>5 µg/L)
- Benzene Concentration (>5 µg/L)
- Naphthalene Concentration (>0.17 µg/L)
- Base Boundary

ERP Site LF-01

Figure 3-2

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Physiography. The southern portion of Moody AFB including the Southwest Land Purchase Property is located within the Tifton Upland of the Lower Coastal Plain. Moody AFB is located on a plateau between the Withlacoochee River on the west and the Alapaha River on the east. The predominant landform on about 80% of this area consists of moderately dissected, irregular plains of marine origin formed by deposition of continental sediments onto the submerged shallow continental shelf, which was later exposed when the sea receded from this area. There is a moderate density of small to medium perennial streams and associated rivers; this dendritic drainage pattern has developed on this moderately dissected plain, largely without bedrock structural control because of the preponderance of undifferentiated sediments (Moody AFB, 2013a).

Seismicity. Seismic hazards are not known to exist in the vicinity of Moody AFB and the area falls within seismic zone 0 (0 ground acceleration predicted) (U.S. Geological Survey, 2014b); therefore, there is a low risk of major damage from mass ground movement or seismic activity. However, Lowndes County is a Karst region having abundant sinkholes and sinkhole lakes. No sinkhole conditions have been identified on the southern portion of Moody AFB or on the Southwest Land Purchase Property.

3.4.1.2 Soils.

In general, soils on uplands in this region were formed in deep sedimentary sands and clays. Alluvial soils near streams and tributaries generally originated from material eroded from the uplands. Based on the U.S. Department of Agriculture, Natural Resources Conservation Service soil survey of Lowndes County, the predominant soil types within the ROI are bayboro loam, leefield loamy sand, olustee sand, and Pelham loamy sand (U.S. Department of Agriculture, 1979 and Natural Resources Conservation Service, 2016).

Bayboro Loam consists of deep, very poorly drained, slowly permeable soil that formed in clayey fluvial or marine deposits. This soil is typically in depressions. It has slight erosion hazards and severe building limitations.

Leefield Loamy Sand consists of somewhat poorly drained soils. These soils have moderate permeability in the upper part of the subsoil and moderately slow permeability in the lower part. They formed in thick beds of loamy and sandy marine deposits. This soil type is on low uplands. It has slight erosion hazards and moderate to severe building limitations.

Olustee Sand consists of poorly drained soils that are moderately permeable. This soil type formed in thick beds of loamy and sandy marine sediments on low flats of lower coastal plains. It has slight erosion hazards and severe building limitations.

Pelham Loamy Sand consists of deep nearly level, poorly drained, moderately permeable soils that formed in unconsolidated sandy and loamy marine sediments. Pelham soils are on broad flats and in depressions and drainage ways. It has slight erosion hazards and severe building limitations.

3.4.2 Water Resources

The water resource evaluation includes both surface water features (lakes, streams, rivers, etc.) and groundwater. The ROI for water resources includes the southern portion of Moody AFB including the Southwest Land Purchase Property, and extends downstream to the primary tributaries.

Surface Water. The southern portion of Moody AFB and the Southwest Land Purchase Property is within the Suwannee River Basin, which discharges to the northeastern Gulf of Mexico. Major drainages

in this basin include the Withlacoochee River to the west and the Alapaha River to the east. A major feature of this basin is the Grand Bay-Banks Lake (GBBL) wetland complex. Exclusive of the Okefenokee Swamp, the GBBL wetland complex is over 13,000 acres and is the largest freshwater lake/swamp system in the coastal plain of Georgia. This complex is composed of several broad Carolina bays (1 to 4 miles across) and shallow lakes, interconnected by cypress-black gum swamp. Water flow through the GBBL wetland complex is generally southeastern and southward (Moody AFB, 2015c).

The only water body present on the southwestern portion of Moody AFB is Mission Lake, encompassing approximately 30 acres. Storm drain outfalls along Burma Road drain into Mission Lake (Moody AFB, 2015b). As the water in Mission Lake reaches its maximum level, it flows into an unnamed creek that passes through the Southwest Land Purchase Property.

Groundwater. Groundwater at the southern portion of Moody AFB and the Southwest Land Purchase Property occurs within two major water-bearing zones, the surficial aquifer system and the Floridan aquifer system. Although groundwater is generally 10 to 20 feet below the ground surface, the main water-bearing formation underlying the area is an artesian aquifer containing naturally high concentrations of sulfate, hydrogen sulfide, and iron. The water quality is attributable to the presence of the sulfate minerals gypsum and celestite in the host rock (Moody AFB, 2015c).

The surficial aquifer is composed of fine to coarse sands, gravels, silt, clayey silts, and clays. Water quality is generally good, and yields are usually less than 50 gallons per minute. The Floridan aquifer is the primary water-bearing unit in the area. Water quality is generally good and yields are plentiful. The Floridan aquifer furnishes almost all of the local water for commercial, industrial, domestic, irrigation, and municipal use. The aquifer is typically encountered at a depth of 150 feet and is usually under artesian conditions (Moody AFB, 2015c).

Floodplains. Information provided by the Federal Emergency Management Agency (FEMA) confirms that the southern portion of Moody AFB and the Southwest Land Purchase Property is not within the 100-year floodplain (FEMA, 2000). The property is located in Zone X of the FEMA flood maps. Zone X represents areas between the limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths of less than 1 foot or where the contributing drainage area is less than 1 square mile; or areas protected by levees from 100-year floods.

Storm Water. Storm water on Moody AFB is discharged by a series of drainage ditches. Five storm drain outfalls occur along Burma Road, with water from these outfalls eventually draining into Mission Lake. As the water in Mission Lake reaches its maximum level, it flows into an unnamed creek that passes through the Southwest Land Purchase Property. A storm water drainage system is not present on the Southwest Land Purchase Property.

3.4.3 Air Quality

The ROI for the air quality analysis includes the existing air shed surrounding Moody AFB.

3.4.3.1 National Ambient Air Quality Standards.

Air quality in any given location is defined by the concentration of various pollutants in the atmosphere, generally expressed in units of parts per million (ppm) or micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). Air quality is determined by the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. The significance of a pollutant concentration is determined by comparing it to federal and/or state ambient air quality standards. The

federal Clean Air Act (CAA), 42 U.S.C. Sections 7401-7671(q) provides that emission sources must comply with the air quality standards and regulations that have been established by federal, state, and county regulatory agencies. These standards and regulations focus on (1) the maximum allowable ambient pollutant concentrations, and (2) the maximum allowable emissions from individual sources.

The U.S. Environmental Protection Agency (EPA) established the federal standards for the permissible levels of certain pollutants in the atmosphere. The National Ambient Air Quality Standards (NAAQS) have been established for six criteria pollutants: ozone, nitrogen dioxide (NO₂), particulate matter equal to or less than 10 microns in aerodynamic diameter (PM₁₀), particulate matter equal to or less than 2.5 microns in aerodynamic diameter (PM_{2.5}), carbon monoxide (CO), sulfur dioxide (SO₂), and lead. Ozone is a secondary pollutant formed in the atmosphere by photochemical reactions of previously emitted pollutants, or precursors. The ozone precursors are nitrogen oxides (NO_x) and volatile organic compounds (VOCs). States may either adopt the NAAQS or establish their own more stringent standards. The State of Georgia has adopted the NAAQS to regulate air pollution levels. The NAAQS and Georgia ambient air quality standards are outlined in Table 3-1.

Areas that meet the NAAQS standard for a criteria pollutant are designated as being “in attainment” while areas where criteria pollutant levels exceed the NAAQS are designated as “nonattainment”. The nonattainment classifications for CO and PM₁₀ are further divided into moderate and serious categories. Ozone nonattainment areas are further classified, based on the severity of the pollution problem, as either basic, marginal, moderate, serious, severe, or extreme. A maintenance area is an area that has recently been re-designated as an attainment area from a former nonattainment area. However, during the maintenance period, most of the CAA rules for a nonattainment area are still applicable to a maintenance area.

3.4.3.2 Existing Air Quality Conditions.

Moody AFB operates under a Synthetic Minor Permit (Permit No. 9711-185-0029-S-02-0), which imposes federally enforceable limits that restrict emissions to maintain a level below major source thresholds. This type of permit establishes practicable enforceable limitations for the operation of boilers/heaters, stationary engines/generators, engine test cells, general chemical use, solvent degreasing, surface coating operations, fuel dispensing/loading, and some miscellaneous activities on Moody AFB. Moody AFB would be categorized as a major source if its potential emissions from stationary sources exceeded 100 tons per year (tpy) of any of the criteria pollutants, or 10 or 25 tpy of any single or combination of HAPs, respectively (Moody AFB, 2014a).

The 2012 stationary source emission inventory for Moody AFB shows that the on-base emission source categories include external and internal combustion sources such as boilers and heaters, various internal combustion engines, engine testing, general chemical use, solvent degreasing, surface coatings, fuel dispensing and loading, and miscellaneous activities (i.e., abrasive blasting, fuel cell maintenance, welding, and woodworking); and fugitive emissions such as firefighter training, prescribed burning, and wastewater treatment. Table 3-2 provides the actual emissions from Moody AFB's Air Emissions Inventory for calendar year 2012 (Moody AFB, 2014a).

The proposed project would occur on the southwestern portion of Moody AFB in Lowndes County, which is currently in attainment of the NAAQS for criteria air pollutants.

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

Pollutant		Primary/Secondary	Averaging Time	Level	State
Carbon Monoxide		Primary	8-hour	9 ppm	Same as Federal
			1-hour	35 ppm	Same as Federal
Lead		Primary and Secondary	Rolling 3- month average	0.15 µg/m ⁽¹⁾	Same as Federal
Nitrogen Dioxide		Primary	1-hour	100 ppb	Same as Federal
		Primary and Secondary	Annual	53 ppb ⁽²⁾	Same as Federal
Ozone		Primary and Secondary	8-hour	0.070 ppm	Same as Federal
Particulate Matter	PM _{2.5}	Primary	Annual	12 µg/m ³⁽³⁾	15 µg/m ³
		Secondary	Annual	15 µg/m ³	Same as Federal
	PM ₁₀	Primary and Secondary	24-hour	35 µg/m ³	Same as Federal
		Primary and Secondary	24-hour	150 µg/m ³	Same as Federal
Sulfur Dioxide		Primary	Annual	None	80 µg/m ³
		Primary	1-hour	75 ppb ⁽⁴⁾	Same as Federal
		Secondary	3-hour	0.5 ppm	1,300 µg/m ³

Notes:

- (1) Final rule signed October 15, 2008. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
- (2) The official level of the annual nitrogen dioxide standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of a clearer comparison to the 1-hour standard.
- (3) Final rule signed January 15, 2013. The primary annual fine particle (PM_{2.5}) standard was lowered from 15 to 12 µg/m³.
- (4) Final rule signed June 2, 2010. The 1971 annual and 24-hour SO₂ standards were revoked in that same rulemaking. However, these standards remain in effect until one year after an area is designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards, where the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standard are approved.

- EPA = Environmental Protection Agency
- µg/m³ = micrograms per cubic meter
- mg/m³ = milligrams per cubic meter
- PM_{2.5} = particulate matter equal to or less than 2.5 microns in diameter
- PM₁₀ = particulate matter equal to or less than 10 microns in diameter
- ppm = parts per million
- ppb = parts per billion

Table 3-2. Moody AFB Emissions Inventory, 2012 (ton/yr)

Emission Source	CO	NO_x	PM₁₀	PM_{2.5}	SO_x	VOCs	HAPs	GHGs
Point Source Emissions								
Aircraft Engine Testing	0.679	0.176	0.197	0.197	2.82	0.020	0.028	102
Abrasive Blasting	--	--	0.000	0.000	--	--	--	--
Natural gas Fired Boilers	1.68	2.00	0.152	0.152	0.012	0.110	0.226	2,415
Storage Tanks	--	--	--	--	--	1.83	0.163	--
Fuel Transfer and Dispensing	--	--	--	--	--	9.6	2.12	--
Internal Combustion Sources (Generators)	1.02	4.74	0.314	0.314	0.337	0.385	0.004	176
General Chemicals	--	--	--	--	--	8.17	2.92	--
Non-Destructive Inspection	--	--	--	--	--	--	--	--
Solvent Degreasing	--	--	--	--	--	0.616	0.256	--
Surface Coating	--	--	0.011	0.011	--	0.269	0.139	--
Welding	--	--	0.001	0.001	--	--	0.000	--
Woodworking	--	--	1.11	1.11	--	--	--	--
Total Annual Actual Point Source Emissions (tpy)	3.38	6.92	1.79	1.79	3.17	21.0	5.86	2,693
Fugitive Emissions								
EOD Bombing	0.333	0.349	11.9	11.9	--	0.045	0.749	--
Equipment Leaks	--	--	--	--	--	0.130	0.001	--
Firefighting Training	0.098	0.356	0.061	0.061	--	0.153	0.004	82.212
Fuel Spill	--	--	--	--	--	0.067	0.001	--
Fuel Cell Maintenance	--	--	--	--	--	0.027	0.002	--
Pesticide and Herbicide Application	--	--	--	--	--	0.264	0.000	--
Prescribed Burning	88.0	2.51	10.7	10.7	--	11.9	0.925	--
Small Arms Firing	0.920	--	--	--	--	--	0.019	--
Water Treatment	--	--	--	--	--	--	--	--
Wastewater Treatment	0.000	0.002	3.68E-04	3.68E-04	0.003	3.58E-04	4.91E-05	--
Heavy Construction Operations	--	--	3.05E+01	3.05E+01	--	--	--	--
Total Annual Actual Fugitive Emissions (tpy)	89.3	3.22	53.18	53.18	0.003	12.6	1.70	82.2
Total Annual Actual Emissions (tpy)	92.7	10.1	55.0	55.0	3.17	33.6	7.56	2,775

Sources: Moody AFB, 2014a.

- = none or negligible

CO = carbon monoxide

GHG = greenhouse gas

HAP = hazardous air pollutant

NO_x = nitrogen oxide

PM₁₀ = particulate matter equal to or less than 10 microns in diameter

PM_{2.5} = particulate matter equal to or less than 2.5 microns in diameter

SO_x = sulfur oxide

VOC = volatile organic compound

Clean Air Act Conformity. Title 40 CFR 51 Part 93, General Conformity, requires federal actions to conform to any State Implementation Plan approved or promulgated under Section 110 of the CAA. An air conformity applicability analysis and possibly a formal air conformity determination are required for federal actions in nonattainment or maintenance areas. The general conformity rule applicability analysis does not apply to the Proposed Action since Moody AFB is located within an area designated as in attainment of criteria pollutants.

Hazardous Air Pollutants. In addition to the criteria pollutants discussed above, non-criteria toxic pollutants, called hazardous air pollutants (HAPs), are also regulated under the CAA. The U.S. EPA has identified a total 188 HAPs that are known or suspected to cause health effects in small doses. HAPs are emitted by a wide range of man-made and naturally occurring sources including combustion mobile and stationary sources. However, unlike the NAAQS for criteria pollutants, federal ambient air quality standards do not exist for non-criteria pollutants.

Greenhouse Gas Emissions. Greenhouse gases (GHGs) are compounds that contribute to the greenhouse effect. The greenhouse effect is a natural phenomenon where gases trap heat within the surface-troposphere (lowest portion of the earth's atmosphere) system, causing heating at the surface of the earth. The primary long-lived GHGs directly emitted by human activities are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).

The heating effect from these gases is considered the probable cause of the global warming observed over the last 50 years (U.S. Environmental Protection Agency, 2009a). Global warming and climate change can affect many aspects of the environment. The U.S. EPA Administrator has recognized potential risks to public health or welfare and signed an endangerment finding regarding GHGs under Section 202(a) of the CAA (U.S. Environmental Protection Agency, 2009b), which finds that the current and projected concentrations of the six key well-mixed GHGs – CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆ - in the atmosphere threaten the public health and welfare of current and future generations. To estimate global warming potential (GWP), all GHGs are expressed relative to a reference gas, CO₂, which is assigned a GWP equal to 1. All six GHGs are multiplied by their GWP and the results are added to calculate the total equivalent emissions of CO₂ (CO₂e). However, the dominant GHG gas emitted is CO₂, mostly from fossil fuel combustion (85.4%). This EA considers CO₂ as the representative greenhouse gas emission.

On August 1, 2016, CEQ released their *Final Guidance for Federal Departments and Agencies on Consideration of the Effects of Greenhouse Gas Emissions and Climate Change in National Environmental Policy Act Reviews* that describes how Federal departments and agencies should consider the effects of greenhouse gas emissions and climate change in their NEPA reviews. The guidance supersedes the Revised Draft Greenhouse Gas and Climate Change Guidance released by CEQ in December 2014. This guidance explains that agencies should consider both the potential effects of a proposed action on climate change, as indicated by its estimated GHG emissions, and the implications of climate change for the environmental effects of a proposed action as well as the potential effects climate change may have on a proposed action and its environmental impacts. The guidance also emphasizes that agency analyses should be commensurate with projected GHG emissions and climate impacts, and should employ appropriate quantitative or qualitative analytical methods to ensure useful information is available to inform the public and the decision-making process in distinguishing between alternatives and mitigations.

CEQ recommends that agencies consider GHG emission of 25,000 metric tons of CO₂e emissions on an annual basis as a reference point below which a NEPA quantitative analysis of GHGs is not recommended unless it is easily accomplished based on available tools and data. Additionally, 40 CFR Part 98, *Mandatory Greenhouse Gas Reporting* established a mandatory reporting threshold of 25,000 metric tons/year CO₂e of GHG from stationary combustion sources only. The 25,000 metric tons/year CO₂e threshold was selected to capture the majority of GHG emissions in the U.S., while excluding smaller facilities and sources.

Stationary and Mobile Source Emissions. No new major stationary sources are associated with the project at Moody AFB. New major stationary sources are subject to Prevention of Significant Deterioration (PSD) and/or Nonattainment pollutant New Source Review (NNSR) programs to ensure that these sources are constructed without significant deterioration of the air in the area. The U.S. EPA oversees programs for stationary source operating permits (Title V) and for new or modified major stationary source construction and operation. Mobile sources are regulated under the CAA Title II through enforcing emissions standards on sources manufactured.

3.4.4 Biological Resources

Biological resources include both native and non-native species of plants and animals in the project areas. For discussion purposes, these are divided into vegetation, wildlife, threatened and endangered species, and sensitive habitats. Human activity has altered portions of the natural environment in the southern portion of Moody AFB through grading, paving, and construction of roads and buildings. However, the Southwest Land Purchase Property remains naturally vegetated. Data sources for biological resources include information provided by Moody AFB, the U.S. Fish and Wildlife Service (USFWS), and Georgia DNR.

The ROI used for discussion of biological resources is the southern portion of Moody AFB including the Southwest Land Purchase Property. This ROI includes the area within which potential impacts could occur and provides a basis for evaluating the level of impact.

Vegetation. The ROI is located within the Outer Coastal Plain Mixed (OCPM) providence of the U.S. lowland ecoregion. The OCPM is dominated by temperate rainforests consisting of pines (*Pinus* spp.), oaks (*Quercus* spp.), and members of the laurel and magnolia families. Southeastern forests usually have a well-developed lower stratum of vegetation that includes tree ferns, small palms, shrubs, and herbaceous plants. Vast areas of gumbay swamps and scrub-shrub wetlands exist throughout the area. The ROI is encompassed by an association of Carolina bay wetlands, which comprise the GBBL complex. Exclusive of the Okefenokee Swamp, the GBBL wetland complex is the largest freshwater lakeswamp system in the Coastal Plain of Georgia. Wetlands in this complex are composed of several broad Carolina bays (1 to 4 miles across) and shallow lakes, interconnected by cypress-black gum swamp (Moody AFB, 2013a).

Open areas on the southern portion of Moody AFB consist of grasses that are maintained to enhance recreational activities in the area as well as to achieve airfield clearance requirements and prevent wildlife from establishing habitat in the vicinity of the airfield.

The vegetation on the Southwest Land Purchase Property consists of hardwood/pine woodland, gum/cypress forest, and pine forest. Hardwood/pine woodland consists of water oak (*Quercus nigra*), sweetgum (*Liquidambar styraciflua*), black cherry (*Prunus serotina*), live oak (*Q. virginiana*), and pines with an understory of woody shrubs, blueberries (*Vaccinium* spp.), bracken fern (*Pteridium aquilinum*), and broomsedge (*Andropogon virginicus*).

Gum/cypress forests contain red maples (*Acer rubrum*), tupelos (*Nyssa* spp.), gums, sweetbay (*Magnolia virginiana*), and other wetland trees. Bay swamps have a moderate to dense understory layer, consisting of heaths, redbay (*Persea palustris*), wax myrtle (*Myrica cerifera*), cinnamon fern (*Osmunda cinnamomea*), and greenbriers (*Smilax* spp.) (Moody AFB, 2013a).

Pine forests are typically flat low-lying open woodlands that lie between the drier forest communities upslope and wetlands down slope. Historically, these areas were comprised of slash pine (*Pinus elliottii*) in the wetter areas with longleaf pine (*P. palustris*) in the drier areas and scattered pond pines (*P. serotina*) throughout the stand. These communities are characterized by understories comprised of saw palmetto (*Serenoa repens*), gallberry (*Ilex glabra*), wiregrasses (*Aristida* spp.), and blueberries. Without frequent fires, the drier areas in this community quickly become invaded by sweetgums, water oaks, and other upland hardwood species, and eventually succeed to a mixed hardwood/pine woodland; the wetter areas become invaded by wetland species, such as red maples and black gums (*Nyssa sylvatica*), and eventually succeed to a mixed bottomland hardwood/pine woodland.

Wildlife. Common reptiles and amphibians found within the ROI include the eastern box turtle (*Terrapene carolina carolina*), eastern fence lizard (*Sceloporus undulatus*), five-lined skink (*Eumeces inexpectatus*), canebrake (timber) rattlesnake (*Crotalus horridus atricaudatus*), black racer (*Coluber constrictor*), little grass frog (*Pseudacris ocularis*), squirrel tree frog (*Hyla squirella*), eastern spadefoot toad (*Scaphiopus holbrookii*), and other similar lizards, frogs, and toads (Moody AFB, 2013a).

Most native North American birds, their eggs, and nests are protected by the Migratory Bird Treaty Act (MBTA) of 1918, as amended, and the Bald and Golden Eagle Protection Act. Bird species listed by the USFWS Information, Planning, and Conservation System (IPAC) System as having the potential to winter within the ROI, if suitable habitat is present, include: Henslow's sparrow (*Ammodramus henslowii*), Le Conte's sparrow (*A. leconteii*), short-eared owl (*Asio flammeus*), American bittern (*Botaurus lentiginosus*), sedge wren (*Cistothorus platensis*), rusty blackbird (*Euphagus carolinus*), and Peregrine falcon (*Falco peregrinus*). Bird species listed by the USFWS IPAC as having the potential to breed within the ROI, if suitable habitat is present, include: Chuck-will's-widow (*Caprimulgus carolinensis*), prairie warbler (*Dendroica discolor*), wood thrush (*Hylocichla mustelina*), Mississippi kite (*Ictinia mississippiensis*), least bittern (*Ixobrychus exilis*), Swainson's warbler (*Limnothlypis swainsonii*), Kentucky warbler (*Oporornis formosus*), and prothonotary warbler (*Protonotaria citrea*). Bird species listed by the USFWS IPAC as having the potential to be year-round residents within the ROI, if suitable habitat is present, include: Bachman's sparrow (*Aimophila aestivalis*), common ground-dove (*Columbina passerina exigua*), American kestrel (*Falco sparverius paulus*), bald eagle (*Haliaeetus leucocephalus*), loggerhead shrike (*Lanius ludovicianus*), red-headed woodpecker (*Melanerpes erythrocephalus*), and brown-headed nuthatch (*Sitta pusilla*). Bird species listed by the USFWS IPAC as having the potential to migrate to the ROI, if suitable habitat is present, include: worm eating warbler (*Helmitheros vermivorum*) (U.S. Fish and Wildlife Service, 2016). Twenty two of the twenty three birds are Birds of Conservation Concern (BCC). BCCs are identified by the USFWS and are migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent the highest conservation priorities.

A number of small mammals exist on or near the ROI. Common rodents may include gray squirrel (*Sciurus carolinensis*), and fox squirrel (*S. niger*) (Moody AFB, 2013a). Large mammals include the opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), gray fox (*Urocyon cinereoargenteus*), and eastern cottontail rabbit (*Sylvilagus floridanus*) (Moody AFB, 2013a).

Threatened and Endangered Species. The Moody AFB Integrated Natural Resource Management Plan (INRMP), USFWS IPAC System, and the Georgia DNR website were reviewed for the most up-to-date information concerning federally and state threatened and endangered species that have the potential to occur on the southern portion of Moody AFB and the Southwest Land Purchase Property. Table 3-3 presents federal and state threatened and endangered species listed by the USFWS and Georgia DNR as having the potential to occur on or in the vicinity of the ROI.

No federally threatened and endangered species are known to occur within the ROI. The federally threatened and state threatened eastern indigo snake (*Drymarchon couperi*) and the federal candidate and state threatened gopher tortoise (*Gopherus polyphemus*) are present on Moody AFB. The state-listed threatened alligator snapping turtle (*Macrochelys temminckii*), southern bald eagle (*Haliaeetus l. leucocephalus*), and round-tailed muskrat (*Neofiber alleni*) are also present on Moody AFB (Moody AFB, 2013a).

Table 3-3. Federal and State Listed Species with the Potential to Occur within the ROI

Common and Scientific Name	Federal Status	State Status
Amphibians		
Frosted flatwoods salamander ^(c) <i>Ambystoma cingulatum</i>	Threatened	Threatened
Striped newt ^(a) <i>Notophthalmus perstriatus</i>	Candidate	Threatened
Reptiles		
Eastern indigo snake ^(a) <i>Drymarchon couperi</i>	Threatened	Threatened
Gopher tortoise ^(a) <i>Gopherus polyphemus</i>	Candidate	Threatened
Alligator snapping turtle ^(b) <i>Macrochelys temminckii</i>	--	Threatened
Birds		
Southern bald eagle ^(b) <i>Haliaeetus l. leucocephalus</i>	--	Threatened
Wood stork ^(a) <i>Mycteria americana</i>	Threatened	Endangered
Mammals		
Round-tailed muskrat ^(b) <i>Neofiber alleni</i>	--	Threatened

Sources: (a) U.S. Fish and Wildlife Service, 2016.

(b) Moody AFB, 2013a.

(c) Georgia DNR, 2016a.

The frosted flatwoods salamander (*Ambystoma cingulatum*) is endemic to mesic flatwoods habitats within longleaf pine-wiregrass communities. Breeding sites are typically shallow, ephemeral cypress and/or swamp tupelo ponds or "domes," although flooded borrow pits, roadside ditches, and deep firebreaks are occasionally used. Breeding sites are also dependent on periodic dry season fires, which maintain an open canopy conducive to the luxuriant growth of emergent and submerged grasses, sedges, and forbs necessary for sheltering the aquatic larvae (Georgia DNR, 2016d). This type of habitat does not exist within the ROI; therefore, this species is not likely to occur.

The striped newt (*Notophthalmus perstriatus*) is associated with longleaf pine-wiregrass communities. Adults prefer sandhills and well-drained pine flatwoods and breeding and larvae development occur in isolated, ephemeral wetlands such as pond cypress domes, sinkhole ponds, and borrow pits (Georgia DNR, 2016d). This type of habitat does not exist within the ROI; therefore, this species is not likely to occur.

The eastern indigo snake (*Drymarchon couperi*) is closely associated with longleaf pine habitats, such as sandhills and turkey oak scrub. Stump holes and gopher tortoise burrows provide winter retreats. Floodplains or the periphery of cypress ponds, either adjacent to or interspersed within the sandy uplands, are used during the warmer months (Georgia DNR, 2016d). The eastern indigo snake is potentially present within the ROI.

The gopher tortoise (*Gopherus polyphemus*) prefers sandy soil for burrowing. Sunlight availability and abundant herbaceous vegetation are the key habitat requirements for this reptile. Gopher tortoise is a characteristic species of the rapidly disappearing longleaf pine and wiregrass community, which includes sandhills, dry flatwoods, and turkey oak scrub. Historically, this community was represented by an open-canopied forest that allowed abundant sunlight penetration and conditions favorable for a rich growth of herbaceous vegetation (Georgia DNR, 2016d). This type of habitat does not exist within the ROI; therefore, this species is not likely to occur.

The alligator snapping turtle (*Macrochelys temminckii*) is found in portions of streams with undercut banks, log jams, and deep holes within large streams and rivers draining to the Gulf of Mexico (Georgia DNR, 2016d). This type of habitat does not exist within the ROI; therefore, this species is not likely to occur.

The southern bald eagle (*Haliaeetus l. leucocephalus*) is considered threatened in the State of Georgia and is protected under the Bald and Golden Eagle Protection Act. In Georgia they are known to nest mostly along the coast and near major rivers, wetlands, and reservoirs in the southern and central parts of the state. Bald eagles prefer isolated sites for nesting and usually nest in a large, open-topped pine near open water, often on high ground if available. Occasionally cypress trees are used (Georgia DNR, 2016d).

The wood stork (*Mycteria americana*) uses a variety of freshwater and estuarine wetlands for breeding, feeding, and roosting. They are colonial nesters, and several nests are often located in the same tree. Nests may be located in large or small trees; but the trees must be in standing water or on islands surrounded by water. Storks will occasionally use the same large colonies for many years, but most colonies are shorter lived (Georgia DNR, 2016d). This type of habitat does not exist within the ROI; therefore, this species is not likely to occur.

The round-tailed muskrat (*Neofiber alleni*) lives in shallow grassy ponds, marshes, and bogs. Their preferred habitat appears to be floating mats of vegetation in the vicinity of open water with emergent sedges and floating-leaved vegetation. At Grand Bay in south Georgia, preferred habitat appears to exist mainly along the ecotone between mixed emergent marsh and dense chain-fern marsh. Prairies on the east side of the Okfenokee Swamp also provide good habitat, as do a few other swamps and Carolina bays in the vicinity (Georgia DNR, 2016d). This type of habitat does not exist within the ROI; therefore, this species is not likely to occur.

Sensitive Habitats. Sensitive habitats are those areas considered for protection due to their ecological value. They include wetlands, critical habitat for protected species, plant communities of limited or unusual distribution, and important seasonal use areas for wildlife (e.g., migration routes, breeding areas, crucial summer/winter habitat). Sensitive habitats within the ROI include 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 circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (Federal Interagency Committee for Wetland Delineation, 1989). Wetlands are regulated under Section 404 of the Clean

Water Act (CWA) and EO 11990, *Protection of Wetlands*. Areas that are periodically wet, but do not meet all three criteria (hydrophytic vegetation, hydric soils, and wetland hydrology), are not jurisdictional wetlands subject to Section 404 of the CWA.

The ROI lies within the GBBL wetland complex, which covers more than 13,000 acres and is one of the largest freshwater lake/swamp systems in the Georgia coastal plain. A wetland delineation of the Southwest Land Purchase Property was conducted in June 2016; the property was found to contain 92.52 acres of wetlands (AECOM, 2016a).

3.4.5 Cultural Resources

Cultural resources are defined as prehistoric or historic archaeological sites, buildings, structures, districts, artifacts, or other physical evidence of human activity. For ease of discussion, cultural resources have been divided into prehistoric and historic archaeological resources, historic buildings and structures, and traditional cultural resources (e.g., sacred or ceremonial sites).

For the purposes of this analysis, the term ROI is synonymous with the “area of potential effect” (APE) as defined under cultural resources legislation. The ROI for the analysis of cultural resources within this EA for direct effects includes any areas that may be affected by proposed construction activities on the southern portion of Moody AFB and the Southwest Land Purchase Property. The ROI includes a larger area for indirect effects within which the potential for visual and auditory impacts to historic resources (e.g., buildings, properties, landscapes, etc.) is examined. For this project, the area of indirect effects is defined as a one-mile buffer around the project boundary for archaeological resources. For buildings, structures, and districts, the area of indirect effects is defined as the project view shed and the construction of the proposed project, within which construction and ground disturbing activity would be confined.

Numerous laws and regulations require federal agencies to consider the effects of a proposed action on cultural resources. These laws and regulations stipulate a process for compliance, define the responsibilities of the federal agency proposing the action, and prescribe the relationships among other involved agencies (e.g., the State Historic Preservation Officer [SHPO] and the Advisory Council on Historic Preservation [ACHP]). The primary law governing the treatment of cultural resources is the National Historic Preservation Act (NHPA), which requires a federal agency to consider potential impacts on historic properties from any proposed undertaking.

In compliance with the NHPA, the Air Force has initiated the Section 106 review process with the Georgia SHPO (Appendix A). Consultation was conducted in an effort to determine the appropriate APE as well as to identify any archaeological sites and historic properties within the APE that may be affected by proposed activities.

Only those cultural resources determined to be listed in or eligible for inclusion in the National Register of Historic Properties (National Register) under cultural resources legislation are subject to protection or consideration by a federal agency. Significant cultural resources, whether they are prehistoric, historic, or traditional in nature, are referred to as “eligible.” The term “eligible for inclusion in the National Register” includes properties formally determined as such by the Secretary of the Interior and all other properties that meet National Register listing criteria. Therefore, sites that meet the criteria, but are not yet listed, may be considered potentially eligible to the National Register and, as such, are afforded the same regulatory consideration as nominated historic properties. Under 36 CFR Part 800, historic properties are defined as any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register. For the purposes of these regulations, the term includes

artifacts, records, and remains that are related to, and located within, such properties. As a federal agency, the Air Force is responsible for identifying any historic properties associated with its property.

Prehistoric and Historic Archaeological Resources. Archaeological investigations at Moody AFB have located 27 archaeological sites and 39 isolated finds. Two of the archaeological sites have been determined eligible for listing on the National Register and the remaining sites were determined to be not eligible for listing on the NRHP (Moody AFB, 2011a). None of the identified sites and isolated finds are in the vicinity of the ROI for direct effects.

The Air Force conducted an archaeological survey of the 106.10-acre property in August 2016 to determine if prehistoric or historic resources are present. Two isolated finds were discovered during the survey, which were evaluated and determined to be not eligible for the National Register (AECOM, 2016c) (Appendix C).

Historic Buildings and Structures. World War II and Cold War-era Historic Property Surveys for Moody AFB were conducted in 1999 and 2011 to identify and evaluate historic properties that were over 50 years of age or were associated with the Cold War era, to assess their significance. The Georgia SHPO concurred with the recommendation that the 42 buildings included in the 2011 survey were not eligible for the National Register, including the nearest structure to the project location, Building 1705 (latrine facility at Mission Lake). The nearest known National Register-eligible structure is the Water Tower (Facility No. 618) on-base is located approximately 1.0 mile north of the project site and is outside the ROI for indirect effects. A Cultural Resource Survey Addendum was completed in 2016 to address historic structures potentially within the APE of the project location (Appendix C). The survey resulted in the finding of zero (0) resources that have reached the fifty year threshold for historic significance that have not been previously recorded. There are no NRHP listed or NRHP eligible resources within the APE (see Concurrence Letter in Appendix A).

There are no structures within the ROI for direct impacts. The Southwest Land Purchase Property consists of vacant woodlands.

Traditional Cultural Resources. Tribal groups identified as having occupied the Moody AFB vicinity include the Poarch Band of Creeks, Thlopthlocco Tribal Town, Seminole Nation of Oklahoma, Kialagee Tribal Town, Coushatta Tribe of Louisiana, Muscogee Nation of Florida, and the Muscogee (Creek) Nation. In support of this EA, the Air Force initiated consultations with representatives of Native American groups as required under the American Indian Religious Freedom Act (AIRFA). The purpose of these consultations was to determine AIRFA-related concerns such as access to sites of past cultural activity, landforms, and components of the natural environment that may occur at the project site and are important to traditional religious practices of Native American groups. Based on consultation with the tribes and their evaluation of the cultural resources on base, no traditional cultural properties or sacred places within the project site were identified (Appendix A).

A Cultural Resource Survey Addendum was completed in 2016 to address historic structures within the APE of the project location (Appendix C). The survey resulted in the finding of zero (0) resources that have reached the fifty year threshold for historic significance that have not been previously recorded. There are no NRHP listed or NRHP eligible resources within the APE (see Concurrence Letter in Appendix A).

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION

This chapter presents the results of the analysis of potential environmental effects associated with the purchase of privately-owned land located immediately adjacent to the southwestern boundary of Moody AFB and the implementation of multiple projects on the property to allow the removal of three airfield waivers. Two alternatives and the No-Action Alternative are analyzed. Changes to the natural and human environments that may result from implementation of the projects were evaluated relative to the existing environment as described in Chapter 3.0. The potential for significant environmental consequences was evaluated utilizing the context and intensity considerations as defined in CEQ regulations for implementing the procedural provisions of NEPA (40 CFR Part 1508.27).

4.2 PROJECT SETTING

4.2.1 Land Use/Aesthetic

The potential effects of the two action alternatives and the No-Action Alternative on land use and aesthetics within the ROI are presented in this section.

4.2.1.1 *Alternative 1.*

Land Use. Under Alternative 1, privately-owned land adjacent to the southwestern boundary of Moody AFB (currently vacant woodlands) would be purchased so that multiple projects could be implemented that would allow the removal of three airfield waivers for airfield obstruction clearance violations. A portion of the vacant woodland (approximately 12 acres) would be cleared and the area designated as part of the Clear Zone for the runway; the remainder of the property would remain vacant woodland.

Recreational land (approximately 1.5 acres including a softball field near Mission Lake) would be removed to allow the realignment of Burma Road. The softball field to be removed is seldom used and receives minimal maintenance as two softball fields have been constructed within the central portion of the base closer to the base population. Implementation of the three construction activities (i.e., realignment of Burma Road, relocation of the perimeter and airfield security fences, and tree removal) would allow the removal of three airfield waivers for airfield obstruction clearance violations resulting in a beneficial impact to the airfield land use. The proposed realignment of Burma Road and relocation of the perimeter and airfield security fences would be consistent with the Moody AFB IDP for correcting airfield obstruction violations and would be compatible with existing land uses surrounding the project area (Moody AFB, 2015a). Although some recreational land would be lost as a result of proposed construction activities, the land area being lost is seldom used and the realignment of Burma Road and relocation of the fence lines results in a beneficial impact to the airfield land use. No significant impacts are anticipated.

Aesthetics. Implementation of the proposed projects to remove the airfield waivers would result in a change in the appearance of the property primarily as a result of clearing trees and having a more open view to the south. The realignment of Burma Road and the relocation of the perimeter and airfield security fences would result in a less noticeable change in the appearance of the area. The proposed projects would be consistent with the Moody AFB IDP. The long-term effect of realigning Burma Road,

relocating the perimeter and airfield security fences, and removing trees would result in a positive aesthetic effect. No significant impacts are anticipated.

Mitigation Measures. Because the proposed projects to remove the airfield waivers are compatible with the Moody AFB IDP and there would be no conflicts with mission requirements, no mitigation measures would be required.

4.2.1.2 Alternative 2.

Potential impacts to land use/aesthetics from implementation of Alternative 2 would be similar to those described under Alternative 1. No significant impacts are anticipated.

Mitigation Measures. Because the proposed projects to remove the airfield waivers are compatible with the Moody AFB IDP and there would be no conflicts with mission requirements, no mitigation measures would be required.

4.2.1.3 No-Action Alternative.

Under the No-Action Alternative, privately-owned land adjacent to the southwestern boundary of Moody AFB would not be purchased and no construction activities would occur. The Air Force would continue to operate in accordance with temporary airfield waivers. This would be non-compliant with the requirement for the base civil engineer to develop a MILCON program or other project to correct non-permanent waivers to comply with UFC 3-260-01. No change to land use or visual resources on Moody AFB or the Southwest Land Purchase Property would occur; therefore, no significant impacts are anticipated.

Mitigation Measures. No mitigation measures would be required.

4.3 HAZARDOUS MATERIALS AND HAZARDOUS WASTE MANAGEMENT

This section describes the potential effects of the two action alternatives and the No-Action Alternative on ERP sites.

4.3.1 Environmental Restoration Program Sites

The potential effects of the two action alternatives and the No-Action Alternative on ERP Sites within the ROI are presented in this section.

4.3.1.1 Alternative 1.

Under Alternative 1, the 106.10 acres of land located adjacent to the southwestern boundary of the base would be purchased; however, implementation of the three construction activities (i.e., realignment of Burma Road, relocation of the perimeter and airfield security fences, and tree removal) to allow the removal of three airfield waivers for airfield obstruction clearance violations would be initiated after ERP Site LF-01 is closed (estimated to occur on or before the year 2020). Prior to initiating construction activities, any remediation infrastructure (e.g., monitoring wells, injection wells, conduit/piping for the air sparge system) within the project area would be removed. Because ERP Site LF-01 would be closed to residential standards with no Land Use Controls and remediation infrastructure would be removed prior to initiating construction activities, this will allow use of the bicycle/jogging path through the area with no concerns; therefore, no significant impact to ERP Site LF-01 would occur.

Mitigation Measures. No mitigation measures would be required.

4.3.1.2 Alternative 2.

Under Alternative 2, the 106.10 acres of land located adjacent to the southwestern boundary of the base would be purchased. Implementation of the three construction activities (i.e., realignment of Burma Road, relocation of the perimeter and airfield security fences, and tree removal) to allow the removal of three airfield waivers for airfield obstruction clearance violations would be initiated prior to ERP Site LF-01 being closed (estimated to occur on or before the year 2020). As a result, existing remediation infrastructure (e.g., monitoring wells, injection wells, and conduit/piping for the air sparge system) within the project area would remain in place.

Realignment of Burma Road would avoid contact with remediation infrastructure (Figure 4-1). The road cut for the Burma Road unpaved shoulders would be in close proximity to the air sparge system trailer, monitoring well BR-01, and a test well; however, relocation of the trailer and wells would not be required. Additionally, the Burma Road realignment would not involve excavation to the depth of impacted groundwater in the area.

Relocation of the perimeter and airfield security fences would avoid contact with remediation infrastructure to the extent possible. The perimeter fence would pass through the same area as the Burma Road realignment and would avoid contact with remediation infrastructure. The airfield security fence would pass near one monitoring wells (i.e., BR-01); however, the fence alignment would avoid this well and any other remediation infrastructure.

Tree removal activities would be conducted with care (i.e., use of directional tree cutting) so that falling trees do not come in contact with remediation infrastructure.

Because ERP Site LF-01 remediation infrastructure would be avoided during construction activities and tree removal activities would be conducted to avoid contact with remediation system infrastructure, no significant impacts to ERP Site LF-01 are anticipated.

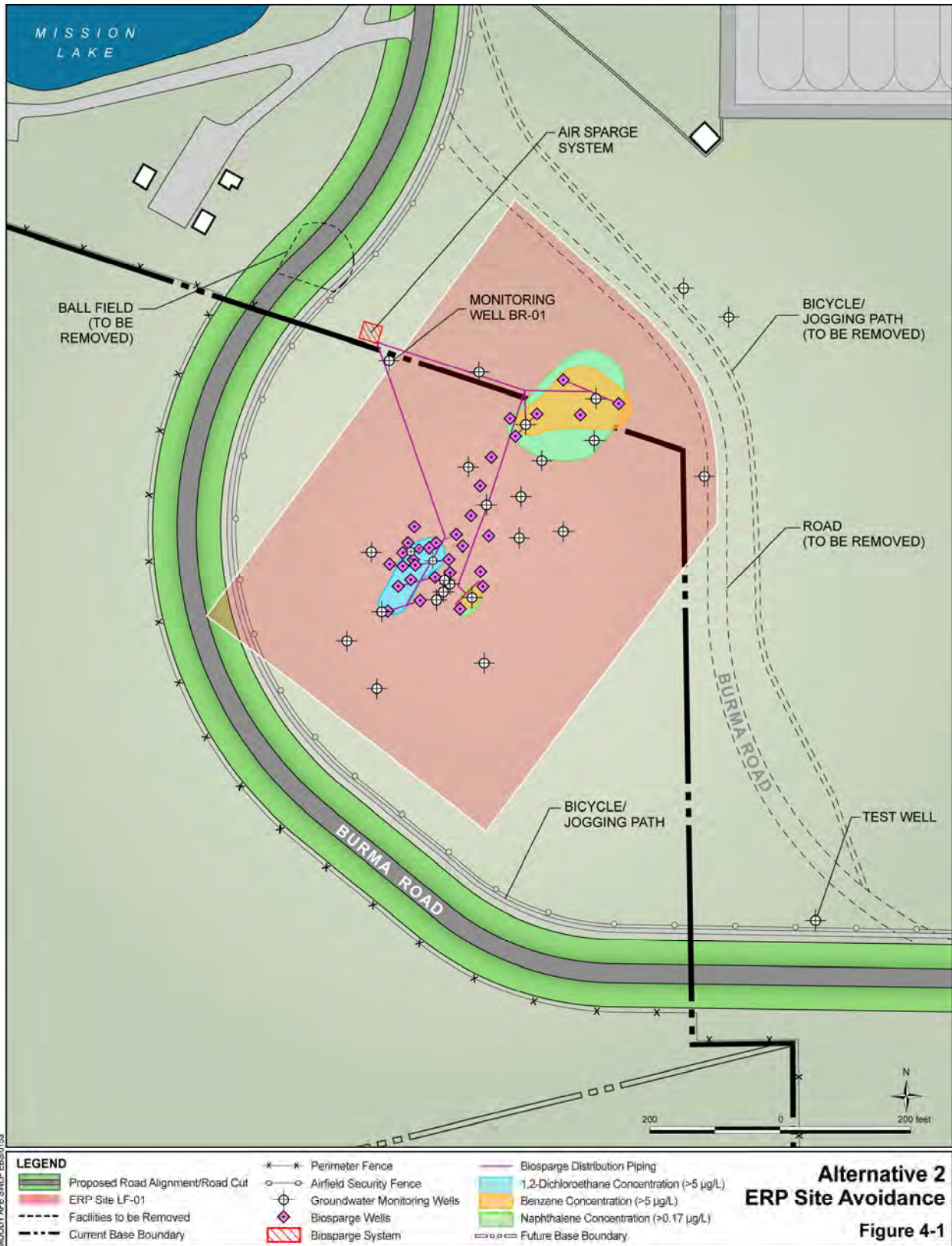
Mitigation Measures. Because ERP Site LF-01 remediation infrastructure would be avoided , no mitigation measures would be required.

4.3.1.3 No-Action Alternative.

Under the No-Action Alternative, privately-owned land adjacent to the southwestern boundary of Moody AFB would not be purchased and no construction activities would occur. The Air Force would continue to operate in accordance with temporary airfield waivers. 23 CES would continue to monitor remediation efforts at ERP Site LF-01; as well as maintain monitoring wells and treatment system piping that are in place on Moody AFB and on the Southwest Land Purchase Property. No significant impacts are anticipated.

Mitigation Measures. No mitigation measures would be required.

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4.4 NATURAL ENVIRONMENT

This section describes the potential effects of the two action alternatives and the No-Action Alternative on natural resources including geology and soils, air quality, biological resources, and cultural resources.

4.4.1 Geology and Soils

The potential effects of the two action alternatives and the No-Action Alternative on the local geology and soils have been analyzed based on a review of published literature. Geology and soils would be affected primarily during ground-disturbing activities, when local soil profiles would be altered. Soils in these areas would remain relatively stable in the long-term because they would be overlain by pavement, which would minimize erosion.

4.4.1.1 Alternative 1.

Geology. Alternative 1 is unlikely to affect the local geology at Moody AFB. Sedimentation patterns would not be significantly altered, and no structural movements or changes in seismicity would result. No significant impacts are anticipated.

Soils. Potential impacts to soil from implementation of Alternative 1 would result primarily from ground disturbance associated with realignment of Burma Road as well as removal of the existing Burma Road after construction is completed. These activities could alter soil profiles and local topography, as grading is required for construction activities.

Because more than one acre of disturbance would occur, construction activities would be conducted in accordance with a U.S. EPA National Pollutant Discharge Elimination System (NPDES) General Permit and Georgia NPDES and Lowndes County Land Disturbance Permit, and associated Stormwater Pollution Prevention Plan (SWPPP). The NPDES General Permit and Georgia NPDES and Lowndes County Land Disturbance Permit, together with the required SWPPP, would outline construction site management practices designed to protect the quality of the surface water, ground water, and natural environment through which they flow. The SWPPP would identify specific areas of existing and potential soil erosion, location of structural measures for sediment control, and management practices and controls. Use of these management practices and controls would reduce the potential for erosion of disturbed soils.

Short-term erosion impacts could occur during ground-disturbing activities, such as grading and removal of paved surfaces. Potential impacts would be minimized through proper management practices defined within the approved SWPPP. Standard construction practices that could be implemented to minimize soil erosion include:

- Use of protective cover, such as mulch, straw, plastic netting, or a combination of these protective coverings
- Implementation of site grading procedures to limit the time soils are exposed prior to being covered by impermeable surfaces or vegetation
- Implementation of storm water diversions to reduce water flow through exposed sites
- Maintenance of a buffer strip of vegetation around drainages, where possible, to filter sediments

- Retention of as many trees and shrubs as possible adjacent to exposed ground areas for use as natural windbreaks.

Once disturbed areas have been covered with pavement or vegetative cover, their susceptibility to erosion would be significantly reduced. Upon completion of the construction phase, maintenance of a vegetative cover or covering undeveloped areas with gravel would serve as effective, long-term erosion control strategies for areas not covered with impervious surfaces. Soils underlying pavements are not typically subject to erosion.

Because management practices required by the NPDES General Permit and Georgia NPDES and Lowndes County Land Disturbance Permit, and associated SWPPP would be implemented during construction activities, no significant impacts to soils are anticipated.

Mitigation Measures. No mitigation measures would be required.

4.4.1.2 Alternative 2.

Potential impacts to geology and soils from implementation of Alternative 2 would be similar to those described under Alternative 1. No significant impacts are anticipated.

Mitigation Measures. No mitigation measures would be required.

4.4.1.3 No-Action Alternative.

Under the No-Action Alternative, privately-owned land adjacent to the southwestern boundary of Moody AFB would not be purchased and no construction activities would occur. The Air Force would continue to operate in accordance with temporary airfield waivers. No construction activities would occur; therefore, no significant impacts are anticipated.

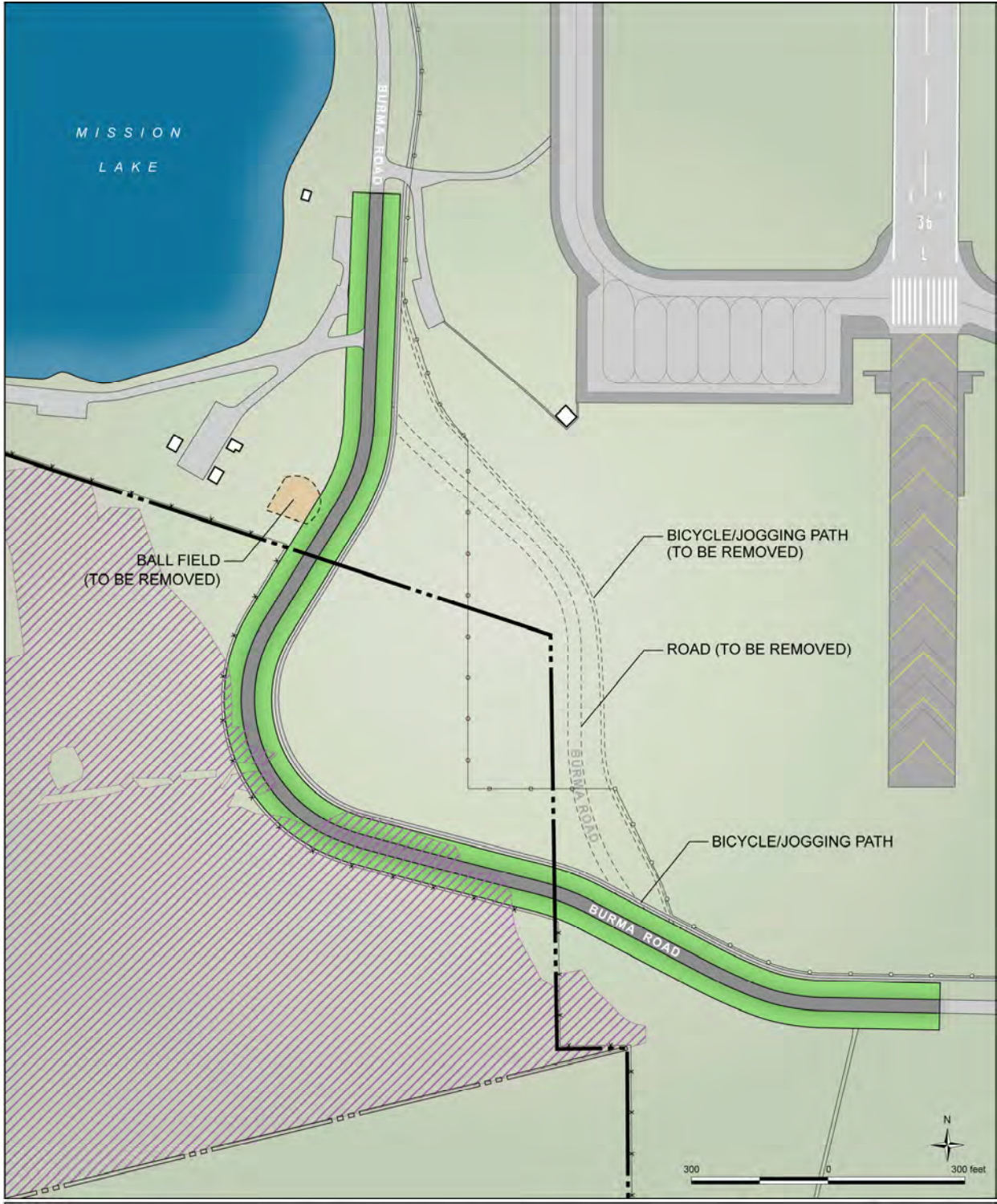
Mitigation Measures. No mitigation measures would be required.

4.4.2 Water Resources

The potential effects of the two action alternatives and the No-Action Alternative on water resources within the ROI are presented in this section.

4.4.2.1 Alternative 1.

Surface Water. Under Alternative 1, approximately 1.75 acres (76,230 SF) of wetlands would be impacted during the realignment of Burma Road (Figure 4-2). Because the only way to eliminate the temporary airfield waivers is to re-route Burma Road through the wetlands, a FONPA is included with this EA. Burma Road would be considered fixed infrastructure providing vehicle access through the area; as a result, there is no practicable alternative to implementing the Burma Road realignment activities. Ground-disturbing activities within wetlands would be permitted under Section 404 of the CWA. Measures identified as part of the Section 404 permit would be implemented to minimize/mitigate impacts to jurisdictional waters. Therefore, significant impacts on surface water are not anticipated. Potential impacts to wetlands are discussed further under Sensitive Habitats in Section 4.4.4.1, Biological Resources.



MOODY AFB SWM/PILOT

LEGEND

Proposed Road Alignment and Road Cut	Current Base Boundary	Future Base Boundary
Wetlands	Perimeter Fence	
Facilities to be Removed	Airfield Security Fence	

**Alternative 1
Wetland Impacts**
Figure 4-2

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As noted in Section 4.4.1.1, ground-disturbing activities would be subject to applicable requirements of a U.S. EPA NPDES General Permit and Georgia NPDES and Lowndes County Land Disturbance Permit, along with the associated SWPPP. The SWPPP outlines construction site management practices designed to protect the quality of the surface water, groundwater, and natural environment through which they flow minimizing soil erosion, resulting in minimal pollution and sedimentation of downstream watercourses. Thus, Alternative 1 is not anticipated to have significant impacts on surface water on or in the vicinity of Moody AFB.

Groundwater. Alternative 1 would not require the installation of new wells or require increased withdrawals of groundwater. Additionally, the Burma Road and jogging/bicycle path realignment would not involve excavation to the depth of impacted groundwater in the area. Therefore, the Proposed Action would have no significant impact on groundwater.

Alternative 1 would result in a long-term change in the amount of impervious surfaces on the base. The estimated net change in impervious surfaces from realigning Burma Road and jogging/bicycle path and removing the pavement of the existing Burma Road and jogging/bicycle path would be 35,800 SF. The anticipated net increase in impervious surface resulting from the implementation of Alternative 1 would reduce the amount of groundwater recharge on Moody AFB; however, in the context of the larger, mostly rural geographic area surrounding the base, this impact would be negligible.

Floodplains. EO 11988, *Floodplain Management*, requires federal agencies to avoid to the maximum extent possible the long and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. EO 11988 was recently amended by EO 13690, which is part of the national policy to improve climate resiliency as directed by the President's Climate Action Plan. EO 13690 creates a new Federal Flood Risk Management Standard for federally approved or funded projects and requires federal agencies to update their flood-risk reduction strategies and expand the flood elevation and hazard areas they use when deciding where and how new development, redevelopment, and construction occurs. Information provided by FEMA confirms that the Southwest Land Purchase Property and the project area are not within the 100-year floodplain (FEMA, 2000). Therefore, no significant impacts to floodplains are anticipated.

Storm Water. As noted in Section 4.4.1.1, ground-disturbing activities would be subject to applicable requirements of a NPDES General Permit and Georgia NPDES and Lowndes County Land Disturbance Permit, and associated SWPPP. SWPPP requirements under the NPDES General Permit include an outline of the storm water drainage system for each discharge point, actual and potential pollutant contact, and surface water locations. The SWPPP would also incorporate storm water management controls and preventive maintenance for new construction. While impacts during construction cannot be entirely eliminated, they would remain minor.

The Proposed Action would result in long-term changes in the amount of impervious surfaces on the base. Altogether, there would be an approximate 35,800 SF increase in impervious surfaces, which would result in an imperceptible change in the storm water runoff generated on the base. Storm water would be conveyed to the existing on-base storm water system at Moody AFB, rather than being managed on the site. The installation's existing storm water system consists of man-made drainage ditches, culverts, and underground pipes.

Mitigation Measures. Because management practices required by the NPDES General Permit, Georgia NPDES and Lowndes County Land Disturbance Permit, and associated SWPPP would be

implemented as well as measures identified as part of the CWA Section 404 permit, including purchase of mitigation credits to offset the loss of wetlands, no significant impacts to water resources are anticipated. Therefore, no mitigation measures would be required.

4.4.2.2 Alternative 2.

Under Alternative 2, approximately 6.10 acres (265,715 SF) of wetlands would be impacted during the realignment of Burma Road (Figure 4-3). Because the only way to eliminate the temporary airfield waivers is to re-route Burma Road through the wetlands, a FONPA is included with this EA. Burma Road would be considered fixed infrastructure providing vehicle access through the area; as a result, there is no practicable alternative to implementing the Burma Road realignment activities. Ground-disturbing activities within wetlands would be permitted under Section 404 of the CWA. Measures identified as part of the Section 404 permit would be implemented to minimize/mitigate impacts to jurisdictional waters. Therefore, significant impacts on surface water are not anticipated. Potential impacts to wetlands are discussed further under Sensitive Habitats in Section 4.4.4.2, Biological Resources.

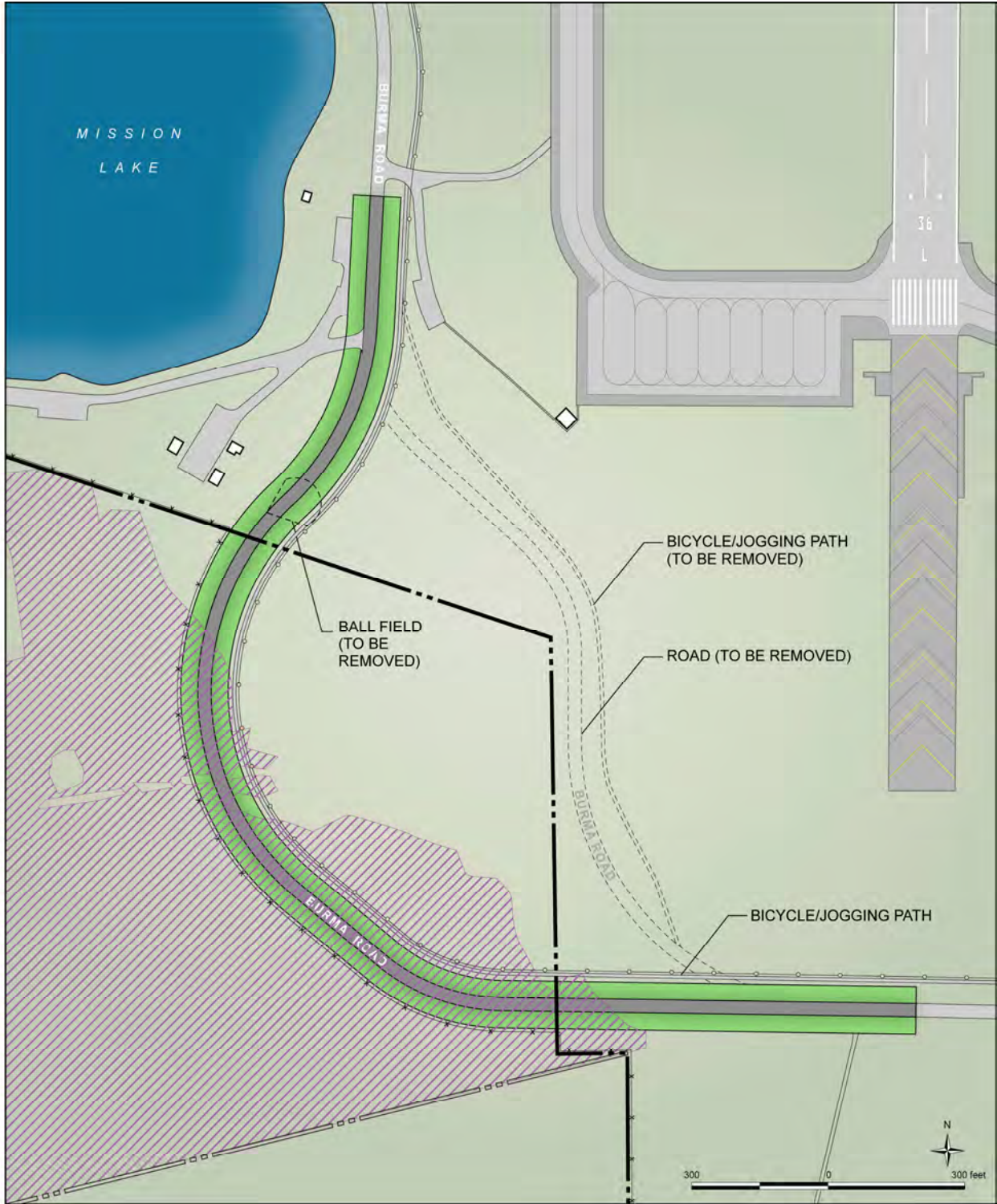
As noted in Section 4.4.1.1, ground-disturbing activities would be subject to applicable requirements of a U.S. EPA NPDES General Permit and Georgia NPDES and Lowndes County Land Disturbance Permit, and associated SWPPP. The SWPPP outlines construction site management practices designed to protect the quality of the surface water, groundwater, and natural environment through which they flow minimizing soil erosion, resulting in minimal pollution and sedimentation of downstream watercourses. Thus, Alternative 2 is not anticipated to have significant impacts on surface water on or in the vicinity of Moody AFB.

Groundwater. Although Alternative 2 would require the relocation of a test well to allow realignment of Burma Road, installation of a new test well would not require increased withdrawals of groundwater. Additionally, the Burma Road and jogging/bicycle path realignment would not involve excavation to the depth of impacted groundwater in the area. Therefore, Alternative 2 would have no significant impact on groundwater.

Alternative 2 would result in a long-term change in the amount of impervious surfaces on the base. The estimated net change in impervious surfaces from realigning Burma Road and jogging/bicycle path and removing the pavement of the existing Burma Road and jogging/bicycle path would be 45,600 SF. The anticipated net increase in impervious surface resulting from the implementation of Alternative 2 would reduce the amount of groundwater recharge on Moody AFB; however, in the context of the larger, mostly rural geographic area surrounding the base, this impact would be negligible.

Floodplains. Information provided by FEMA confirms that the Southwest Land Purchase Property and the project area are not within the 100-year floodplain (FEMA, 2000). Therefore, no significant impacts to floodplains are anticipated.

Storm Water. As noted in Section 4.4.1.1, ground-disturbing activities would be subject to applicable requirements of a NPDES General Permit and the Georgia NPDES and Lowndes County Land Disturbance Permit, and associated SWPPP. SWPPP requirements under the NPDES General Permit include an outline of the storm water drainage system for each discharge point, actual and potential pollutant contact, and surface water locations. The SWPPP would also incorporate storm water management controls and preventive maintenance for buildings. While impacts during construction cannot be entirely eliminated, they would remain minor.



MOODY AFB SWILP 0118

LEGEND

- Proposed Road Alignment and Road Cut
- Wetlands
- Facilities to be Removed
- Current Base Boundary
- Future Base Boundary
- Perimeter Fence
- Airfield Security Fence

**Alternative 2
Wetland Impacts
Figure 4-3**

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Alternative 2 would result in long-term changes in the amount of impervious surfaces on the base. Altogether, there would be an approximate 45,600 SF increase in impervious surfaces, which would result in an imperceptible change in the storm water runoff generated on the base. Storm water would be conveyed to the existing on-base storm water system at Moody AFB, rather than being managed on the site. The installation's existing storm water system consists of man-made drainage ditches, culverts, and underground pipes.

Mitigation Measures. Because management practices required by the NPDES General Permit and SWPPP would be implemented as well as measures identified as part of the CWA Section 404 permit, including purchase of mitigation credits to offset the loss of wetlands, no significant impacts to water resources are anticipated. Therefore, no mitigation measures would be required.

4.4.2.3 No-Action Alternative.

Under the No-Action Alternative, privately-owned land adjacent to the southwestern boundary of Moody AFB would not be purchased and no construction activities would occur. The Air Force would continue to operate in accordance with temporary airfield waivers. No construction activities would occur; therefore, no significant impacts to water resources are anticipated.

Mitigation Measures. No mitigation measures would be required.

4.4.3 Air Quality

The potential effects of the two action alternatives and the No-Action Alternative on air quality within the ROI are presented in this section.

4.4.3.1 Alternative 1.

Construction activities associated with Alternative 1 would not result in significant air quality impacts.

Under Alternative 1, 106.10 acres of land located adjacent to the southwestern boundary of the base would be purchased and three construction projects would be implemented (i.e., realignment of Burma Road, relocation of the perimeter and airfield security fences, and tree removal) over a six-month period to allow the removal of three airfield waivers for airfield obstruction clearance violations. Thus, a short-term increase in construction emissions would occur; no increase in operational emissions are anticipated.

Demolition and Construction Activities. Under Alternative 1, various project-related demolition and construction activities (e.g., roadway construction, fence installation, pavement removal) would occur. These activities can be expected to cause the following short-term minor air quality impacts:

- Fugitive dust would be generated by demolition and construction operations.
- Emissions of criteria pollutants (VOC and NO_x, as precursors of ozone; CO; PM₁₀; PM_{2.5} including its precursor SO₂; and GHG emissions of CO₂) would result from demolition and construction activities such as:
 - Use of diesel-powered and gas powered demolition and construction equipment and
 - Construction workers' commutes.

Construction Emissions. Criteria pollutant and HAP emissions generated by temporary construction activities were calculated using the U.S. EPA-developed NONROAD and MOVES emission factor models for non-road equipment and on-road vehicles, respectively, and the equipment usage hours and the number of trips from trucks and commuter vehicles. The equipment types and operation hours and vehicle trips during construction years were estimated based on RSMeans handbook guidance. The completion of construction activities would take 6 months and the total construction emissions are presented in Table 4-1. Detail emissions estimates can be found in Appendix B.

The emissions for Alternative 1 shown in Table 4-1 assume use of standard construction mitigation practices, such as watering exposed surfaces twice per day or frequently enough to keep the surface moist at all times, and watering haul roads three times per day to reduce dust and particulate emissions. According to the CEQA Air Quality Handbook, regular watering of construction and demolition areas decreases PM₁₀ emissions by up to 75 percent (SCAQMD, 1993). Proper vehicle maintenance is also assumed, which would reduce emissions of NO_x, PM₁₀, and VOCs by 5 percent.

Table 4-1. Total Net and Net Percent Increase in Annual Emissions (tons)

	Emissions (tons)							
	VOC	NO _x	CO	PM _{2.5}	PM ₁₀	SO _x	HAPs	CO ₂ ²
Alternative 1 (Operations)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Alternative 1 (Construction)	0.20	1.00	0.86	0.07	0.10	0.00	0.05	191
2012 Baseline Emissions Inventory¹	33.6	10.1	92.7	55.0	55.0	3.17	7.56	2,775
Maximum Net Percent Increase over Baseline Stationary Source Annual Emissions Inventory (%)	<1	10	<1	<1	<1	<1	<1	7
De minimis Threshold (tons)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Source: 1 Moody AFB, 2014a.

2. metric tons

Clean Air Act General Conformity Rule Applicability. The general conformity rule does not apply to Alternative 1 since Moody AFB is located within an area designated as in attainment of criteria pollutants.

Attainment Criteria Pollutant and HAPs Emissions. Unlike nonattainment or maintenance criteria pollutants, de minimis levels have not been established for attainment criteria pollutants and HAP emissions. This EA follows Air Force Instruction 32-7040 (June 8, 2011) and quantifies these emissions with the comparison of the relevant on-base baseline annual stationary source emissions inventory for the purpose of informing the public and decision makers about the relative air quality impacts from implementation of Alternative 1. Since the increase in attainment pollutant and HAP emissions predicted for Alternative 1 for mobile sources would be temporary (while construction activities occur), Alternative 1 would have negligible and non-significant air quality impact with respect to attainment pollutants and HAPs.

Greenhouse Gas Emissions. Moody AFB currently produces approximately 2,775 metric tons/year of GHGs from the installations sources, of which 2,693 metric tons/year of GHGs are from stationary combustion sources. The short-term estimated increase of GHG emissions associated with the construction activities would produce about an additional 191 metric tons/year CO₂ for only one year.

The steady-state (or operational phase) of Alternative 1 yields no net increase (i.e., 0 metric ton/year CO₂) in GHGs. Given the combined current and steady-state annual GHGs from stationary combustion sources much less than the 25,000 metric tons/yr GHG reporting threshold, no change to Moody AFB GHG emissions would result and the GHG emissions are not significant enough to require annual reporting under 40 CFR Part 98, *Mandatory Greenhouse Gas Reporting*.

The change in climate conditions caused by GHGs resulting from the burning of fossil fuels from construction activities associated with Alternative 1 is a global effect, and requires that the emissions be assessed on a global scale. Therefore, the disclosure of localized incremental emissions (see Table 4-1) has no weight to impact climate change. Consequently, given the minimal increase predicted for construction activities (191 metric tons of CO₂), Alternative 1 would result in an insignificant impact on overall global or U.S. cumulative GHG emissions and global climate change. No specific GHG emission mitigation measures are warranted.

Moody AFB climate is warm during summer with low temperatures tending to be in the 70's and cool during winter when low temperatures tend to be in the 50's. The annual average precipitation at Moody AFB is approximately 45 inches with rainfall fairly evenly distributed throughout the year. Since the proposed construction activities action would only involve road realignment, fence demolition/relocation, and tree removal to eliminate airfield waivers, global climate change and resulting warmer temperatures and possible sea level raise is not anticipated to affect the Proposed Action.

Mitigation Measures. No mitigation measures would be required.

4.4.3.2 Alternative 2.

Potential impacts to air quality from implementation of Alternative 2 would be similar (slightly greater due to small increase in paving during road realignment) to those described under Alternative 1; however, even with the slight increase, no significant impacts to air quality are anticipated.

4.4.3.3 No-Action Alternative.

Under the No-Action Alternative, privately-owned land adjacent to the southwestern boundary of Moody AFB would not be purchased and no construction activities would occur. The Air Force would continue to operate in accordance with temporary airfield waivers. No construction activities would occur; therefore, no significant impacts to air quality are anticipated.

Mitigation Measures. No mitigation measures would be required.

4.4.4 Biological Resources

The potential effects of the two action alternatives and the No-Action Alternative on biological resources (e.g., vegetation, wildlife, threatened and endangered species, and sensitive habitats) within the ROI are presented in this section.

4.4.4.1 Alternative 1.

Vegetation. Construction activities associated with Alternative 1 would primarily affect hardwood/pine woodland and some maintained open grass areas. The hardwood/pine woodland and open grass areas provide habitat for a limited number of common and widespread species. Loss of approximately 12 acres of hardwood/pine woodland and approximately 1 acre of maintained open grass habitat would not

result in a significant impact given the wide expanse of these habitats on southern Moody AFB. No significant impacts to vegetation are anticipated.

Any areas of temporary disturbance that would not be paved or landscaped would be revegetated with the approved seed mix provided in the Moody AFB INRMP. Timely attention to revegetation of disturbed sites would help minimize the spread of noxious weeds and minimize erosion potential.

Wildlife. Wildlife species occupying hardwood/pine woodland and maintained open grass habitat that would be disturbed during construction activities would be displaced under Alternative 1. Species occupying the southern portion of Moody AFB including the Southwest Land Purchase Property are common and widespread within the ROI, and loss of this abundant habitat would not result in a significant impact to these wildlife species.

Threatened and Endangered Species. The Air Force has completed informal consultation procedures, as advised under Section 7 of the federal Endangered Species Act, to address potential impacts to federally protected species that may occur within the ROI. The USFWS, in response to the Air Force Section 7 consultation, concurred with the determination that the proposed activity may affect but is not likely to adversely affect listed species. No federally threatened and endangered species are known to occur within the ROI. Although the federally threatened and state threatened eastern indigo snake (*Drymarchon couperi*) and the federal candidate and state threatened gopher tortoise (*Gopherus polyphemus*) are present on Moody AFB, these species have not been identified within the project area. Surveys for threatened and endangered species with the potential to occur, based on habitat requirements, were conducted in support of this EA and identified no listed species (AECOM, 2016b). No impacts to resident federally listed threatened and endangered species from implementation of Alternative 1 are anticipated because no listed species are present on the property.

Species protected under the MBTA and the Bald and Golden Eagle Protection Act, have the potential to occur within the ROI. Bird species protected under the MBTA and the Bald and Golden Eagle Protection Act would be avoided to the maximum extent possible. Section 315 of the Bob Stump National Defense Authorization Act of 2003 (P.L. 107-314) exempts the incidental taking of migratory birds during military readiness activities. Per AFI 32-7064, Paragraph 7.4.2, Vegetation management within the airfield Clear Zones and Primary Surface, as defined in UFC 3-260-01, *Airfield and Heliport Planning and Design*, is a military readiness activity covered under 50 CFR § 21.15. Incidental takes of migratory birds may occur if construction activities coincide with the nesting season. However, the incidental take of migratory birds is exempt from permitting requirements and would not be considered a significant impact on migratory bird populations because of the small area of disturbance within the regional Grand Bay-Banks Lake watershed habitat.

Sensitive Habitats. Under Alternative 1, approximately 1.75 acres (76,230 SF) of wetlands would be impacted during the realignment of Burma Road (see Figure 4-2). Because Burma Road realignment activities would occur within wetlands, a FONPA is included with this EA. Burma Road would be considered fixed infrastructure providing vehicle access through the area; as a result, there is no practicable alternative to implementing the Burma Road realignment activities. Ground-disturbing activities within wetlands would be permitted under Section 404 of the CWA. Measures identified as part of the Section 404 permit would be implemented to minimize/mitigate impacts to jurisdictional waters. Therefore, significant impacts on sensitive habitats are not anticipated.

Mitigation Measures. Avoidance and minimization measures would be implemented under Alternative 1, as well as measures identified as part of the CWA Section 404 permit for disturbance within wetlands, including purchase of mitigation credits to offset the loss of wetlands.

4.4.4.2 Alternative 2.

Potential impacts to vegetation, wildlife, and threatened and endangered species from implementation of Alternative 2 would be similar to those described under Alternative 1. No significant impacts are anticipated.

Vegetation. Construction activities associated with Alternative 1 would primarily affect hardwood/pine woodland and some maintained open grass areas. The hardwood/pine woodland and open grass areas provide habitat for a limited number of common and widespread species. Loss of approximately 20 acres of hardwood/pine woodland and approximately 1 acre of maintained open grass habitat would not result in a significant impact given the wide expanse of these habitats on southern Moody AFB. No significant impacts to vegetation are anticipated.

Any areas of temporary disturbance that would not be paved or landscaped would be revegetated with the approved seed mix provided in the Moody AFB INRMP. Timely attention to revegetation of disturbed sites would help minimize the spread of noxious weeds and minimize erosion potential.

Wildlife. Wildlife species occupying hardwood/pine woodland and maintained open grass habitat that would be disturbed during construction activities would be displaced under Alternative 1. Species occupying the southern portion of Moody AFB including the Southwest Land Purchase Property are common and widespread within the ROI, and loss of this abundant habitat would not result in a significant impact to these wildlife species.

Threatened and Endangered Species. No federally threatened and endangered species are known to occur within the ROI. Although the federally threatened and state threatened eastern indigo snake and the federal candidate and state threatened gopher tortoise are present on Moody AFB, these species have not been identified within the project area. Surveys for threatened and endangered species with the potential to occur, based on habitat requirements, were conducted in support of this EA and identified no listed species (AECOM, 2016b). No impacts to resident federally listed threatened and endangered species from implementation of Alternative 2 are anticipated because no listed species are present on the property.

Species protected under the MBTA and the Bald and Golden Eagle Protection Act, have the potential to occur within the ROI. Bird species protected under the MBTA and the Bald and Golden Eagle Protection Act would be avoided to the maximum extent possible. Section 315 of the Bob Stump National Defense Authorization Act of 2003 (P.L. 107-314) exempts the incidental taking of migratory birds during military readiness activities. Per AFI 32-7064, Paragraph 7.4.2, Vegetation management within the airfield Clear Zones and Primary Surface, as defined in UFC 3-260-01, *Airfield and Heliport Planning and Design*, is a military readiness activity covered under 50 CFR § 21.15. Incidental takes of migratory birds may occur if construction activities coincide with the nesting season. The Air Force will make every effort to minimize potential effects; however, the incidental take of migratory birds is exempt from permitting requirements and would not be considered a significant impact on migratory bird populations because of the small area of disturbance within the regional Grand Bay-Banks Lake watershed habitat.

Sensitive Habitats. Under Alternative 2, approximately 6.10 acres (265,715 SF) of wetlands would be impacted during the realignment of Burma Road (see Figure 4-3). Because Burma Road realignment activities would occur within wetlands, a FONPA is included with this EA. Burma Road would be considered fixed infrastructure providing vehicle access through the area; as a result, there is no practicable alternative to implementing the Burma Road realignment activities. Ground-disturbing activities within wetlands would be permitted under Section 404 of the CWA. Measures identified as part of the Section 404 permit would be implemented to minimize/mitigate impacts to jurisdictional waters. Therefore, significant impacts on sensitive habitats are not anticipated.

Mitigation Measures. Avoidance and minimization measures would be implemented under Alternative 1, as well as measures identified as part of the CWA Section 404 permit for disturbance within wetlands, including purchase of mitigation credits to offset the loss of wetlands.

4.4.4.3 No-Action Alternative.

Under the No-Action Alternative, privately-owned land adjacent to the southwestern boundary of Moody AFB would not be purchased and no construction activities would occur. The Air Force would continue to operate in accordance with temporary airfield waivers. No construction activities would occur; therefore, no significant impacts to biological resources would be anticipated.

Mitigation Measures. No mitigation measures would be required.

4.4.5 Cultural Resources

Potential impacts to cultural resources were assessed by (1) identifying types of development activities that could directly or indirectly affect cultural resources, and (2) identifying the nature and significance of cultural resources within the ROI.

As a federal agency, the Air Force is responsible for identifying any historic properties associated with the property in compliance with Section 110 of the NHPA. This identification process includes not only field surveys and recording of cultural resources but also evaluations to develop determinations of significance in terms of National Register criteria.

4.4.5.1 Alternative 1.

Prehistoric and Historic Archaeological Resources. Archaeological investigations at Moody AFB have located 27 archaeological sites and 39 isolated finds. None of the identified sites and isolated finds are in the vicinity of the ROI. The Air Force conducted an archaeological survey of the 106.10-acre property in August 2016 to determine if prehistoric or historic resources are present. Two isolated finds were discovered during the survey, which were evaluated and recommended to be not eligible for the National Register (AECOM, 2016c) (Appendix C).

In the event that archaeological resources are encountered during construction activities, the construction contractor would suspend work in the immediate area, protect the site in place, and report the discovery to the Moody AFB Cultural Resources Manager to determine if additional investigation is required. In the event that further investigation is required, any data recovery would be performed in accordance with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation (48 FR 44734-37) and take into account the ACHP's publication, *Treatment of Archaeological Properties*. Based on the findings of the August 2016 survey, no significant impacts to archaeological resources are anticipated.

Historic Buildings and Structures. There are no National Register-listed or eligible structures within the ROI for direct effects. The pedestrian survey (conducted in conjunction with the archeological survey) and review of historic aerial photographs and topographic maps (dating to 1943) determined that there were no unknown eligible historic properties in the area. Research of the NRHP revealed no listed National Register properties within a mile of the project area. The nearest National Register-eligible structure is the Water Tower (Facility No. 618) on-base, which dates to the World War II Era (Moody AFB, 2011a), and is located approximately 1.0 mile north of the project site, outside the ROI for indirect effects. A Cultural Resource Survey and Cultural Resource Survey Addendum were completed in 2016. The survey resulted in the finding of zero (0) resources that have reached the fifty year threshold for historic significance that have not been previously recorded. There are no NRHP listed or NRHP eligible resources within the APE (see Concurrence Letter in Appendix A). Therefore no significant impacts to historic buildings and structures from proposed construction activities are anticipated.

Traditional Cultural Resources. The Air Force has conducted consultations with representatives of Native American groups as required under AIRFA. The purpose of these consultations was to determine AIRFA-related concerns such as access to sites of past cultural activity, landforms, and components of the natural environment that may occur on Moody AFB and are important to traditional religious practices of Native American groups. The Native American groups consulted include the Poarch Band of Creeks, Thlopthlocco Tribal Town, Seminole Nation of Oklahoma, Kialagee Tribal Town, Coushatta Tribe of Louisiana, Muscogee Nation of Florida, and the Muscogee (Creek) Nation.

Based on consultation with representatives of Native American groups, no traditional cultural resources, sacred areas, or traditional use areas have been identified at Moody AFB. Therefore, no significant impacts are anticipated.

Mitigation Measures. Because established Standard Operating Procedures for the protection and treatment of cultural resources, as outlined in the Moody AFB Integrated Cultural Resources Management Plan (ICRMP), would be implemented during construction activities, no mitigation measures would be required.

4.4.5.2 Alternative 2.

Prehistoric and Historic Archaeological Resources. Potential impacts from implementation of Alternative 2 would be similar to those described under Alternative 1. No significant impacts to prehistoric and historic archaeological resources are anticipated.

Historic Buildings and Structures. Potential impacts from implementation of Alternative 2 would be similar to those described under Alternative 1. No significant impacts to historic buildings and structures are anticipated.

Traditional Cultural Resources. Potential impacts from implementation of Alternative 2 would be similar to those described under Alternative 1. No significant impacts to traditional cultural resources are anticipated.

Mitigation Measures. Because established Standard Operating Procedures for the protection and treatment of cultural resources, as outlined in the Moody AFB ICRMP, would be implemented during construction activities, no mitigation measures would be required.

4.4.5.3 No-Action Alternative.

Under the No-Action Alternative, privately-owned land adjacent to the southwestern boundary of Moody AFB would not be purchased and no construction activities would occur. The Air Force would continue to operate in accordance with temporary airfield waivers. No construction activities would occur; therefore, no significant impacts to cultural resources would be anticipated.

Mitigation Measures. No mitigation measures would be required.

4.5 COMPATIBILITY OF THE PROPOSED ACTION WITH OBJECTIVES OF FEDERAL, STATE, REGIONAL, AND LOCAL LAND USE PLANS AND POLICIES

The Proposed Action and alternatives promote the Air Force's intention to cooperate with communities and other federal agencies, whenever possible, during development of federal property. The Proposed Action and alternatives would not adversely affect federal, state, regional, or local land use plans and policies and are compatible with adjacent land uses.

4.6 RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND LONG-TERM PRODUCTIVITY

The Proposed Action and alternatives would not affect the long-term productivity of the environment because no significant environmental impacts are anticipated, provided best management practices identified in this EA are implemented.

4.7 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Irreversible and irretrievable resource commitment refers to the use of nonrenewable sources and the effects these resources would have on future generations. Irreversible effects would result primarily from the consumption or destruction of a resource that could not be reversed. Irretrievable resource commitments would involve a loss or gain in the value of an affected resource that could not be reversed. The Proposed Action and alternatives would result in an irreversible or irretrievable commitment of resources such as labor, fuel, and demolished materials. Implementation of the Proposed Action or alternatives would not result in any significant irreversible or irretrievable commitment of resources.

4.8 CUMULATIVE ENVIRONMENTAL CONSEQUENCES

Cumulative impacts result from "the incremental impact of actions when added to other past, present, and reasonably foreseeable future actions, regardless of what agency undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (Council on Environmental Quality, 1978).

The scope of the cumulative effects analysis involves both timeframe and geographic extent in which effects could be expected to occur, and a description of what resources could potentially be cumulatively affected. For the purposes of this analysis, the temporal span of the Proposed Action is 1 year. For most resources, the spatial area for consideration of cumulative effects is the southern portion of Moody AFB including the Southwest Land Purchase Property, though a larger area is considered for some resources (e.g., air quality). An effort was undertaken to identify other projects at Moody AFB and in areas surrounding the property for evaluation in the context of the cumulative effects analysis.

Based on a review of regional developments, one other recently completed or future action in the southwest portion of Moody AFB was identified that could contribute to cumulative impacts. The Air

Force intends to install a natural gas line within the same utility alignment as the existing electrical and sewer alignment that runs through the graded portion of the Clear Zone (along the existing Burma Road). Because the location of the project is remote, no off-base developments have been identified in the vicinity of the project that could contribute to cumulative impacts. Future off-base actions in the vicinity of the project include continued management of the Grand Bay Wildlife Management Area. These management activities are considered part of the baseline conditions and do not currently impact the project site.

Construction activities associated with installing a new natural gas line would generally be expected to result in some increased noise, increased air emissions, potential for erosion, and generation of small amounts of hazardous materials and wastes. Construction activities generally would be expected to result in short-term job creation and materials procurement. These types of short-term, construction-related effects would occur regardless of project location and are not constraints to development. In the absence of unique constraints, the potential for environmental effects of a construction project smaller in scope than those analyzed as the Proposed Action in this EA would be expected to result in less than significant environmental effects.

Land Use and Aesthetics. Land use at Moody AFB is guided by the Installation Development Plan to ensure safe, compatible development. The new natural gas line would be installed within the same utility alignment as the existing electrical and sewer alignment that runs through the graded portion of the Clear Zone (along the existing Burma Road) and would be compatible with surrounding uses. The new natural gas line would be buried with no change to the visual character of the area. No significant cumulative impacts to land use and aesthetics would be anticipated.

Hazardous Materials and Hazardous Wastes Management. Installation of the new natural gas line within the same utility alignment as the existing electrical and sewer alignment that runs through the graded portion of the Clear Zone would not affect on-going ERP actions at Moody AFB. No ERP sites are situated within the natural gas line alignment. Therefore, no significant cumulative impacts to ERP sites would be anticipated.

Geology and Soils. The Proposed Action (remove temporary airfield waivers) is unlikely to lead to significant erosion potential in the project area, and no significant impacts to geologic or soil resources are expected. Installation of a new natural gas line within the same utility alignment as the existing electrical and sewer alignment that runs through the graded portion of the Clear Zone could result in soil disturbance and short-term exposure of the soil to wind or water erosion. However, the affected area is level, and standard construction practices to minimize erosion (e.g., watering disturbed soil) would be implemented. Individual projects disturbing more than 1 acre would be required to comply with a NPDES General Permit as well as a Georgia NPDES and Lowndes County Land Disturbance Permit for construction activities and implement environmental protection measures identified in a SWPPP to minimize erosion. The potential geologic impacts discussed above for the Proposed Action are not expected to increase in significance when considered in combination with impacts from other actions. Therefore, installation of the new natural gas line in combination with the Proposed Action would not have significant cumulative impacts to geology and soils.

Water Resources. The Proposed Action would have minor long-term effects associated with the increase in impervious surfaces (approximately 35,800 SF). Installation of the new natural gas line within the same utility alignment as the existing electrical and sewer alignment that runs through the graded portion of the Clear Zone would not increase the amount of impervious surfaces at Moody AFB. Individual projects disturbing more than 1 acre would be required to comply with a NPDES General

Permit as well as a Georgia NPDES and Lowndes County Land Disturbance Permit for construction activities and implement environmental protection measures identified in a SWPPP. Construction activities occurring at the same time and in the same vicinity could have short-term cumulative effects on water resources. Adherence to environmental protection measures identified in the SWPPP would minimize the potential for short-term cumulative effects on water quality. Environmental protection measures would be used to control erosion and sedimentation and minimize storm water from leaving the construction site; therefore, no significant cumulative impacts to water resources would be anticipated.

Air Quality. Installation of the new natural gas line would not be expected to have any significant cumulative air quality impacts in conjunction with the Proposed Action. Emissions from the Proposed Action would be minimized by controlling fugitive dust; these emissions would only have temporary effects and would not result in significant impacts. Air emissions associated with installing the new natural gas line would be minimized by controlling fugitive dust in accordance with standard construction practices, such as watering exposed surfaces twice per day or frequently enough to keep the surface moist at all times and watering haul roads, and would not be expected to have significant air quality impacts. After construction activities are completed, operation of the new natural gas line would not result in significant air quality emissions. Consequently, no significant cumulative impacts on overall air quality in the region are anticipated.

Biological Resources. Moody AFB maintains an INRMP that is a reference and planning document for managing the installation's natural resources while maintaining mission readiness. The open area within the graded portion of the Clear Zone (where the new natural gas line would be installed) consist of grasses that are maintained to achieve airfield clearance requirements and prevent wildlife from establishing habitat in the vicinity of the airfield. Construction activities occurring at the same time and in the same vicinity could have short-term cumulative effects on wildlife as a result of noise. Construction-related noise would only last during those activities and is not anticipated to be cumulatively significant. Therefore, installation of the new natural gas line in combination with the Proposed Action would not have significant cumulative impacts to biological resources.

Cultural Resources. The Moody AFB ICRMP identifies processes for the management of cultural resources at the base, as it is the installation's responsibility to consider the effects of its actions in order to avoid, minimize, or mitigate any impact to eligible cultural resources that might occur as a result of its actions. Installation of the new natural gas line would occur within the same utility alignment as the existing electrical and sewer alignment that runs through the graded portion of the Clear Zone. As the area has been previously disturbed, no cultural resources effects are anticipated. Therefore, installation of the new natural gas line in combination with the Proposed Action would not have significant cumulative impacts to cultural resources.

5.0 CONSULTATION AND COORDINATION

The federal, state, local, DoD, and other agencies/organizations/individuals contacted during the preparation of this EA are listed below:

Federal

U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service

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Georgia Department of Community Affairs
Georgia Wildlife Resources Division
Georgia Historic Protection Division
Georgia Department of Transportation

Local

South Georgia Regional Planning Council
Lanier County Commission
Lowndes County Commission

Department of Defense

HQ AFCEC/CZN
23 CES/CEIE

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Alabama-Quassarte Tribal Town-Creek Nation of Indians
The Cherokee Nation
United Keetoowah Band of Cherokee Indians
Muscogee (Creek) Nation
Poarch Band of Creek Indians
Thlopthlocco Tribal Town
Seminole Nation of Oklahoma
Seminole Tribe of Florida
Kialegee Tribal Town
Alabama Coushatta Tribe of Texas
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7.0 BIBLIOGRAPHY

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APPENDIX A

CONSULTATION LETTERS

IICEP LETTERS



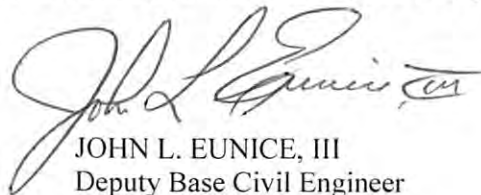
DEPARTMENT OF THE AIR FORCE
23D CIVIL ENGINEER SQUADRON (ACC)
MOODY AIR FORCE BASE GEORGIA

MEMORANDUM FOR FEDERAL, STATE, AND LOCAL PUBLIC AGENCIES

FROM: 23 CES/CD
3485 Georgia Street
Moody AFB, GA 31699-1707

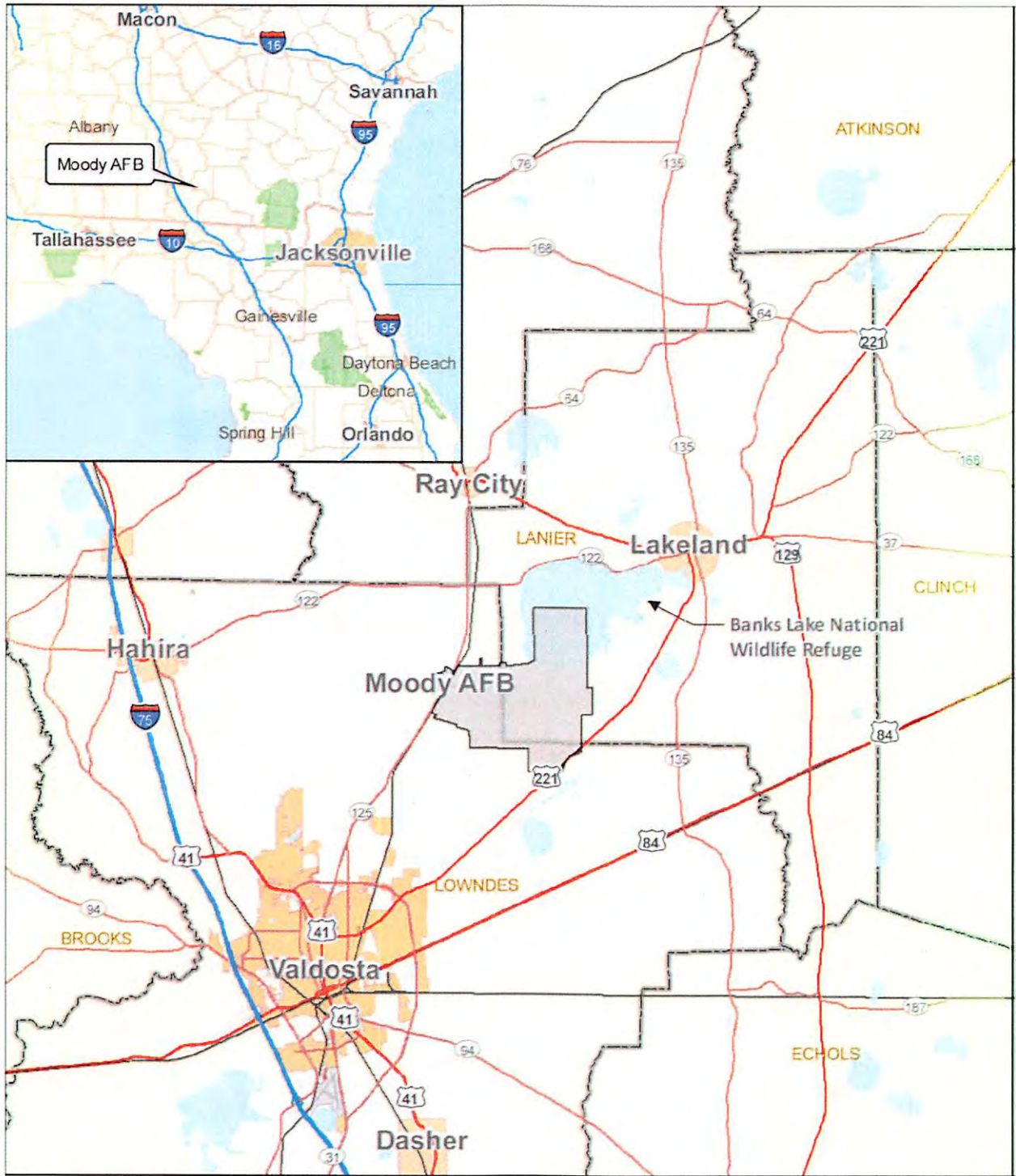
SUBJECT: Proposed Southwest Land Purchase at Moody AFB, GA

1. The United States Air Force is in the process of preparing an Environmental Assessment (EA) at Moody Air Force Base (AFB) (Attachment 1), Georgia (GA) to assess the potential environmental consequences associated with purchasing approximately 106.1 acres of undeveloped land southwest of the installation. Moody AFB is located in south central Georgia, north of the city of Valdosta on federal property in Lanier and Lowndes Counties. The proposed project area is southwest of the installation in Lowndes County (Attachment 2 and Attachment 3).
2. The purpose of the proposed land purchase is to facilitate multiple projects that will allow the removal of three airfield waivers and enhance encroachment management. Acquisition of the property will permit the rerouting of the south base perimeter road called Burma Road as well as moving the flightline and perimeter security fences. The location of Burma Road and the fencing currently requires a waiver because it transits through an area at the end of the runway that is required to be clear for safety reasons. Additionally, there are trees on this property that also require a waiver for flight safety reasons. Purchasing this land will permit rerouting the road and the installation of fences outside of the required clear area and facilitate the removal of trees to enhance flight safety. The road rerouting and new perimeter fencing will partially occur in wetland areas. Up to 20 acres of wetlands may be impacted with this proposed action.
3. The EA for the proposed action will be prepared in compliance with the National Environmental Policy Act of 1969, 42 United States Code (USC), the Council on Environmental Quality NEPA Regulations, 40 Code of Federal Regulations (CFR), and the Air Force's Environmental Impact Analysis Process, 32 CFR 989. As part of this EA, we request your assistance in identifying potential areas of environmental impact to be addressed in the study.
5. If you have any specific items of interest about the proposal, please contact the EA Project Manager, Mr. Hank Santicola at 23d Civil Engineer Squadron, 3485 Georgia Street, Moody AFB GA 31699, via e-mail at henry.santicola.2@us.af.mil, or by phone at (229) 257-2396 within 30 days of receipt of this letter.


JOHN L. EUNICE, III
Deputy Base Civil Engineer

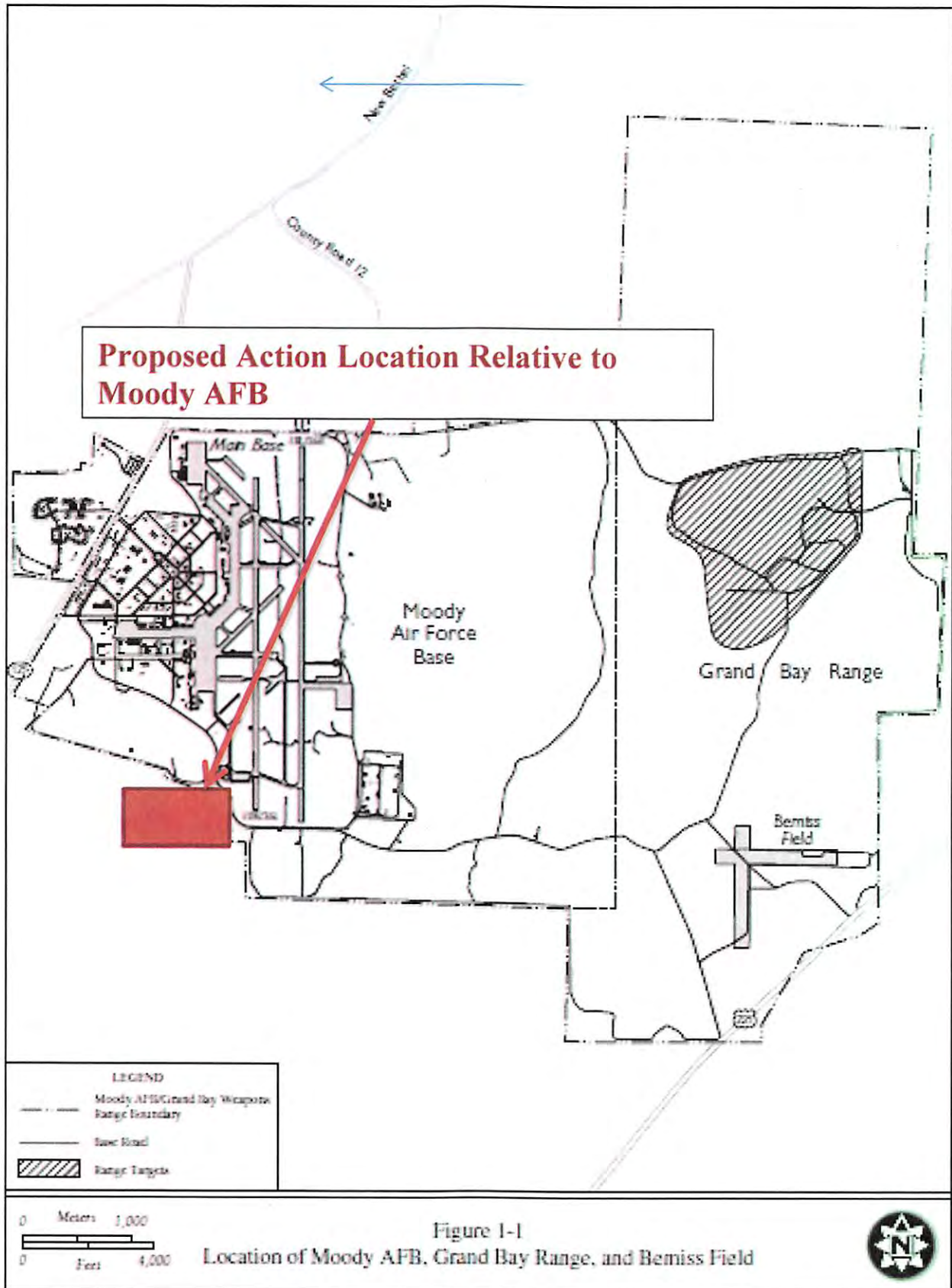
Attachments:

1. Location of Moody AFB, Georgia
2. Location of Proposed Project Area
3. Tract of Land to be Purchased



- | | |
|-----------------------------------|------------------------|
| Interstate | Lakes/Rivers |
| Primary US or State Highway | National Park - Forest |
| Secondary State or County Highway | State Park or Forest |
| Local or rural road | Installation Area |
| County Boundaries | City Area |







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COMMISSIONER

DAN FORSTER
DIRECTOR

January 11, 2016

John Eunice III
Deputy Base Civil Engineer
Department of the Air Force
23 CES/ CD
3485 Georgia Street
Moody AFB, GA 31699

Subject: Known occurrences of natural communities, plants and animals of highest priority conservation status on or near Southwest Land Purchase, Lowndes County, Georgia

Dear Mr.Eunice:

This is in response to your request of December 18, 2015. According to our records, within a three-mile radius of the project site, there are the following Natural Heritage Database occurrences:

(Site Center: -83.204027, 30.953066, WGS84)

- US *Ambystoma cingulatum* (Frosted Flatwoods Salamander) [HISTORIC] approx. 2.1 mi W of site
- US *Ambystoma cingulatum* (Frosted Flatwoods Salamander) [HISTORIC] approx. 2.6 mi NE of site
- Botaurus lentiginosus* (American Bittern) approx. 0.2 mi S of site
- Botaurus lentiginosus* (American Bittern) approx. 1.1 mi S of site
- GA *Clemmys guttata* (Spotted Turtle) approx. 0.1 mi NE of site
- US *Drymarchon couperi* (Eastern Indigo Snake) approx. 1.2 mi E of site
- GA *Epidendrum magnoliae* (Greenfly Orchid) approx. 2.1 mi E of site
- US *Gopherus polyphemus* (Gopher Tortoise) approx. 1.5 mi NE of site
- US *Gopherus polyphemus* (Gopher Tortoise) approx. 3.0 mi E of site
- Grus canadensis pratensis* (Florida Sandhill Crane) in an uncertain location near the project site
- Lanius ludovicianus migrans* (Migrant Loggerhead Shrike) approx. 2.0 mi N of site
- Lanius ludovicianus migrans* (Migrant Loggerhead Shrike) approx. 0.4 mi N of site
- Nyctanassa violacea* (Yellow-crowned Night-heron) approx. 0.1 mi S of site
- Nyctanassa violacea* (Yellow-crowned Night-heron) approx. 2.4 mi NE of site
- Nyctanassa violacea* (Yellow-crowned Night-heron) approx. 1.1 mi S of site
- Nycticorax nycticorax* (Black-crowned Night-heron) approx. 2.9 mi E of site
- Oxyopolis ternata* (Savanna Cowbane) [HISTORIC?] approx. 0.9 mi SE of site
- Plegadis falcinellus* (Glossy Ibis) approx. 1.2 mi S of site

Plegadis falcinellus (Glossy Ibis) approx. 1.1 mi S of site
Pseudobranchius striatus spheniscus (Slender Dwarf Siren) approx. 1.8 mi E of site
Pseudobranchius striatus spheniscus (Slender Dwarf Siren) approx. 2.9 mi E of site
Pseudobranchius striatus spheniscus (Slender Dwarf Siren) approx. 2.9 mi E of site
Pseudobranchius striatus spheniscus (Slender Dwarf Siren) approx. 0.2 mi S of site
Pteronotropis metallicus (Metallic Shiner) approx. 2.7 mi NW of site in Beatty Branch
Quercus austrina (Bluff White Oak) approx. 0.8 mi E of site
Regina alleni (Striped Crayfish Snake) approx. 1.2 mi SE of site
Regina alleni (Striped Crayfish Snake) approx. 0.1 mi E of site
GA *Sarracenia flava* (Yellow Flytrap) in uncertain location near the project site
GA *Sarracenia flava* (Yellow Flytrap) approx. 0.5 mi N of site
GA *Sarracenia minor var. minor* (Hooded Pitcherplant) approx. 0.9 mi SE of site
Seminatrix pygaea pygaea (Northern Florida Swamp Snake) approx. 0.3 mi S of site
Triphora trianthophora (Three-birds Orchid) approx. 2.2 mi E of site
Ursus americanus floridanus (Florida Black Bear) approx. 1.0 mi S of site
Wading Bird Colony (Wading Bird Colony) approx. 0.9 mi NE of site
Withlacoochee River 3 (0311020304) [SWAP High Priority Watershed], approx. 1.3 mi
W of site

Recommendations:

We have no records of high priority species or habitats within the project area. However, two federally protected species, *Ambystoma cingulatum* (Frosted Flatwoods Salamander) and *Drymarchon couperi* (Eastern Indigo Snake) as well as a candidate for federal listing, *Gopherus polyphemus* (Gopher Tortoise), have been documented within three miles of the proposed project. To minimize potential impacts to this or other federally listed species, we recommend consultation with the United States Fish and Wildlife Service. For southeast Georgia, please contact Strant Colwell (912) 832-8739 ext 1 or Strant_Colwell@fws.gov). Surveys for species of conservation concern should be conducted prior to commencement of construction.

We have a record of the federally threatened flatwoods salamander (*Ambystoma cingulatum*) near the site. This species is most often found in association with mesic flatwoods in longleaf pine / wiregrass communities in the coastal plain. Should construction be planned for the future, we suggest that a survey for the flatwoods salamander within the project boundary be conducted over more than a single season, as one, two, or even three or more years may be insufficient to detect the flatwoods salamander, especially during and following extended drought conditions. Should you require assistance with flatwoods salamander survey efforts, please contact Thomas Floyd in the GA DNR, Nongame Conservation Section Office in Forsyth (478-994-1438).

Disclaimer:

Please keep in mind the limitations of our database. The data collected by the Nongame Conservation Section comes from a variety of sources, including museum and herbarium records, literature, and reports from individuals and organizations, as well as field surveys by our staff biologists. In most cases the information is not the result of a recent on-site survey by our

staff. Many areas of Georgia have never been surveyed thoroughly. Therefore, the Nongame Conservation Section can only occasionally provide definitive information on the presence or absence of rare species on a given site. Our files are updated constantly as new information is received. **Thus, information provided by our program represents the existing data in our files at the time of the request and should not be considered a final statement on the species or area under consideration.**

If you know of populations of highest priority species that are not in our database, please fill out the appropriate data collection form and send it to our office. Forms can be obtained through our web site (<http://www.georgiawildlife.com/node/1376>) or by contacting our office. If I can be of further assistance, please let me know.

Sincerely,



Anna Yellin
Environmental Review Coordinator

Data Available on the Nongame Conservation Section Website

- Georgia protected plant and animal profiles are available on our website. These accounts cover basics like descriptions and life history, as well as threats, management recommendations and conservation status. Visit <http://www.georgiawildlife.com/node/2721>.
- Rare species and natural community information can be viewed by Quarter Quad, County and HUC8 Watershed. To access this information, please visit our GA Rare Species and Natural Community Information page at: <http://www.georgiawildlife.com/conservation/species-of-concern?cat=conservation>.
- Downloadable files of rare species and natural community data by quarter quad and county are also available. They can be downloaded from: <http://www.georgiawildlife.com/node/1370>.

Georgia Department of Natural Resources

Environmental Protection Division-Land Protection Branch

2 Martin Luther King, Jr. Dr., Suite 1052, Atlanta, Georgia 30334

(404) 656-2833; Fax (404) 651-9425

Judson H. Turner, Director

January 15, 2016

VIA UPS

Mr. Hank Santicola
EA Project Manager
Attn: 23d Civil Engineer Squadron
3485 Georgia Street
Moody AFB, GA 31699

RE: Memorandum for Federal, State, and Local Public Agencies
Proposed Southwest Land Purchase; Moody Air Force Base (MAFB), Georgia

Dear Mr. Santicola:

The Land Protection Branch of the Georgia Environmental Protection Division (EPD) has reviewed the above-referenced document regarding the Environmental Assessment (EA) at MAFB associated with the proposed southwest land purchase of approximately 106.1 acres, which was received in our office on December 22, 2015. It is stated that the proposed purchase is to “facilitate multiple projects that will allow the removal of three airfield waivers and enhance encroachment management.” These projects will include the relocation of Burma Road and the removal of trees to enhance flight safety. Please ensure that these projects are completed in coordination with the Civil Engineering Installation Environmental Restoration Program (i.e., Lori Burnam, Restoration Program Manager) to ensure that any proposed activities would not impede the on-going Corrective Action Program for the Burma Road Landfill Site (LF-01). Corrective Action is required by Hazardous Waste Facility Permit No. HW-077(CA) for LF-01 for a groundwater contaminant plume which has migrated onto the proposed purchase property. Currently, the property has several monitoring wells, bio-spargers, and associated equipment that could be damaged if care is not exercised.

Please contact Susan Eason or Heather Clark at (404) 656-2833 if you have any questions.

Sincerely,



Amy Potter
Unit Coordinator
Hazardous Waste Management Program



HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

January 13, 2016

John L. Eunice, III, GS-14, DAFC
Deputy Base Civil Engineer
23d Civil Engineer Squadron
3485 Georgia Street
Moody Air Force Base, Georgia 31699
Attn: Hank Santicola, ER Project Manager

RE: Moody AFB: Purchase 106.1 Acres, Southwest of Installation, Valdosta
Lanier and Lowndes County, Georgia
HP-151228-008

Dear Mr. Eunice,

The Historic Preservation Division (HPD) has received initial information concerning the above referenced project requesting comments pursuant to the National Environmental Policy Act of 1969. Our comments are offered to assist the Department of the Air Force and Moody Air Force Base (AFB) in complying with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended.

Thank you for notifying us of this federal undertaking. We look forward to receiving Section 106 compliance documentation as appropriate.

Please refer to project number **HP 151228-001** in future correspondence regarding this project. If we may be of further assistance, please contact me at (770) 389-7851 or Jennifer.dixon@dnr.ga.gov.

Sincerely,

Jennifer Dixon, MHP, LEED Green Associate
Program Manager
Environmental Review & Preservation Planning

NATIVE AMERICAN LETTERS



**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 23D WING (ACC)
MOODY AIR FORCE BASE GEORGIA**

1 Aug 16

Colonel Thomas E. Kunkel
23d Wing Commander
23 Flying Tiger Way, Suite 1
Moody AFB GA 31699

Chairman, Lovelin Poncho
Coushatta Tribe of Louisiana
1940 C.C. Bel Road P.O. Box 818
Elton LA 70532

Dear Mr. Poncho

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA), and in compliance with Section 106 of the National Historic Preservation Act (NHPA), to evaluate the potential environmental impacts associated with purchasing approximately 106.1 acres of undeveloped land southwest of Moody Air Force Base, Georgia. The purpose of the proposed land purchase is to remove three airfield waivers issued by Headquarters Air Combat Command for violating airfield obstacle clearance requirements and to enhance encroachment management. Acquisition of the property will permit the rerouting of the south base perimeter road, called Burma Road, as well as moving the flightline and perimeter security fences. The location of Burma Road and the fencing currently requires a waiver because they transit through an area at the end of the runway that is required to be clear for safety reasons. Additionally, there are trees on the property that also require a waiver for flight safety reasons. Purchasing the land will permit rerouting the road and installation fences outside of the required clear area and facilitate the removal of trees to enhance flight safety. The road rerouting and new perimeter fencing will partially occur in wetland areas. Up to 20 acres of wetlands may be impacted with the proposed action.

I have included three attachments with this correspondence. Attachment 1 is a map depicting the location of Moody AFB. Attachment 2 shows the project area in relation to the installation. Attachment 3 is a map of the tract of land to be purchased.

Moody AFB occupies approximately 10,843 acres in South Central Georgia, north of the City of Valdosta in Lowndes and Lanier counties. The main base and the Grand Bay Weapons Range have been surveyed for cultural resources. The results of these surveys include 23 archaeological sites, 39 isolated archaeological finds, 234 Cold War-era and older buildings and structures. Of these archeological and historical resources, only two archeological sites and one historic structure were found to be eligible for listing under the National Register of Historic Places (NRHP). The management of cultural resources on the installation is outlined in the Moody AFB Integrated Cultural Resources Management Plan. Currently, the Air Force is not aware of any sites or resources of known interest to the Coushatta Tribe of Louisiana on Moody AFB.

The 1999 Department of Defense American Indian and Alaska Native Policy recognizes the "importance of addressing tribal concerns, past, present, and future" and states "these concerns should be addressed prior to reaching decisions on matters that may have the potential to significantly affect protected tribal resources, tribal rights, or Indian lands."

Global Power for America

With this letter, the USAF invites the Coushatta Tribe of Louisiana to provide input regarding this analysis and to notify you of these projects so you can express your comments, concerns, and suggestions. After the draft EA is completed, we will send you a copy for your further review and comment.

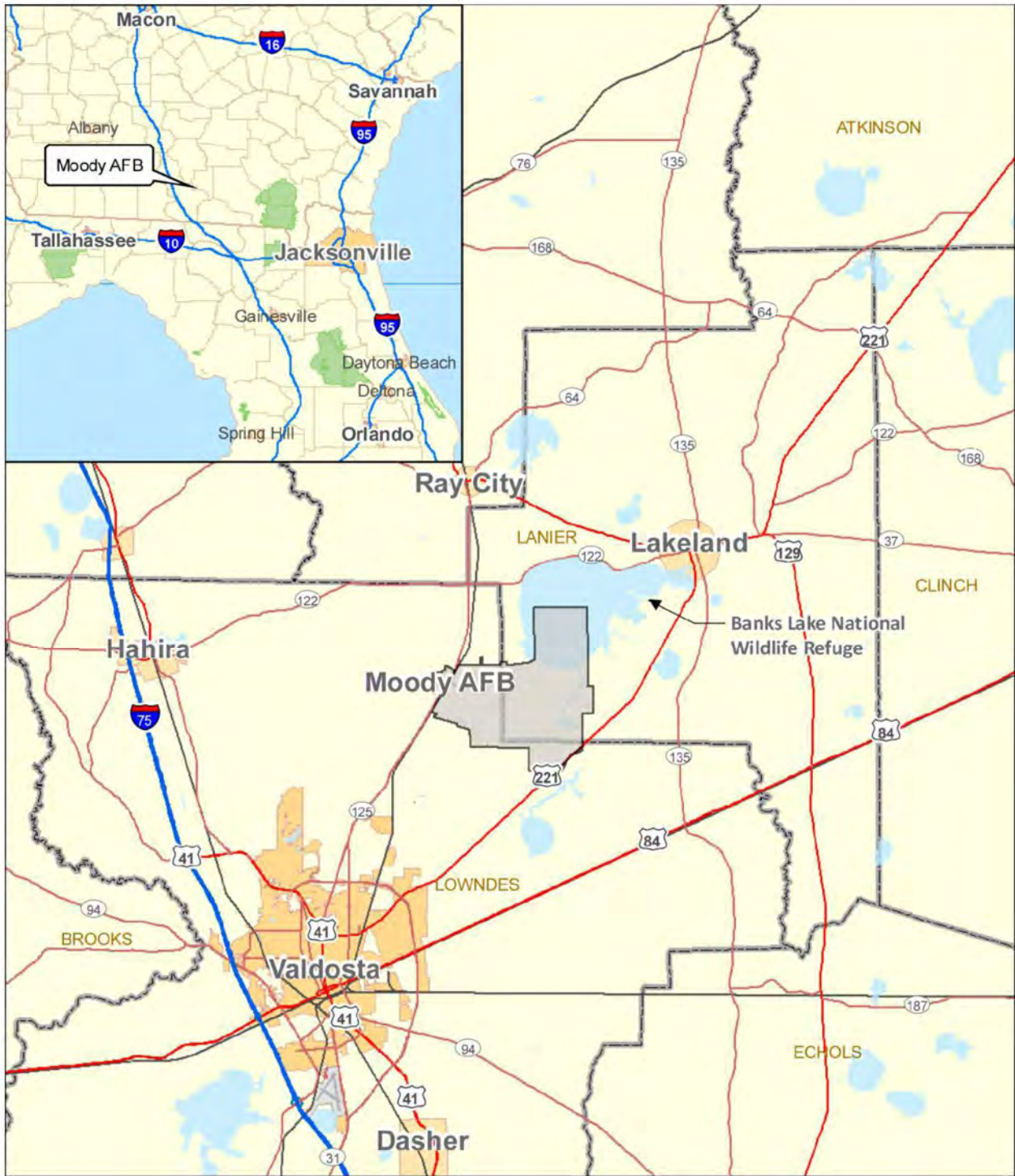
We request you forward any written comments to Mr. Henry Santicola, 23 CES/CEIA, 3485 Georgia Street, Moody AFB, GA 31699 or e-mail to henry.santicola.2@us.af.mil within 30 days of receipt of this letter. If you need more than 30 days to review this letter and provide comments, or if you have any questions or concerns pertaining to this correspondence, Mr. Santicola can be reached at (229) 257-2396. Thank you for your assistance.

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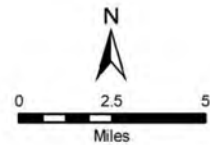
THOMAS E. KUNKEL, Colonel, USAF
Commander

3 Attachments:

1. Location of Moody AFB
2. Proposed Project Area
3. Tract of Land to be Purchased



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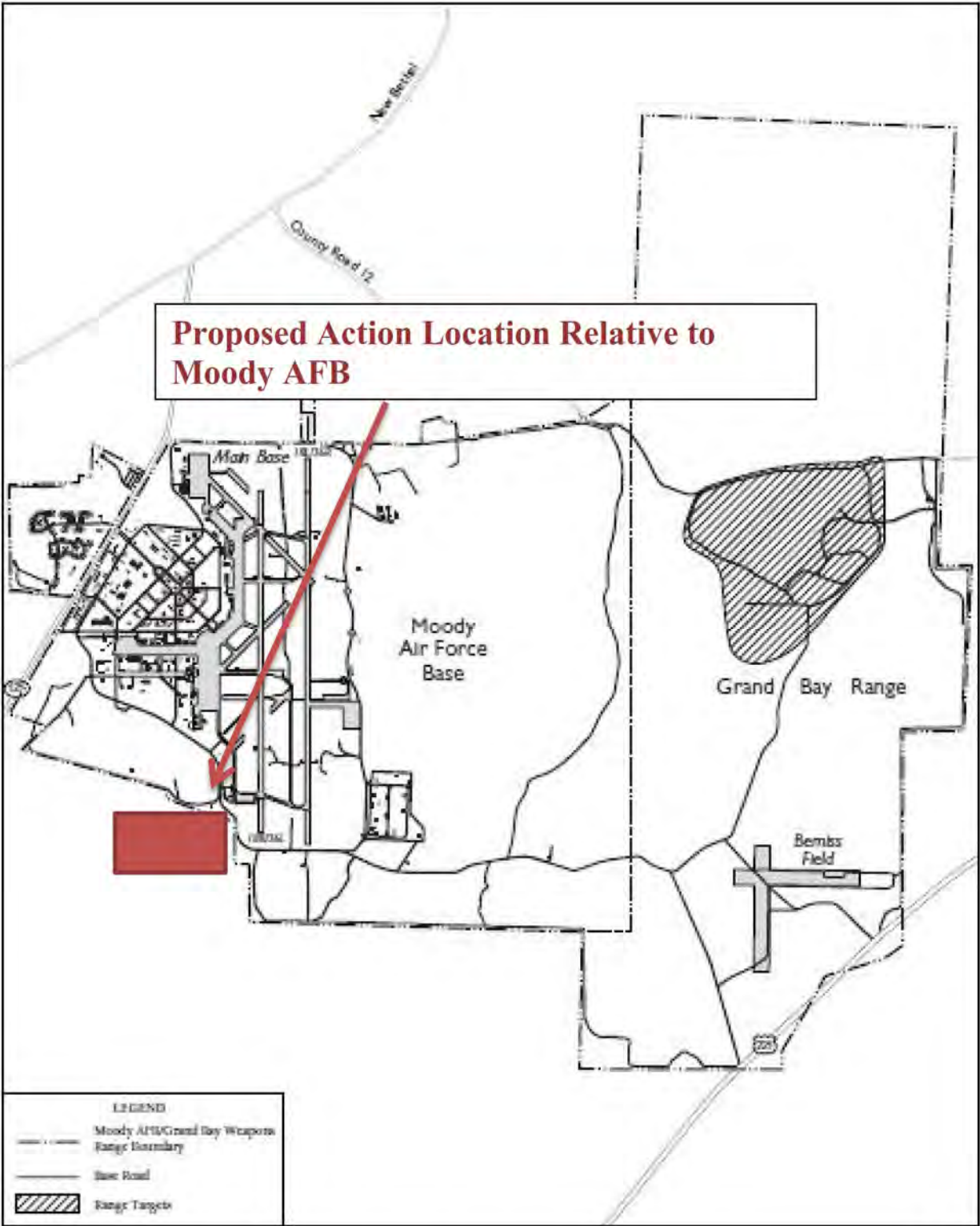


Figure 1-1
Location of Moody AFB, Grand Bay Range, and Bemiss Field





Attachment 3



**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 23D WING (ACC)
MOODY AIR FORCE BASE GEORGIA**

29 Aug 16

Colonel Thomas E. Kunkel
Commander, 23d Wing
23 Flying Tiger Way, Suite 1
Moody AFB GA 31699

Chairman, Lovelin Poncho
Coushatta Tribe of Louisiana
1940 C.C. Bel Road P.O. Box 818
Elton, LA 70532

Dear Mr. Poncho

The United States Air Force (USAF) is in the process of preparing an environmental assessment at Moody Air Force Base (AFB), Georgia to assess the potential environmental impacts associated with purchasing approximately 106.1 acres of undeveloped land southwest of Moody Air Force Base, Georgia. Last month the USAF invited you to participate in government-to-government consultation regarding this proposal.

The USAF welcomes any input you would like to see included in this analysis. Though we will consider comments received at any time during the environmental impact analysis process, your input is most valuable to us when received early in the planning process, especially during the next few weeks.

Please direct written issues or concerns to Mr. Hank Santicola, Environmental Planner, 3485 Georgia Street, Moody AFB, GA 31699 or through e-mail at henry.santicola.2@us.af.mil. Mr. Santicola can also be contacted at (229) 257-2396. Thank you in advance for your assistance with this project.

Sincerely

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THOMAS E. KUNKEL, Colonel, USAF
Commander



**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 23D WING (ACC)
MOODY AIR FORCE BASE GEORGIA**

1 Aug 16

Colonel Thomas E. Kunkel
23d Wing Commander
23 Flying Tiger Way, Suite 1
Moody AFB GA 31699

Chief, Jeremiah Hobia
Kialagee Tribal Town
P.O. Box 332
Wetumka OK 74883

Dear Mr. Hobia

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA), and in compliance with Section 106 of the National Historic Preservation Act (NHPA), to evaluate the potential environmental impacts associated with purchasing approximately 106.1 acres of undeveloped land southwest of Moody Air Force Base, Georgia. The purpose of the proposed land purchase is to remove three airfield waivers issued by Headquarters Air Combat Command for violating airfield obstacle clearance requirements and to enhance encroachment management. Acquisition of the property will permit the rerouting of the south base perimeter road, called Burma Road, as well as moving the flightline and perimeter security fences. The location of Burma Road and the fencing currently requires a waiver because they transit through an area at the end of the runway that is required to be clear for safety reasons. Additionally, there are trees on the property that also require a waiver for flight safety reasons. Purchasing the land will permit rerouting the road and installation fences outside of the required clear area and facilitate the removal of trees to enhance flight safety. The road rerouting and new perimeter fencing will partially occur in wetland areas. Up to 20 acres of wetlands may be impacted with the proposed action.

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The 1999 Department of Defense American Indian and Alaska Native Policy recognizes the "importance of addressing tribal concerns, past, present, and future" and states "these concerns should be addressed prior to reaching decisions on matters that may have the potential to significantly affect protected tribal resources, tribal rights, or Indian lands."

Global Power for America

With this letter, the USAF invites the Kialagee Tribal Town to provide input regarding this analysis and to notify you of these projects so you can express your comments, concerns, and suggestions. After the draft EA is completed, we will send you a copy for your further review and comment.

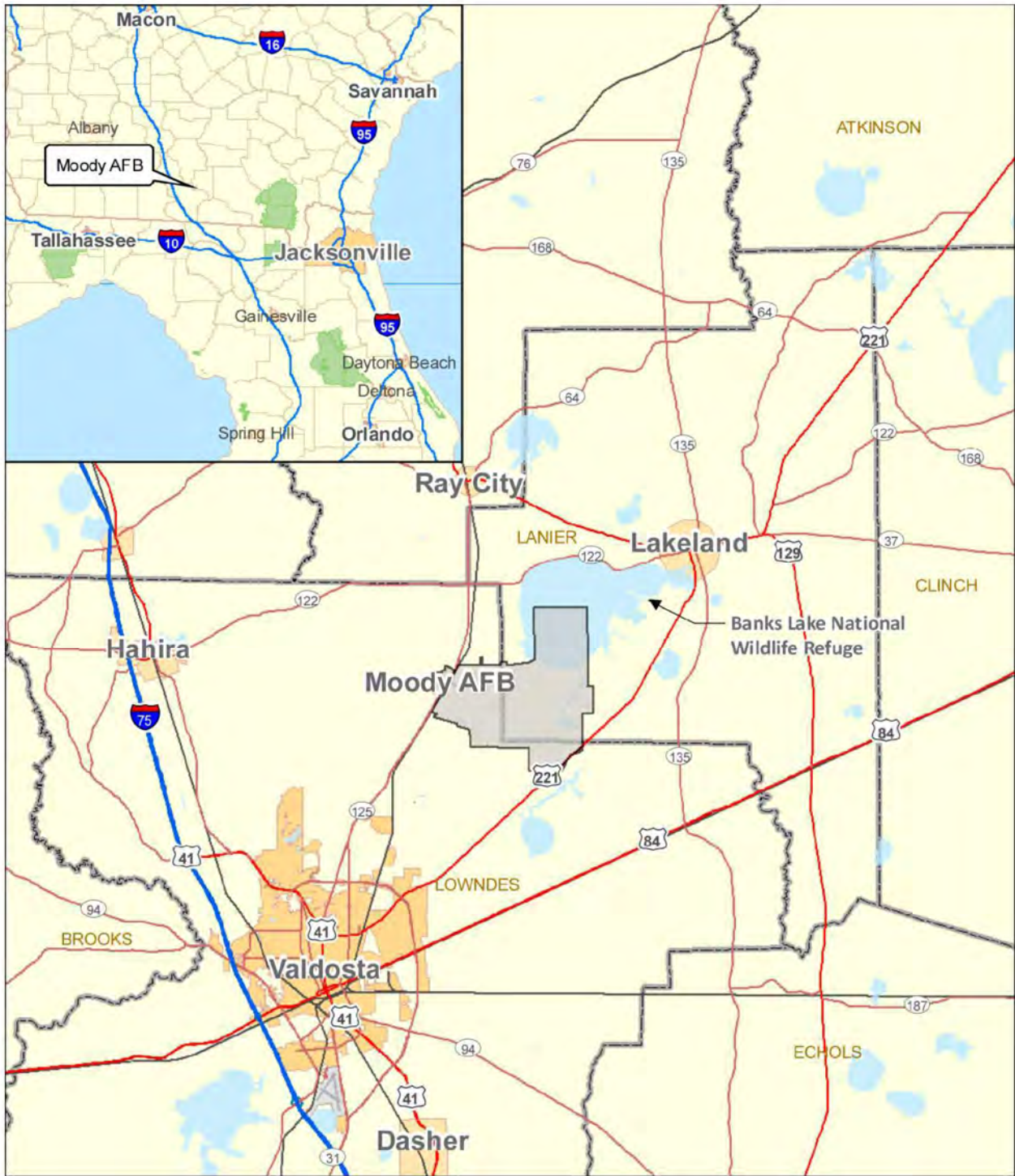
We request you forward any written comments to Mr. Henry Santicola, 23 CES/CEIA, 3485 Georgia Street, Moody AFB, GA 31699 or e-mail to henry.santicola.2@us.af.mil within 30 days of receipt of this letter. If you need more than 30 days to review this letter and provide comments, or if you have any questions or concerns pertaining to this correspondence, Mr. Santicola can be reached at (229) 257-2396. Thank you for your assistance.

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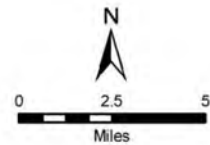
THOMAS E. KUNKEL, Colonel, USAF
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3 Attachments:

1. Location of Moody AFB
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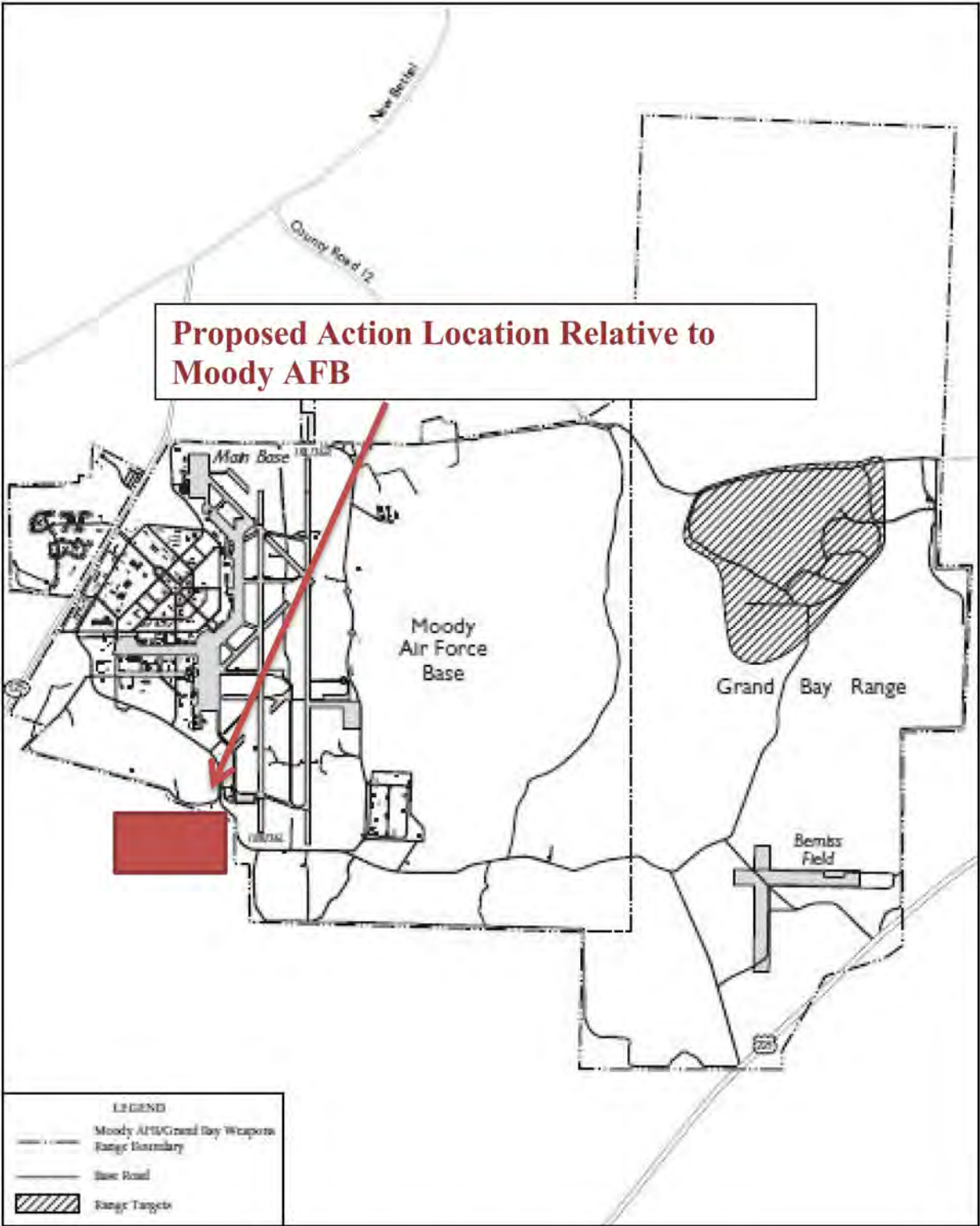


Figure 1-1
Location of Moody AFB, Grand Bay Range, and Bemiss Field





Attachment 3



**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 23D WING (ACC)
MOODY AIR FORCE BASE GEORGIA**

29 Aug 16

Colonel Thomas E. Kunkel
Commander, 23d Wing
23 Flying Tiger Way, Suite 1
Moody AFB GA 31699

Chief, Jeremiah Hobia
Kialegee Tribal Town
P.O. Box 332
Wetumka, OK 74883

Dear Mr. Hobia

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Sincerely

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THOMAS E. KUNKEL, Colonel, USAF
Commander



**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 23D WING (ACC)
MOODY AIR FORCE BASE GEORGIA**

1 Aug 16

Colonel Thomas E. Kunkel
23d Wing Commander
23 Flying Tiger Way, Suite 1
Moody AFB GA 31699

Principal Chief, James Floyd
The Muscogee (Creek) Nation
P.O. Box 580
Okmulgee OK 74447

Dear Mr. Floyd

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA), and in compliance with Section 106 of the National Historic Preservation Act (NHPA), to evaluate the potential environmental impacts associated with purchasing approximately 106.1 acres of undeveloped land southwest of Moody Air Force Base, Georgia. The purpose of the proposed land purchase is to remove three airfield waivers issued by Headquarters Air Combat Command for violating airfield obstacle clearance requirements and to enhance encroachment management. Acquisition of the property will permit the rerouting of the south base perimeter road, called Burma Road, as well as moving the flightline and perimeter security fences. The location of Burma Road and the fencing currently requires a waiver because they transit through an area at the end of the runway that is required to be clear for safety reasons. Additionally, there are trees on the property that also require a waiver for flight safety reasons. Purchasing the land will permit rerouting the road and installation fences outside of the required clear area and facilitate the removal of trees to enhance flight safety. The road rerouting and new perimeter fencing will partially occur in wetland areas. Up to 20 acres of wetlands may be impacted with the proposed action.

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The 1999 Department of Defense American Indian and Alaska Native Policy recognizes the "importance of addressing tribal concerns, past, present, and future" and states "these concerns should be addressed prior to reaching decisions on matters that may have the potential to significantly affect protected tribal resources, tribal rights, or Indian lands."

Global Power for America

With this letter, the USAF invites the Muscogee (Creek) Nation to provide input regarding this analysis and to notify you of these projects so you can express your comments, concerns, and suggestions. After the draft EA is completed, we will send you a copy for your further review and comment.

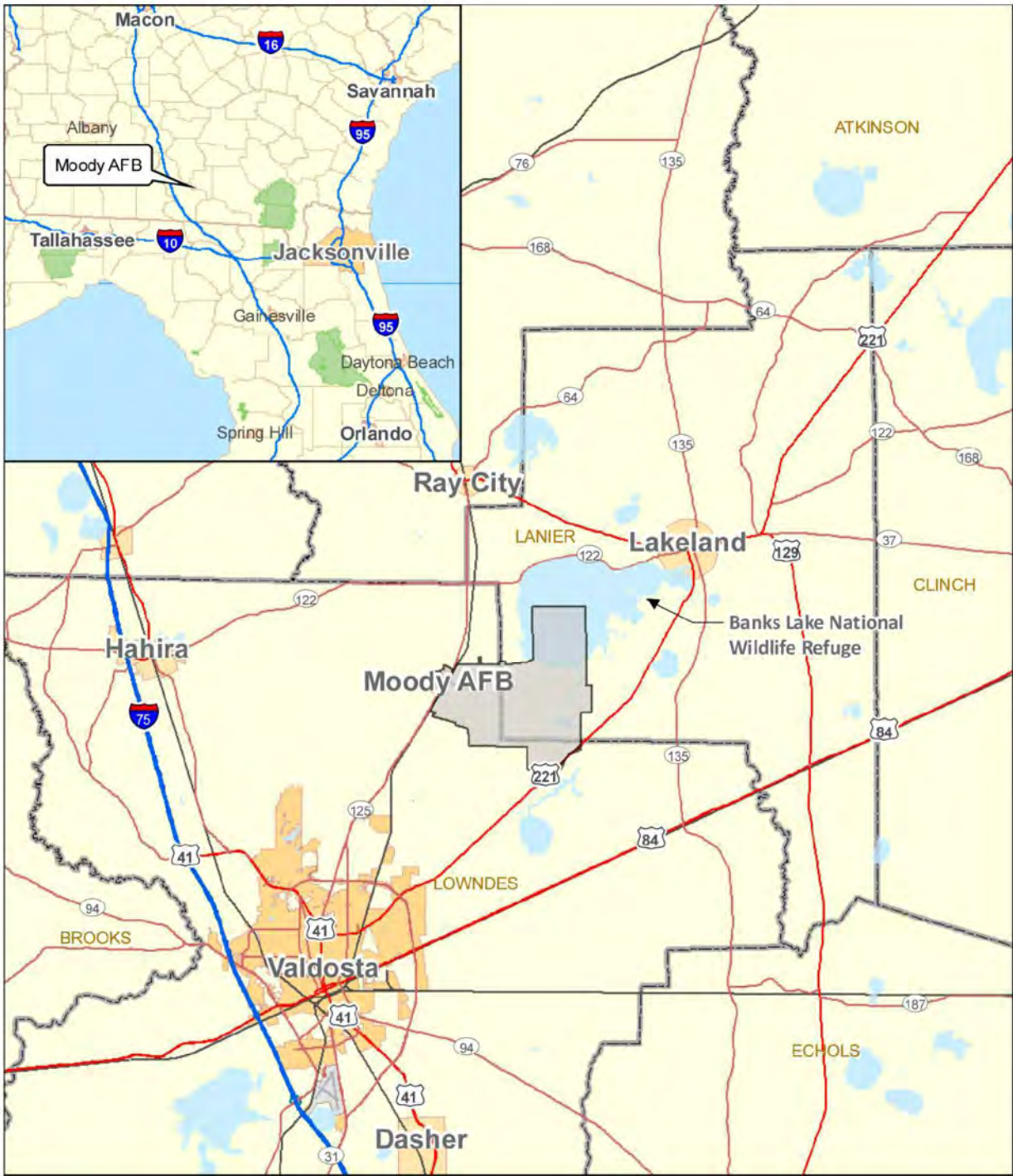
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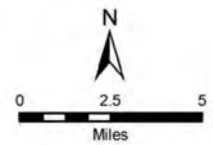
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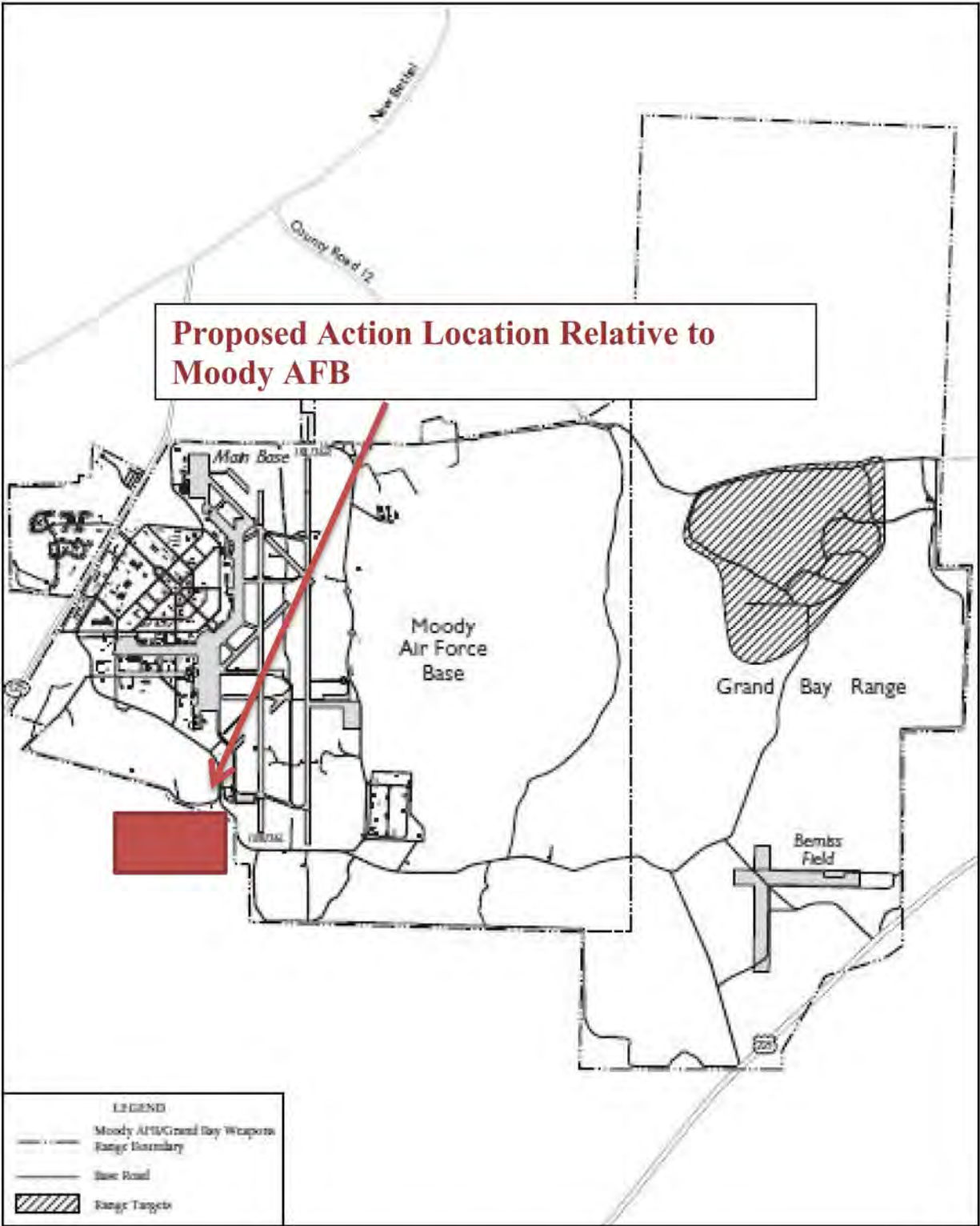


Figure 1-1
Location of Moody AFB, Grand Bay Range, and Bemiss Field





Attachment 3

From: [David Proctor](#)
To: [SANTICOLA, HENRY J GS-12 USAF ACC 23 CES/CEIEA](#)
Subject: Department of the Air Force Moody Air Force Base - Land Acquisition
Date: Tuesday, August 23, 2016 1:35:02 PM

Colonel Thomas E. Kunkel

23rd Wing Commander

23 Flying Tiger Way, Suite 1

Moody AFB, GA 31699

Colonel Kunkel:

Thank you for the correspondence regarding the proposed acquisition of 106.1 acres of property located southwest of Moody Air Force Base for rerouting of the Burma Road and associated activities. Lowndes and Lanier counties are within our historic area of interest. We concur that there should be no adverse effects to any known historic/Tribal properties and that work should proceed as planned. However, as the project is located in an area that is of general historic interest to the Tribe, we request that work be stopped and our office contacted immediately if any Native American cultural materials are encountered. This stipulation should be placed on the construction plans to insure contractors are aware of it. Please feel free to contact me with any further questions or concerns.

Thank You,

David J. Proctor, Cultural Advisor

Cultural Preservation Office

Muscogee (Creek) Nation

PO Box 580

Okmulgee, Ok 74447

davidp@mcn-nsn.gov <<mailto:davidp@mcn-nsn.gov>>

(918) 732-7732

Federal and state agencies, museums, and consulting partners, as of October 1, 2015 please send all Section 106 project notices as well as all NAGPRA notices to our new section106@mcn-nsn.gov <<mailto:section106@mcn-nsn.gov>>. Notices concerning these projects will no longer be sent to individual staff member's emails. We will be accepting and responding using the new Section 106 email. If you have any questions, please give us a call at 918-732-7733.



**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 23D WING (ACC)
MOODY AIR FORCE BASE GEORGIA**

1 Aug 16

Colonel Thomas E. Kunkel
23d Wing Commander
23 Flying Tiger Way, Suite 1
Moody AFB GA 31699

Chairwoman, Ann Tucker
Muscogee Nation of Florida
278 Church Road
Ponce de Leon FL 32455

Dear Ms. Tucker

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Global Power for America

With this letter, the USAF invites the Muscogee Nation of Florida to provide input regarding this analysis and to notify you of these projects so you can express your comments, concerns, and suggestions. After the draft EA is completed, we will send you a copy for your further review and comment.

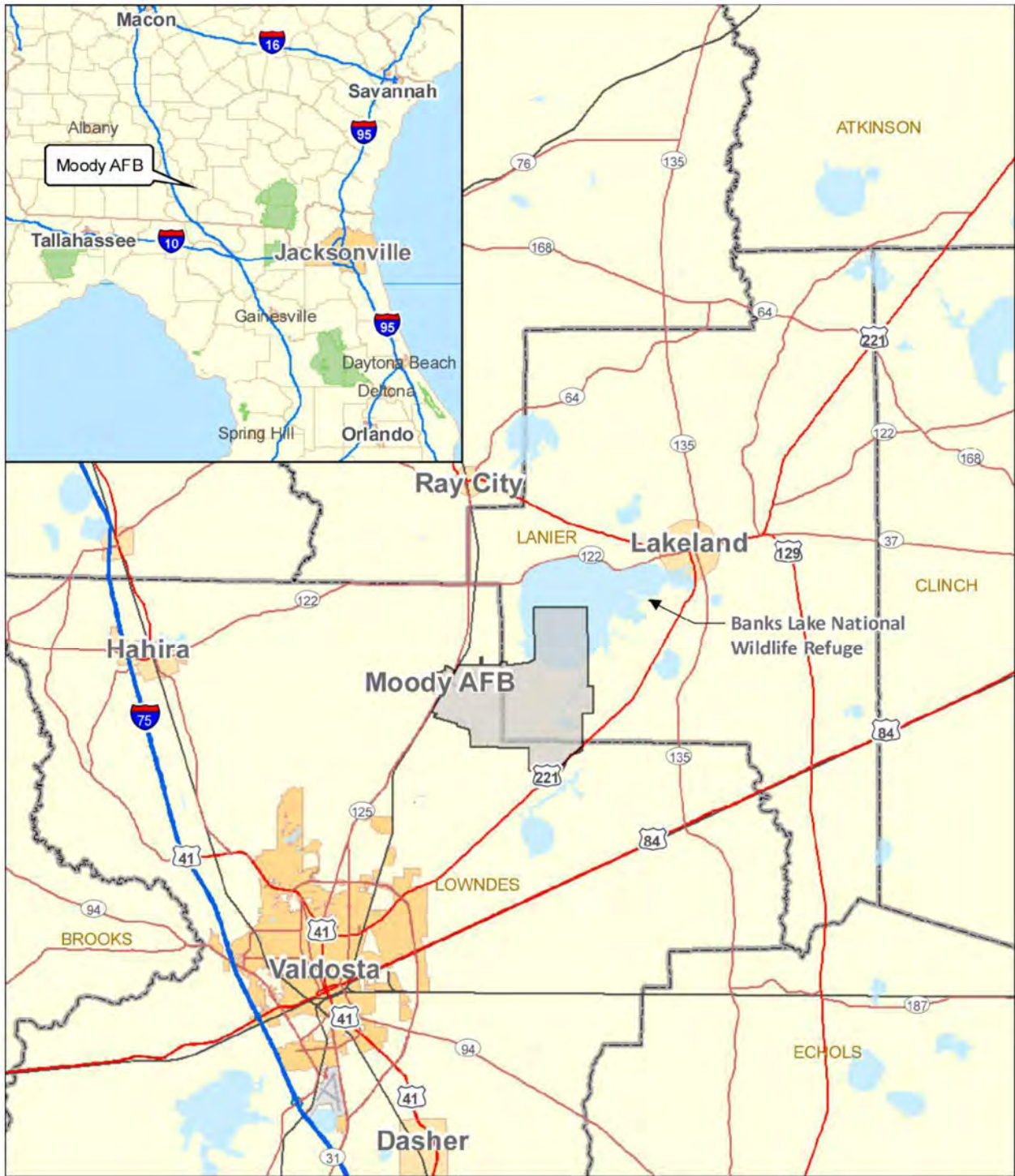
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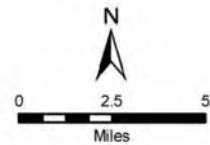
THOMAS E. KUNKEL, Colonel, USAF
Commander

3 Attachments:

1. Location of Moody AFB
2. Proposed Project Area
3. Tract of Land to be Purchased



- Interstate
- Primary US or State Highway
- Secondary State or County Highway
- Local or rural road
- County Boundaries
- Lakes/Rivers
- National Park - Forest
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- City Area



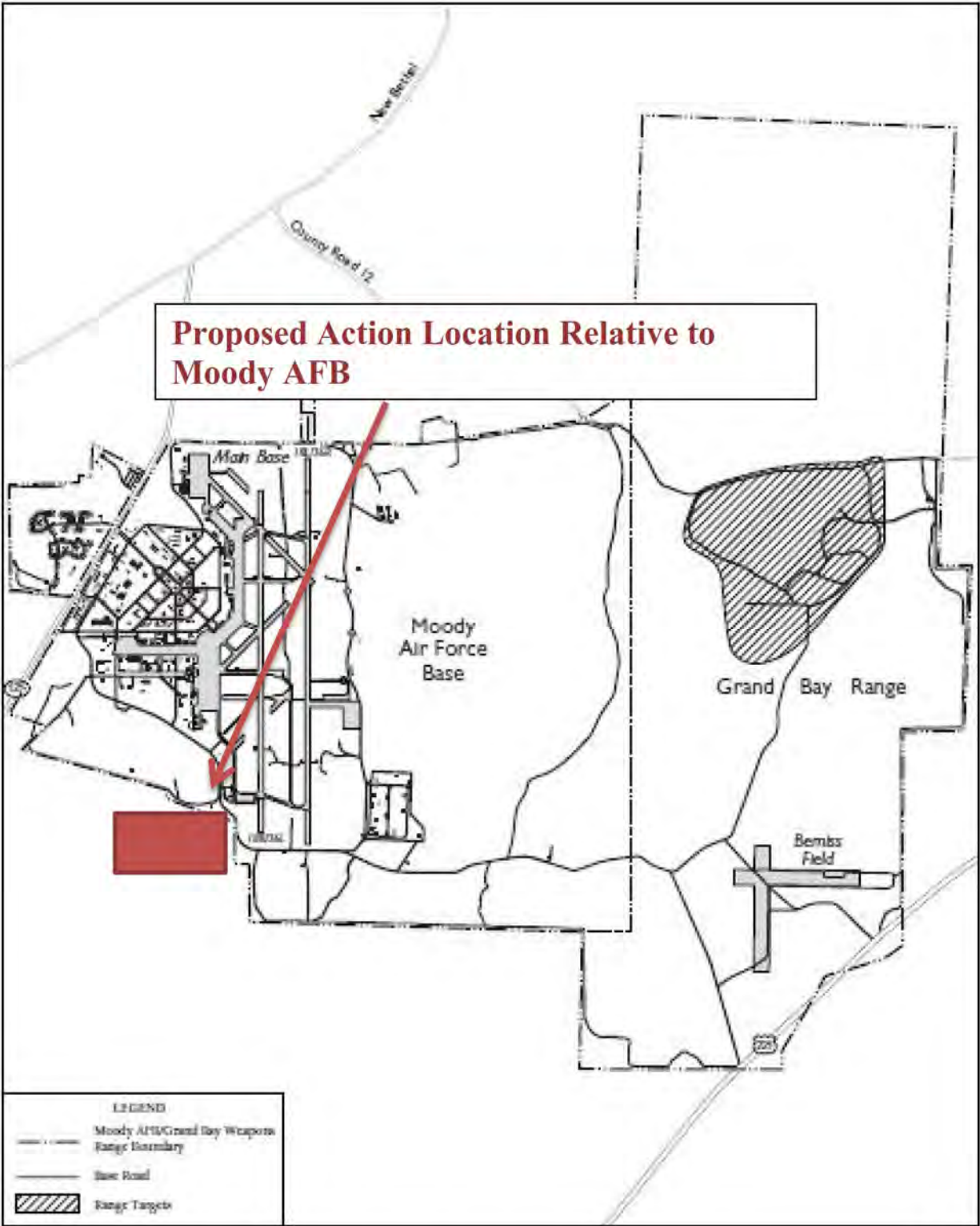


Figure 1-1
Location of Moody AFB, Grand Bay Range, and Bemiss Field





Attachment 3



**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 23D WING (ACC)
MOODY AIR FORCE BASE GEORGIA**

29 Aug 16

Colonel Thomas E. Kunkel
Commander, 23d Wing
23 Flying Tiger Way, Suite 1
Moody AFB GA 31699

Chairwoman, Ann Tucker
Muscogee Nation of Florida
278 Church Road
Ponce de Leon, FL 32455

Dear Ms. Tucker

The United States Air Force (USAF) is in the process of preparing an environmental assessment at Moody Air Force Base (AFB), Georgia to assess the potential environmental impacts associated with purchasing approximately 106.1 acres of undeveloped land southwest of Moody Air Force Base, Georgia. Last month the USAF invited you to participate in government-to-government consultation regarding this proposal.

The USAF welcomes any input you would like to see included in this analysis. Though we will consider comments received at any time during the environmental impact analysis process, your input is most valuable to us when received early in the planning process, especially during the next few weeks.

Please direct written issues or concerns to Mr. Hank Santicola, Environmental Planner, 3485 Georgia Street, Moody AFB, GA 31699 or through e-mail at henry.santicola.2@us.af.mil. Mr. Santicola can also be contacted at (229) 257-2396. Thank you in advance for your assistance with this project.

Sincerely

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THOMAS E. KUNKEL, Colonel, USAF
Commander



**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 23D WING (ACC)
MOODY AIR FORCE BASE GEORGIA**

1 Aug 16

Colonel Thomas E. Kunkel
23d Wing Commander
23 Flying Tiger Way, Suite 1
Moody AFB GA 31699

Chairwoman, Stephanie Bryan
Poarch Band of Creeks
5811 Jack Springs Road
Atmore AL 36502

Dear Ms. Bryan

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA), and in compliance with Section 106 of the National Historic Preservation Act (NHPA), to evaluate the potential environmental impacts associated with purchasing approximately 106.1 acres of undeveloped land southwest of Moody Air Force Base, Georgia. The purpose of the proposed land purchase is to remove three airfield waivers issued by Headquarters Air Combat Command for violating airfield obstacle clearance requirements and to enhance encroachment management. Acquisition of the property will permit the rerouting of the south base perimeter road, called Burma Road, as well as moving the flightline and perimeter security fences. The location of Burma Road and the fencing currently requires a waiver because they transit through an area at the end of the runway that is required to be clear for safety reasons. Additionally, there are trees on the property that also require a waiver for flight safety reasons. Purchasing the land will permit rerouting the road and installation fences outside of the required clear area and facilitate the removal of trees to enhance flight safety. The road rerouting and new perimeter fencing will partially occur in wetland areas. Up to 20 acres of wetlands may be impacted with the proposed action.

I have included three attachments with this correspondence. Attachment 1 is a map depicting the location of Moody AFB. Attachment 2 shows the project area in relation to the installation. Attachment 3 is a map of the tract of land to be purchased.

Moody AFB occupies approximately 10,843 acres in South Central Georgia, north of the City of Valdosta in Lowndes and Lanier counties. The main base and the Grand Bay Weapons Range have been surveyed for cultural resources. The results of these surveys include 23 archaeological sites, 39 isolated archaeological finds, 234 Cold War-era and older buildings and structures. Of these archeological and historical resources, only two archeological sites and one historic structure were found to be eligible for listing under the National Register of Historic Places (NRHP). The management of cultural resources on the installation is outlined in the Moody AFB Integrated Cultural Resources Management Plan. Currently, the Air Force is not aware of any sites or resources of known interest to the Poarch Band of Creeks on Moody AFB.

The 1999 Department of Defense American Indian and Alaska Native Policy recognizes the "importance of addressing tribal concerns, past, present, and future" and states "these concerns should be addressed prior to reaching decisions on matters that may have the potential to significantly affect protected tribal resources, tribal rights, or Indian lands."

Global Power for America

With this letter, the USAF invites the Poarch Band of Creeks to provide input regarding this analysis and to notify you of these projects so you can express your comments, concerns, and suggestions. After the draft EA is completed, we will send you a copy for your further review and comment.

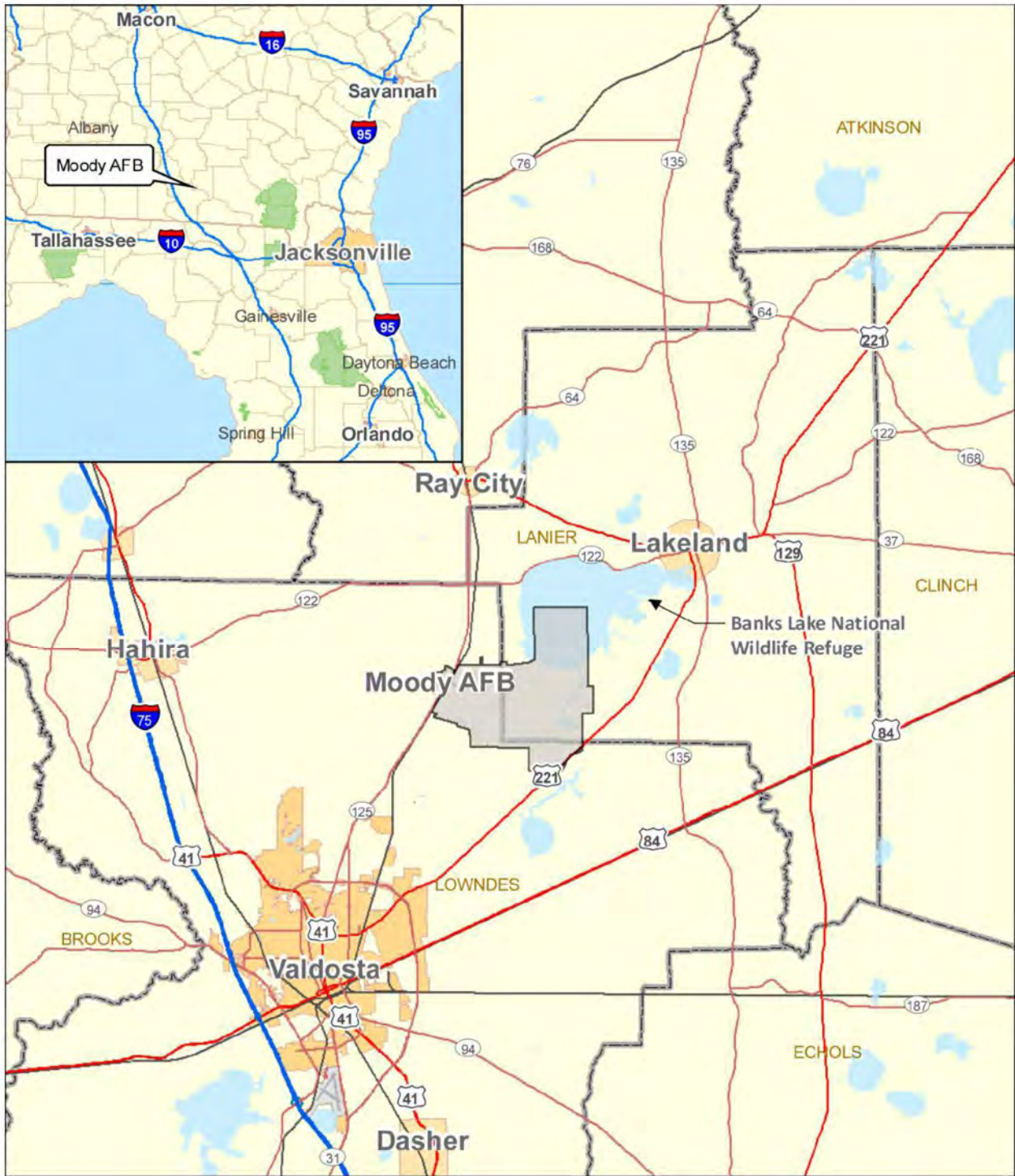
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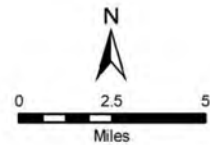
THOMAS E. KUNKEL, Colonel, USAF
Commander

3 Attachments:

1. Location of Moody AFB
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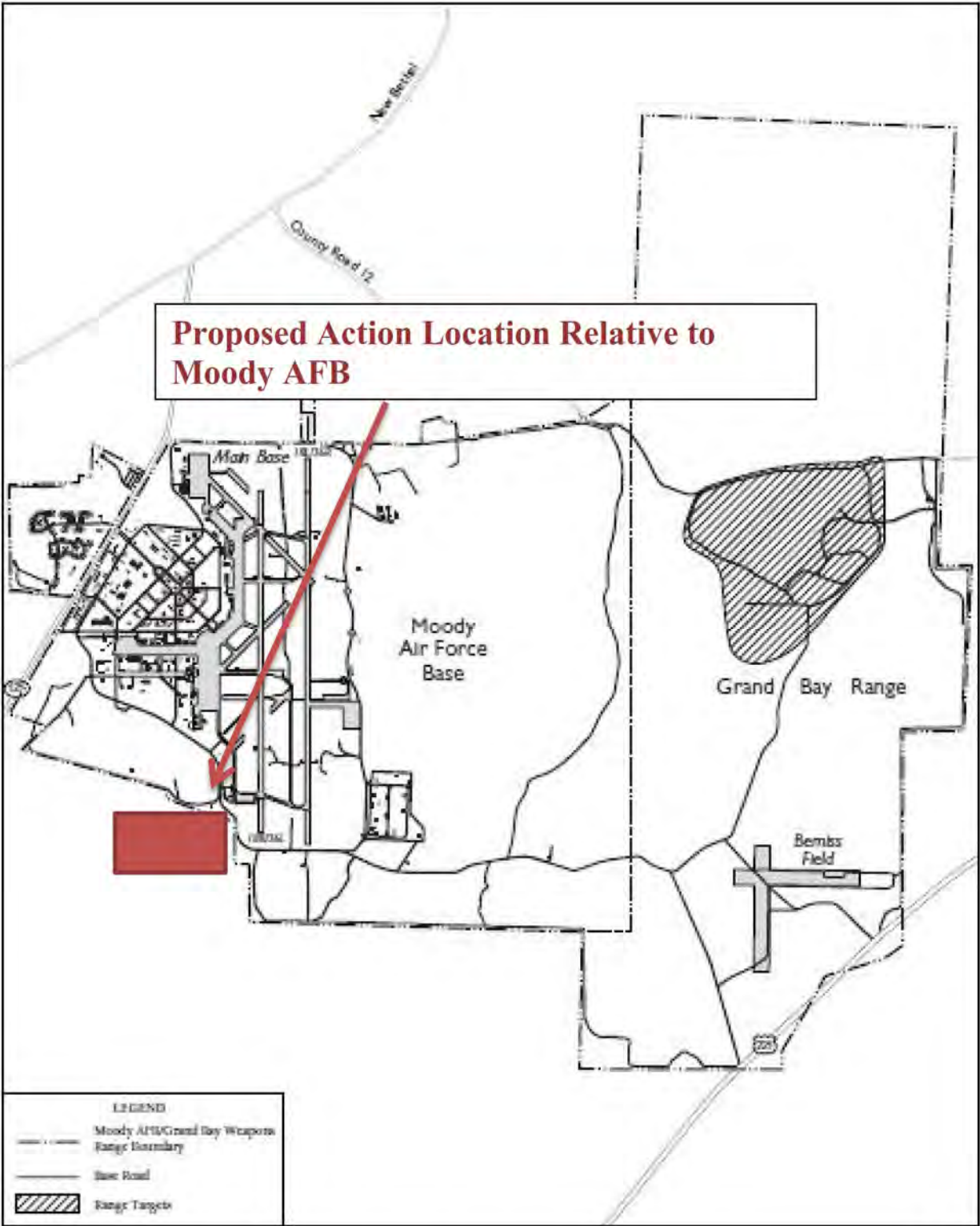


Figure 1-1
Location of Moody AFB, Grand Bay Range, and Bemiss Field





Attachment 3



**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 23D WING (ACC)
MOODY AIR FORCE BASE GEORGIA**

29 Aug 16

Colonel Thomas E. Kunkel
Commander, 23d Wing
23 Flying Tiger Way, Suite 1
Moody AFB GA 31699

Chairwoman, Stephanie Bryan
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5811 Jack Springs Road
Atmore, AL 36502

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THOMAS E. KUNKEL, Colonel, USAF
Commander

Global Power for America



**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 23D WING (ACC)
MOODY AIR FORCE BASE GEORGIA**

1 Aug 16

Colonel Thomas E. Kunkel
23d Wing Commander
23 Flying Tiger Way, Suite 1
Moody AFB GA 31699

Principal Chief, Leonard M. Harjo
The Seminole Nation of Oklahoma
P.O. Box 1498
Wewoka OK 74884

Dear Mr. Harjo

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA), and in compliance with Section 106 of the National Historic Preservation Act (NHPA), to evaluate the potential environmental impacts associated with purchasing approximately 106.1 acres of undeveloped land southwest of Moody Air Force Base, Georgia. The purpose of the proposed land purchase is to remove three airfield waivers issued by Headquarters Air Combat Command for violating airfield obstacle clearance requirements and to enhance encroachment management. Acquisition of the property will permit the rerouting of the south base perimeter road, called Burma Road, as well as moving the flightline and perimeter security fences. The location of Burma Road and the fencing currently requires a waiver because they transit through an area at the end of the runway that is required to be clear for safety reasons. Additionally, there are trees on the property that also require a waiver for flight safety reasons. Purchasing the land will permit rerouting the road and installation fences outside of the required clear area and facilitate the removal of trees to enhance flight safety. The road rerouting and new perimeter fencing will partially occur in wetland areas. Up to 20 acres of wetlands may be impacted with the proposed action.

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Global Power for America

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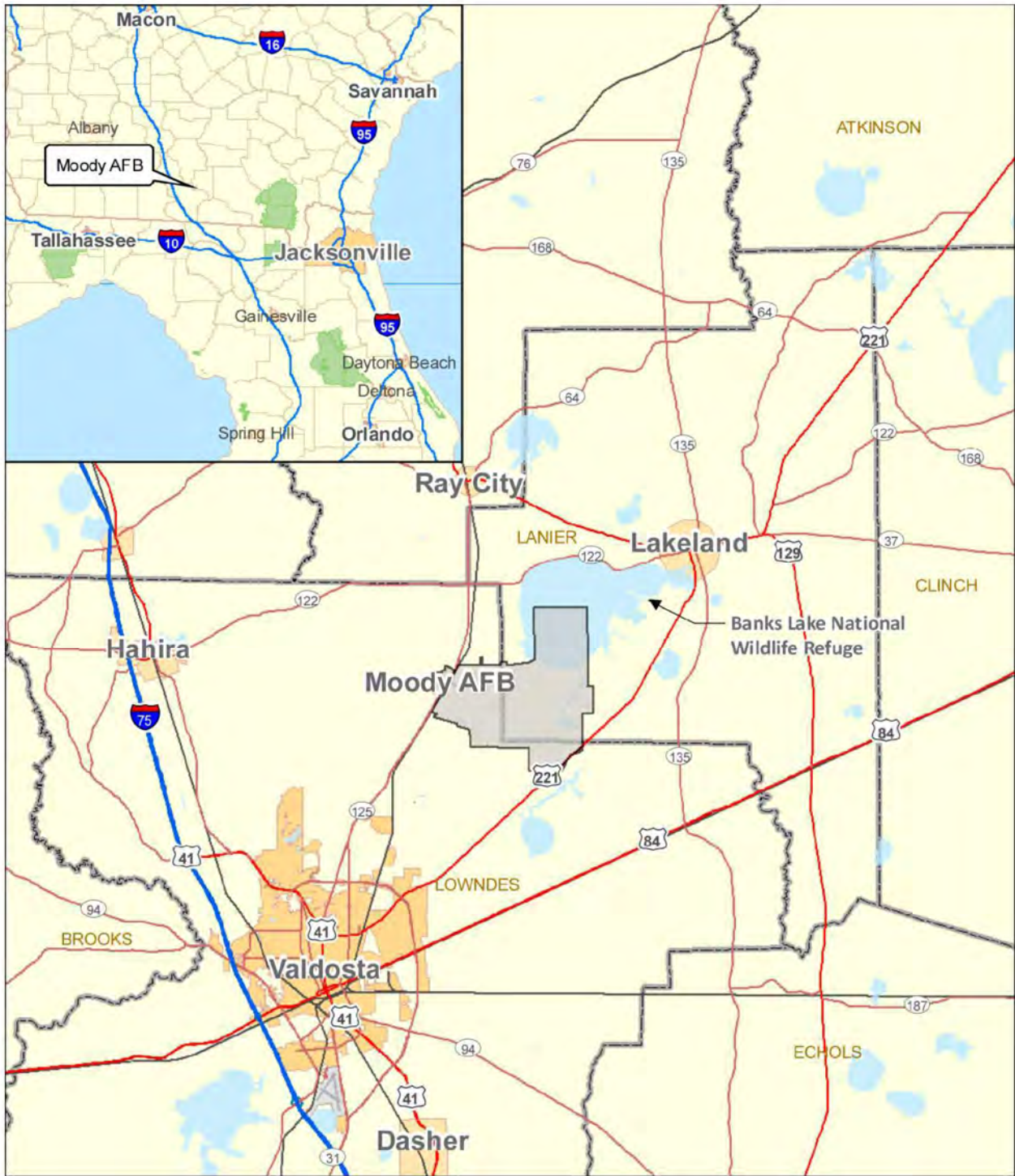
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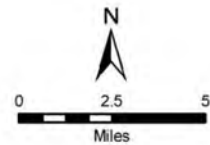
THOMAS E. KUNKEL, Colonel, USAF
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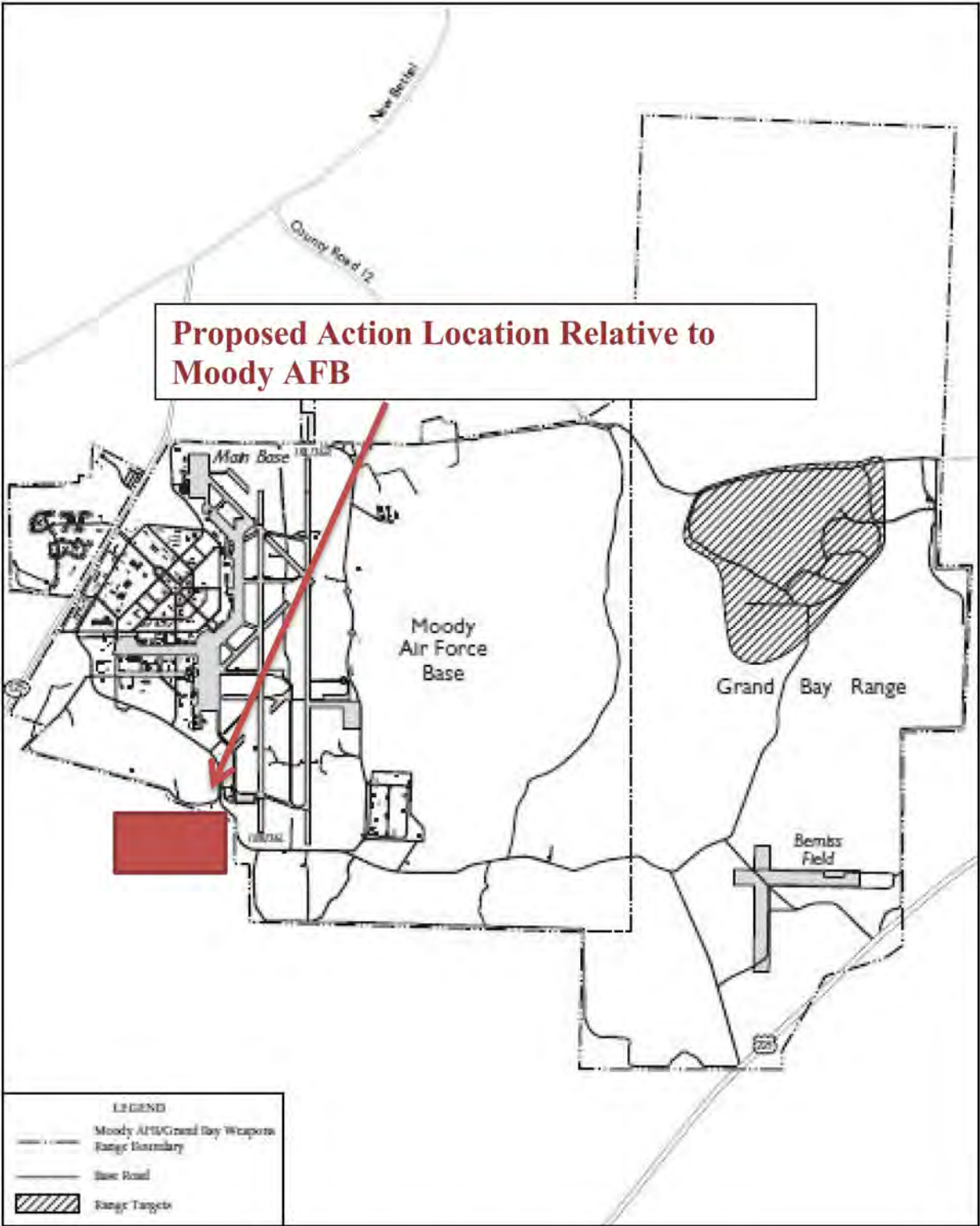


Figure 1-1
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Attachment 3



**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 23D WING (ACC)
MOODY AIR FORCE BASE GEORGIA**

29 Aug 16

Colonel Thomas E. Kunkel
Commander, 23d Wing
23 Flying Tiger Way, Suite 1
Moody AFB GA 31699

Principal Chief, Leonard M. Harjo
The Seminole Nation of Oklahoma
P.O. Box 1498
Wewoka, OK 74884

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**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 23D WING (ACC)
MOODY AIR FORCE BASE GEORGIA**

1 Aug 16

Colonel Thomas E. Kunkel
23d Wing Commander
23 Flying Tiger Way, Suite 1
Moody AFB GA 31699

Town King, Ryan Morrow
Thlopthlocco Tribal Town
P.O. Box 188
Okemah OK 75859

Dear Mr. Morrow

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Global Power for America

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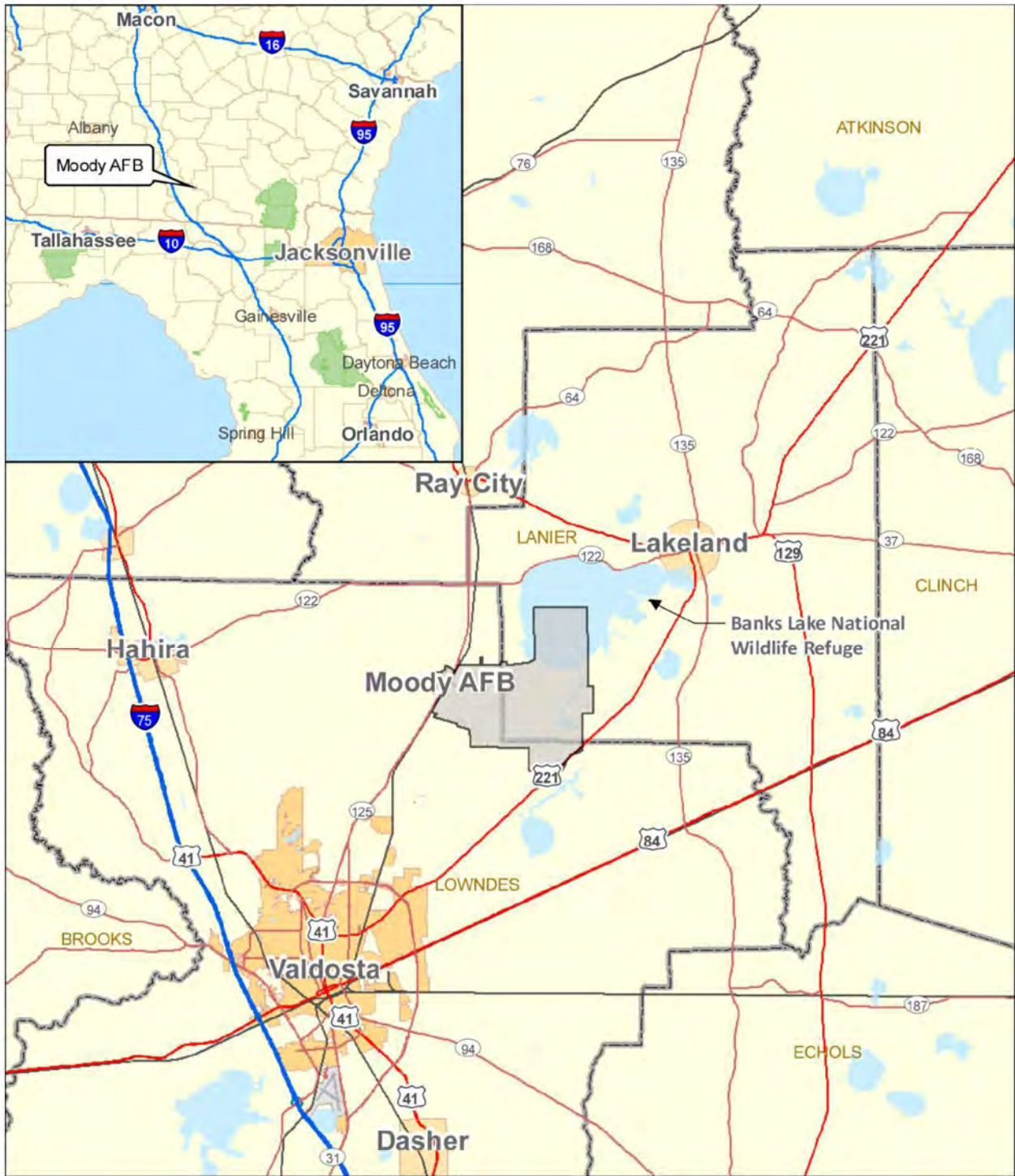
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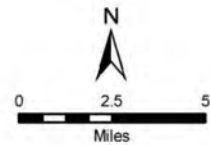
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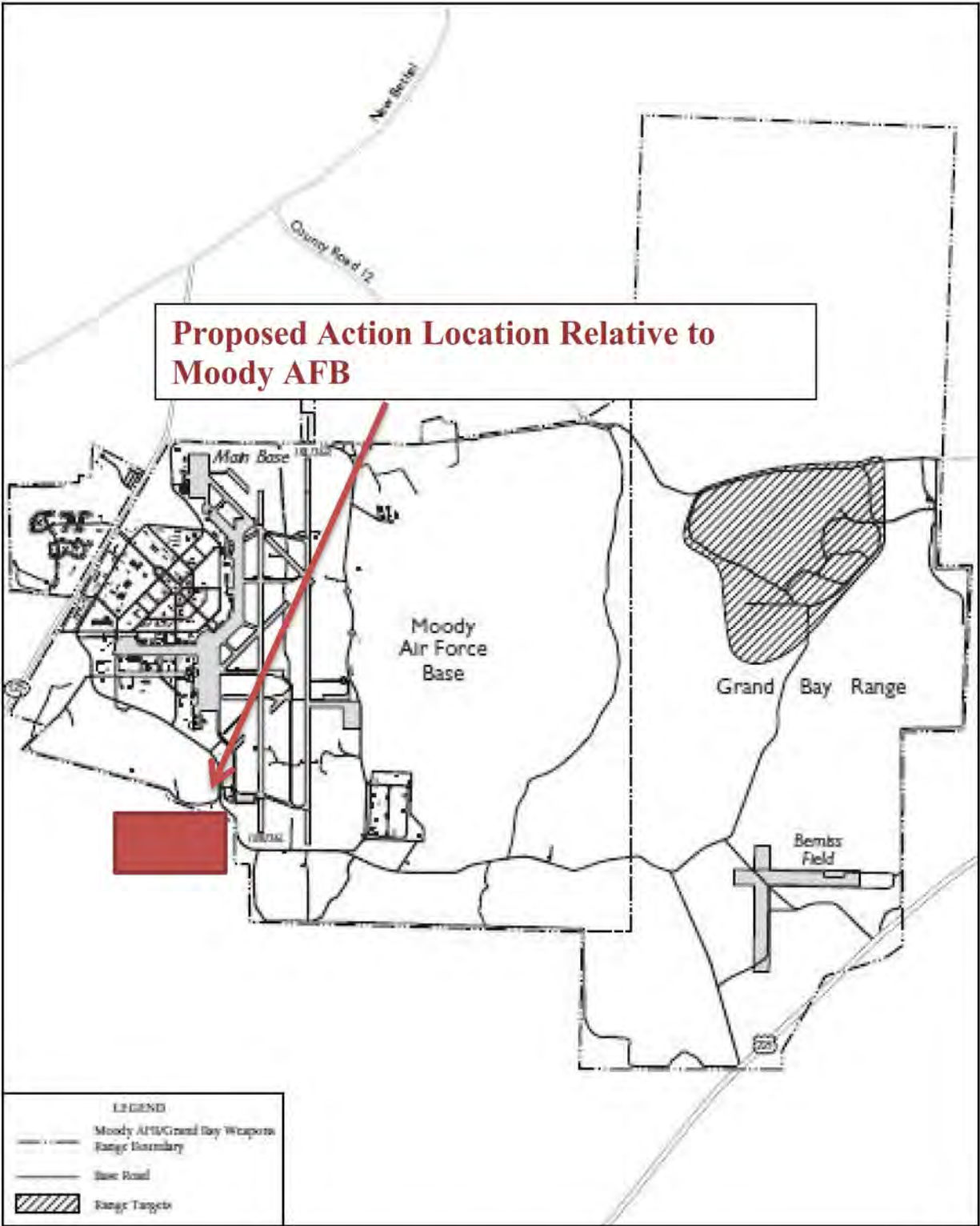


Figure 1-1
Location of Moody AFB, Grand Bay Range, and Bemiss Field





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**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 23D WING (ACC)
MOODY AIR FORCE BASE GEORGIA**

29 Aug 16

Colonel Thomas E. Kunkel
Commander, 23d Wing
23 Flying Tiger Way, Suite 1
Moody AFB GA 31699

Town King, Ryan Morrow
Thlopthlocco Tribal Town
P.O. Box 188
Okemah, OK 75859

Dear Mr. Morrow

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Sincerely

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THOMAS E. KUNKEL, Colonel, USAF
Commander

SECTION 7 AND SECTION 106 LETTERS



DEPARTMENT OF THE AIR FORCE
23D CIVIL ENGINEER SQUADRON (ACC)
MOODY AIR FORCE BASE GEORGIA

14 SEP 2016

MEMORANDUM FOR Ms. Jennifer Dixon
Environmental Review Coordinator
Historic Preservation Division (HPD)
Jewett Center for Historic Preservation
2610 GA Hwy 155, SW
Stockbridge, GA 30281

FROM: 23 CES/CD
3485 Georgia Street
Moody AFB GA 31699-1707

SUBJECT: Section 106 Consultation Initiation and Confirmation of Methodology,
Environmental Assessment for Southwest Land Purchase Property, Moody Air
Force Base (AFB), Lowndes County, Georgia

Reference: (a) HPD letter dated January 13, 2016, Ref HP-151228-008

1. The purpose of this letter is to initiate consultation early in accordance with references (a) above. The U.S. Air Force is in the process of preparing an Environmental Assessment (EA) that evaluates the potential environmental impacts associated with the purchase of 106.10 acres of privately-owned land located immediately adjacent to the southwestern boundary of Moody AFB, and the implementation of multiple projects on a portion of the property that will allow the removal of three airfield waivers. In reference to (a) above, the following documentation is presented as our initiation of Section 106 consultation regarding effects on historic resources.

2. The Proposed Action involves the purchase of two parcels of privately-owned land totaling 106.10 acres located immediately adjacent to the southwestern boundary of Moody AFB. Parcel 0181 025D is 93.48 acres in size; Parcel 0181 025C is 12.61 acres in size (Attachment 1). The proposed land purchase will facilitate multiple projects to allow the removal of three airfield waivers for violation of airfield obstruction clearance requirements. Activities that would occur include relocation of the installation perimeter fence and the airfield security fence; realignment of Burma Road; and clearing of trees (Attachment 2).

a. Perimeter Fence. Approximately 1,300 linear feet (LF) of existing perimeter fencing would be removed and 1,400 LF of new fencing would be installed to secure the installation. The new perimeter fence line would coincide with the realigned Burma Road, approximately 20 feet from the paved roadway surface.

b. Airfield Security Fence. Approximately 850 LF of existing airfield security fencing would be removed and 1,000 LF of new fencing would be installed to secure the graded portion of the southern Clear Zone.

c. Realignment of Burma Road. Approximately 3,100 LF of new pavement would be installed to realign Burma Road and the adjacent bicycle/jogging path to be outside of the graded

portion of the Clear Zone. The realigned Burma Road would be a 2-lane, 24 foot wide asphalt paved surface (undivided, one lane in each direction) with 6 foot unpaved shoulders. The bicycle/ jogging path would be an 8 foot wide asphalt paved surface.

d. Clearing of Trees. Approximately 12 acres of trees on the Southwest Land Purchase Property would be cleared to ensure Moody AFB airfield clearance criteria are maintained. Clearing of trees would involve cutting the trees and leaving the stumps.

3. Current Conditions. There are no structures or infrastructure improvements on the Southwest Land Purchase Property, which consists of vacant woodlands. The Moody AFB Environmental Restoration Program (ERP) has delineated groundwater contamination associated with ERP Site LF-01 (Burma Road Landfill) that affects the Southwest Land Purchase Property. Currently, there are 20 monitoring wells and 26 injection wells located on the Southwest Land Purchase Property associated with the remediation system. Groundwater samples have been collected during various investigations dating to 1990.

4. The Area of Potential Effect (APE) is the area within which construction activities and tree clearing activities would occur. It encompasses approximately 30 acres (both on Moody AFB and on the Southwest Land Purchase Property) and is ample enough to take into account potential direct and indirect effects of the undertaking. Attachment 3 is a map illustrating the APE. The proposed project is located on the U.S. Geological Survey (USGS) 7.5-minute quadrangle titled, Bemiss, at an elevation of approximately 250 feet above mean sea level.

5. Methodology and Identification of Historic Resources


a. Prehistoric and Historic Archaeological Resources. To date, archaeological investigations at Moody AFB have located 27 archaeological sites and 39 isolated finds. Two of the archaeological sites have been determined eligible for listing on the National Register of Historic Places (NRHP), and the remaining sites were determined to be not eligible for listing on the NRHP. None of the identified sites and isolated finds are in the vicinity of the APE. The Air Force will be conducting an archaeological survey of the 106.10-acre property to determine if prehistoric or historic resources are present. The survey will include results of a records search within a ½-mile radius of the property, recording methodology, survey findings, and management strategies. In the event that archaeological resources are encountered during the survey, sites will be recorded on standard survey forms following instructions provided by the Georgia State Historic Preservation Officer (SHPO). Form compilation will be conducted with care to ensure that consistency is maintained in the description of key elements used by the state in data storage and retrieval. Any data recovery would be performed in accordance with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation (48 FR 44734-37) and take into account the Advisory Council on Historic Preservation (ACHP) publication, *Treatment of Archaeological Properties*. Subsequent actions would follow guidance provided in 36 CFR Part 800.11 and/or the Native American Graves Protection and Repatriation Act (NAGPRA).

b. Historic Buildings and Structures. There are no structures or infrastructure improvements on the property, which consists of vacant woodlands.

c. Traditional Cultural Resources. There are no known traditional cultural resources at the project location. The Air Force has initiated consultations with representatives of Native American groups as required under the American Indian Religious Freedom Act (AIRFA). The purpose of these consultations is to determine AIRFA-related concerns such as access to sites of past cultural activity, landforms, and components of the natural environment that may occur at the project site and are important to traditional religious practices of Native American groups. The Native American groups consulted include the Poarch Band of Creeks, Thlopthlocco Tribal Town, Seminole Nation of Oklahoma, Kialagee Tribal Town, Coushatta Tribe of Louisiana, Muscogee Nation of Florida, and the Muscogee (Creek) Nation.

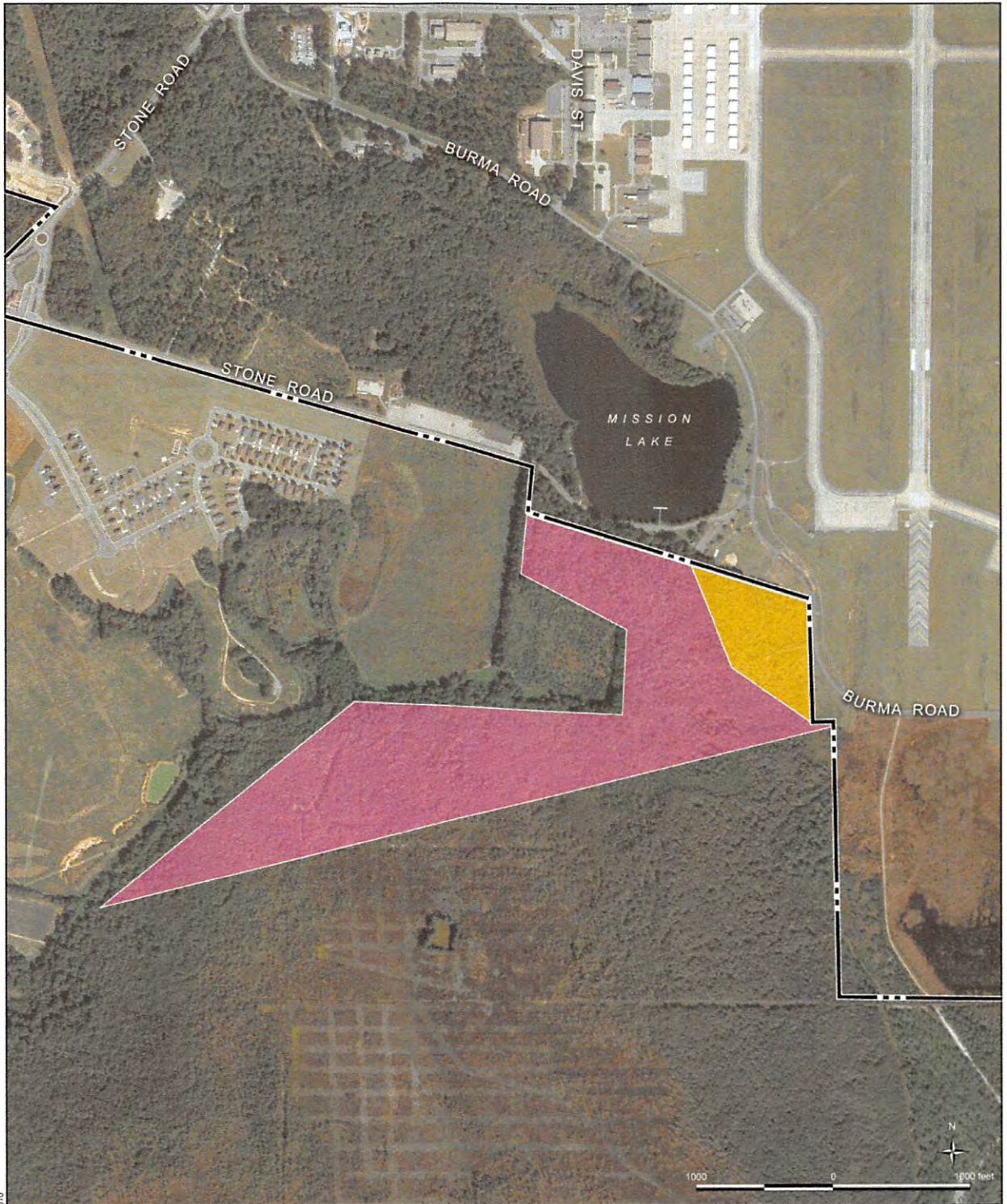
6. Based on the preceding, Moody AFB requests that the Georgia SHPO concur with our delineation of the APE for this undertaking, and with our approach for determining if prehistoric and historic archaeological resources, historic buildings and structures, or traditional cultural resources are present at the project location. The Air Force appreciates your review of our project activities and assistance with our efforts to identify important cultural resources early in the EA development. Upon completion, a copy of the draft EA and archaeological survey will be forwarded to your office for review along with the Section 106 consultation package.

7. Please direct any questions to Mr. Henry Santicola, Moody AFB Environmental Planner/NEPA Manager. He can be reached via e-mail at henry.santicola.2@us.af.mil or via telephone at (229) 257-2396.


JOHN L. EUNICE, III, GS-14, DAF
Deputy Base Civil Engineer

3 Attachments:

1. Southwest Land Purchase Property
2. Proposed Project
3. Area of Potential Effect



MOODY AFB SWLP EBS0010

LEGEND

- Parcel 0181 025D (93.48 acres)
- Parcel 0181 025C (12.61 acres)
- Base Boundary

**Southwest Land Purchase
Property
Attachment 1**



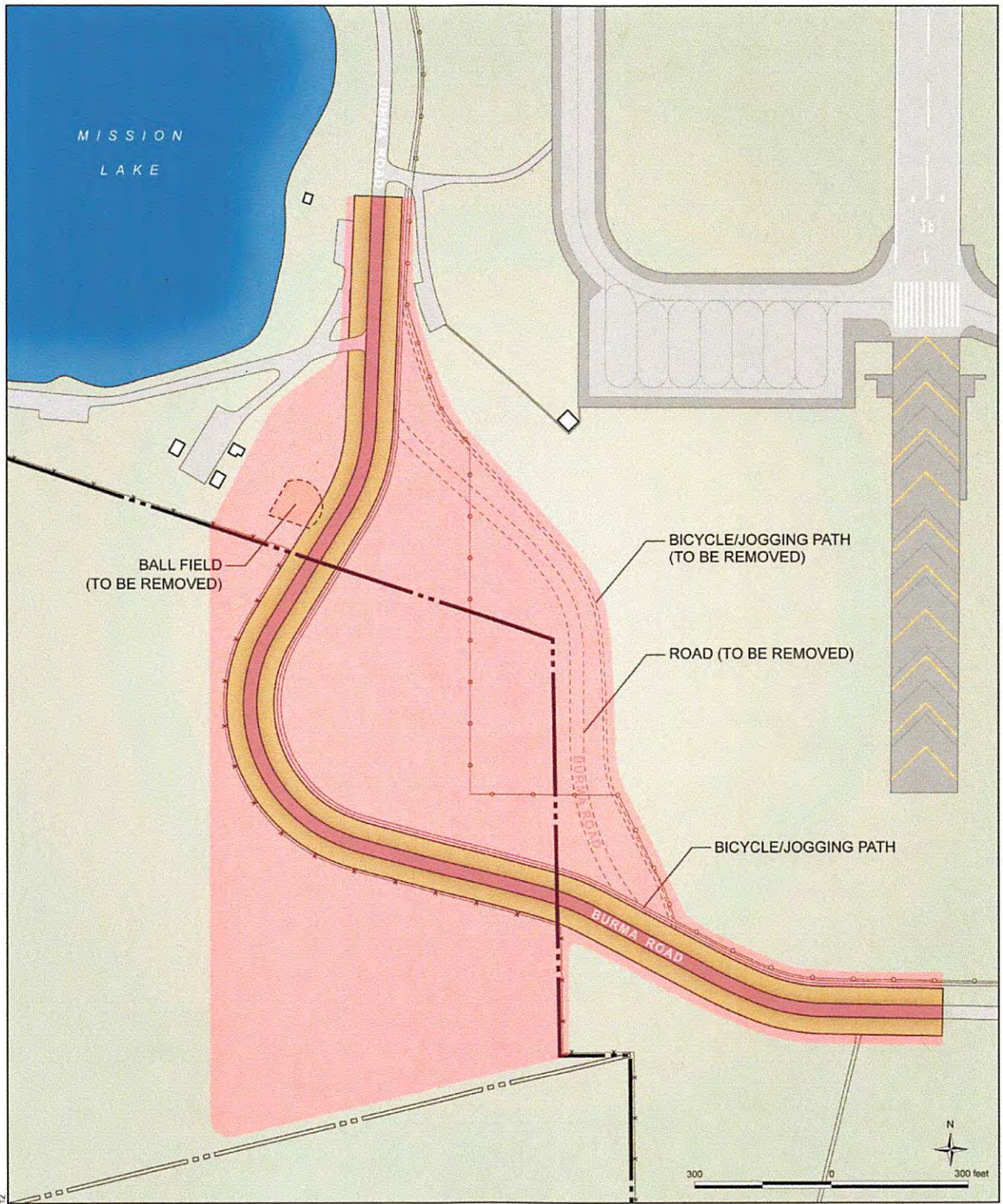
MOODY AFB SW/P/EB5011

LEGEND

- Proposed Road Alignment and Road Cut
- Facilities to be Removed
- Current Base Boundary
- Perimeter Fence
- Airfield Security Fence
- Future Base Boundary

Proposed Project

Attachment 2



MOODY AFB SW/P EBS012

LEGEND

- Proposed Road Alignment and Road Cut
- Area of Potential Effect
- Facilities to be Removed
- Current Base Boundary
- Perimeter Fence
- Airfield Security Fence
- Future Base Boundary

Area of Potential Effect

Attachment 3



HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

October 13, 2016

John L. Eunice, III, GS-14, DAF
Deputy Base Civil Engineer
Department of the Air Force
23D Civil Engineer Squadron
3485 Georgia Street
Moody Air Force Base, Georgia 31699-1707
Attn: Henry Santicola, Environmental Planner

**RE: Moody AFB: Acquire 106 Acres, Relocate Fencing/Road, Clear Trees
Lanier County et. al., Georgia
HP-151228-008**

Dear Mr. Eunice:

The Historic Preservation Division (HPD) has reviewed the information submitted concerning the above referenced project. Our comments are offered to assist the US Department of the Air Force and Moody Air Force Base (AFB) in complying with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA).

The subject projects consists of the acquisition of approximately 106 acres located southwest of the current boundaries for Moody AFB with subsequent construction projects including relocating fences, relocating a road, and clearing trees. Based on the information provided regarding the area of potential effects (APE) and methodology for identifying historic properties within the project area, HPD concurs with the majority of the methods presented within the initiation of Section 106 consultation documentation. However, HPD offers the following comments for consideration:

1. Regarding the APE, the undertaking appears to consist of not only the construction projects noted above, but the acquisition of approximately 106 acres. As such, HPD recommends the APE include the entire undertaking area, any staging areas or new access roads that may be needed, and nearby parcels, outside of the acquisition property, that may have an indirect effect.
2. Regarding methods and identification of historic buildings and structures, HPD recommends identifying any structures that are 50 years of age or older that are located in the entire APE, as proposed above, by reviewing topographic maps, the county tax assessor site, and if necessary, completing a field survey.
3. Regarding methods for identifying traditional cultural resources, HPD recommends confirming that no additional Tribal Nations have ancestral claims within this portion of Georgia.

HPD looks forward to receiving additional Section 106 documentation including eligibility and effects determinations, once available, and working with you as this project progresses. Please refer to project number **HP-151228-008** in any future correspondence regarding this project. If we may be of further assistance, please feel free to contact me at (770) 389-7851 or Jennifer.dixon@dnr.ga.gov.

Sincerely,

Jennifer Dixon, MHP, LEED Green Associate
Program Manager
Environmental Review & Preservation Planning



HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

November 1, 2016

Daniel Lowrey
URS/AECOM
400 Northpark Town Center
1000 Abernathy Road, NE, Suite 900
Atlanta, Georgia 30328

**RE: Moody AFB: Acquire 106 Acres, Relocate Fencing/Road, Clear Trees
Lanier County et. al., Georgia
HP-151228-008**

Dear Mr. Lowrey:

The Historic Preservation Division (HPD) has reviewed the draft report entitled, *A Phase I Cultural Resource Assessment for the Southwest Land Purchase at Moody Air Force Base, Lowndes County, Georgia*. Our comments are offered to assist the US Department of the Air Force and Moody Air Force Base (AFB) in complying with the provisions of Section 106 of the National Historic Preservation Act (NHPA).

Based on the information contained in the report, HPD concurs that isolated find (IF) Moody AFB-IF-1 and Moody AFB-IF-2 are not eligible for listing in the National Register of Historic Places (NRHP), since, by definition an IF is not an archaeology site. Therefore, HPD concurs that no archaeological resources that are listed or eligible for listing in the NRHP will be affected by this undertaking, as defined in 36 CFR Part 800.4(d)(1).

It is HPD's opinion that survey efforts for historic resource identification are inadequate. HPD would like to note that previous historic resources surveys noted in the current report are over 15 years old. Therefore, a current survey should be completed within the project's area of potential effect. HPD looks forward to receiving a historic resources survey, once available, in order to comment on the project's effects to historic resources.

Please refer to project number **HP-151228-008** in any future correspondence regarding this project. If we may be of further assistance, please do not hesitate to contact me at jennifer.dixon@dnr.ga.gov or (770) 389-7851.

Sincerely,

Jennifer Dixon, MHP, LEED Green Associate
Program Manager
Environmental Review & Preservation Planning

Cc: Henry Santicola, Moody AFB



HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

January 13, 2016

John L. Eunice, III, GS-14, DAFC
Deputy Base Civil Engineer
23d Civil Engineer Squadron
3485 Georgia Street
Moody Air Force Base, Georgia 31699
Attn: Hank Santicola, ER Project Manager

RE: Moody AFB: Purchase 106.1 Acres, Southwest of Installation, Valdosta
Lanier and Lowndes County, Georgia
HP-151228-008

Dear Mr. Eunice,

The Historic Preservation Division (HPD) has received initial information concerning the above referenced project requesting comments pursuant to the National Environmental Policy Act of 1969. Our comments are offered to assist the Department of the Air Force and Moody Air Force Base (AFB) in complying with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended.

Thank you for notifying us of this federal undertaking. We look forward to receiving Section 106 compliance documentation as appropriate.

Please refer to project number **HP 151228-001** in future correspondence regarding this project. If we may be of further assistance, please contact me at (770) 389-7851 or Jennifer.dixon@dnr.ga.gov.

Sincerely,

Jennifer Dixon, MHP, LEED Green Associate
Program Manager
Environmental Review & Preservation Planning



HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

January 31, 2017

Brittany Miller
Architectural Historian
AECOM
400 Northpark Town Center
1000 Abernathy Road, NE, Suite 900
Atlanta, Georgia 30328

**RE: Moody AFB: Acquire 106 Acres, Relocate Fencing/Road, Clear Trees
Lanier County et. al., Georgia
HP-151228-008**

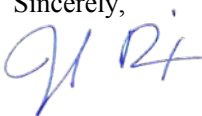
Dear Ms. Miller:

The Historic Preservation Division (HPD) has reviewed the addendum report entitled, *Cultural Resource Assessment Addendum for the Southwest Land Purchase at Moody Air Force Base, Lowndes County, Georgia, HP-151228-008*, dated January 10, 2017. Our comments are offered to assist the US Department of the Air Force and Moody Air Force Base (AFB) in complying with the provisions of Section 106 of the National Historic Preservation Act (NHPA).

Based on the additional information provided in the addendum report, HPD concurs that historic resource 618, which is eligible for listing in the National Register of Historic Places (NRHP), is outside of the proposed project's area of potential effect (APE). Additionally, HPD concurs that historic resources 1100, 1106, 1704, 1705, 1713, 7001, and 7046 are not eligible for listing in the NRHP. Therefore, HPD concurs that no historic properties that are listed or eligible for listing in the NRHP will be affected by this undertaking, as defined in 36 CFR Part 800.4(d)(1).

For future reports, HPD recommends including a map that clearly identifies the project area, where construction is occurring, and the APE, within which both direct and indirect effects may occur. Furthermore, HPD recommends including a general description of the APE within the report.

Please refer to project number **HP-151228-008** in any future correspondence regarding this project. If we may be of further assistance, please do not hesitate to contact me at jennifer.dixon@dnr.ga.gov or (770) 389-7851.

Sincerely,


Jennifer Dixon, MHP, LEED Green Associate
Program Manager
Environmental Review & Preservation Planning

Cc: Greg Lee, Moody AFB
Henry Santicola, Moody AFB



DEPARTMENT OF THE AIR FORCE
23D CIVIL ENGINEER SQUADRON (ACC)
MOODY AIR FORCE BASE GEORGIA

14 SEP 2016

MEMORANDUM FOR U.S. FISH AND WILDLIFE SERVICE
Ecological Services Field Office
Attn: Ms. Gail Martinez
4980 Wildlife Drive NE
Townsend GA 31331

FROM: 23 CES/CD
3485 Georgia Street
Moody AFB GA 31699-1707

SUBJECT: Initiation of Section 7 Consultation, Environmental Assessment (EA) for the Southwest Land Purchase, Moody Air Force Base (AFB), Lowndes County, Georgia

1. Moody AFB is in the process of preparing an EA to evaluate the potential environmental impacts associated with the purchase of 106.10 acres of privately-owned land located immediately adjacent to the southwestern boundary of Moody AFB and the implementation of multiple projects on a portion of the property that will allow the removal of three airfield waivers. The purpose of this letter is to initiate Section 7 consultation pursuant to the Endangered Species Act (ESA) and request your input into the preparation of this EA in the following areas: confirmation that our list of federally listed and candidate species likely to occur on the project area is current and complete, confirmation on proposed survey methodology, and input on our initial finding of "may affect, not likely to adversely affect" federally listed species.
2. The purpose of the Proposed Action is to acquire land adjacent to Moody AFB to facilitate multiple projects that will allow the removal of three airfield waivers issued by Headquarters Air Combat Command (ACC) for violating airfield obstruction clearance requirements.
 - a. Currently, the installation's perimeter fence line, the airfield security fence, and the Burma Road access road cut across the graded portion of the Runway 36L/18R southern Clear Zone. This condition violates Department of Defense (DoD) requirements for airfield management. Additionally, trees off the installation violate airfield clearance criteria.
 - b. The Proposed Action involves the purchase of two parcels of privately-owned land totaling 106.10 acres located immediately adjacent to the southwestern boundary of Moody AFB. Parcel 0181 025D is 93.48 acres in size; Parcel 0181 025C is 12.61 acres in size (Attachment 1). The proposed land purchase will facilitate multiple projects to allow the removal of three airfield waivers for violation of airfield obstruction clearance requirements. Activities that would occur include relocation of the installation perimeter fence and the airfield security fence; realignment of Burma Road; and clearing of trees (approximately 12 acres) (Attachment 2).

(1) Perimeter Fence. Approximately 1,300 linear feet (LF) of existing perimeter fencing would be removed and 1,400 LF of new fencing would be installed to secure the installation. The new perimeter fence line would coincide with the realigned Burma Road, approximately 20 feet from the paved roadway surface.

(2) Airfield Security Fence. Approximately 850 LF of existing airfield security fencing would be removed and 1,000 LF of new fencing would be installed to secure the graded portion of the southern Clear Zone.

(3) Realignment of Burma Road. Approximately 3,100 LF of new pavement would be installed to realign Burma Road and the adjacent bicycle/jogging path to be outside of the graded portion of the Clear Zone. The realigned Burma Road would be a 2-lane, 24 foot wide asphalt paved surface (undivided, one lane in each direction) with 6 foot unpaved shoulders. The bicycle/ jogging path would be an 8 foot wide asphalt paved surface.

(4) Clearing of Trees. Approximately 12 acres of trees on the Southwest Land Purchase Property would be cleared to ensure Moody AFB airfield clearance criteria are maintained. Clearing of trees would involve cutting the trees and leaving the stumps.

3. No state or federally listed or candidate species are known to occur on the Southwest Land Purchase Property. Federally listed eastern indigo snakes, wood storks, and gopher tortoises (*Gopherus polyphemus*) are known to occur on Moody AFB. State-listed round-tailed muskrats and alligator snapping turtles have been recorded as being present on Moody AFB. Bald eagles are observed occasionally during migration on the installation. Frosted flatwoods salamanders and striped newts were not recorded on the installation despite extensive multi-year surveys, which was attributed to a lack of suitable habitat for these species.

a. The Moody AFB Integrated Natural Resource Management Plan (INRMP), the U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System (IPAC) website, and response from early consultation with the Georgia Department of Natural Resources (DNR) were reviewed for the most up-to-date information concerning federally and state-listed species that have the potential to occur on or adjacent to the Southwest Land Purchase Property (Table 1).

Table 1. Federal and State Threatened and Endangered Species Potentially within the Southwest Land Purchase Property

Common Name	Scientific Name	Federal Status	State Status
Amphibians			
Frosted Flatwoods salamander	<i>Ambystoma cingulatum</i>	Threatened	Threatened
Striped newt	<i>Notophthalmus perstriatus</i>	Candidate	Threatened
Reptiles			
Eastern indigo snake	<i>Drymarchon couperi</i>	Threatened	Threatened
Gopher tortoise	<i>Gopherus polyphemus</i>	Candidate	Threatened

Table 1. Federal and State Threatened and Endangered Species Potentially within the Southwest Land Purchase Property

Common Name	Scientific Name	Federal Status	State Status
Alligator snapping turtle	<i>Macrochelys temminckii</i>	--	Threatened
Birds			
Southern bald eagle	<i>Haliaeetus l. leucocephalus</i>	Protected under the BGEPA	Threatened
Wood stork	<i>Mycteria americana</i>	Threatened	Endangered
Mammals			
Round-tailed muskrat	<i>Neofiber alleni</i>	--	Threatened

Notes:

- Candidate = Any species that is under consideration for official listing as Endangered or Threatened for which there is sufficient information to support listing.
- Endangered = Any species that is in danger of extinction throughout all or a significant portion of its range.
- Threatened = Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.
- BGEPA = Bald and Golden Eagle Protection Act of 1940.

b. Surveys for federally listed and candidate species with the potential to occur on the Southwest Land Purchase Property will be completed as part of the EA process. Surveys will be conducted in areas of suitable habitat as indicated below:

1) The frosted flatwoods salamander (*Ambystoma cingulatum*) is endemic to mesic flatwoods habitats within longleaf pine-wiregrass communities. Breeding sites are typically shallow, ephemeral cypress and/or swamp tupelo ponds or "domes," although flooded borrow pits, roadside ditches, and deep firebreaks are occasionally used. Breeding sites are also dependent on periodic dry season fires, which maintain an open canopy conducive to the luxuriant growth of emergent and submerged grasses, sedges, and forbs necessary for sheltering the aquatic larvae. This type of habitat does not exist within the Southwest Land Purchase Property; therefore, this species is not likely to occur and specific surveys will not be conducted.

2) The striped newt is associated with longleaf pine-wiregrass communities. Adults prefer sandhills and well-drained pine flatwoods and breeding and larvae development occur in isolated, ephemeral wetlands such as pond cypress domes, sinkhole ponds, and borrow pits. This type of habitat does not exist within the Southwest Land Purchase Property; therefore, this species is not likely to occur and specific surveys will not be conducted.

3) The federally threatened and state endangered wood stork uses a variety of freshwater and estuarine wetlands for breeding, feeding, and roosting. Nests may be located in large or small trees; however, the trees must be in standing water or on islands surrounded by water. This type of habitat does not exist within the Southwest Land Purchase Property, and previous aerial surveys by the Georgia DNR have not identified any wood stork rookeries within 15 miles of the proposed project area. Therefore, it is unlikely wood storks utilize the area for nesting,

although transient use of the wetlands for foraging is possible. Surveys will include visual surveillance for wood storks foraging on this area.

4) Eastern indigo snakes and gopher tortoises are primarily associated with upland sandhills and deep sandy soils with open forest canopies. Eastern indigo snakes may use wetlands and other forested ecosystems for foraging during the spring through fall, but utilize gopher tortoise burrows and other natural holes as winter refugia. This type of habitat does not exist within the Southwest Land Purchase Property; therefore, these species are not likely to occur. Since the potential exists for transient foraging use of the area by eastern indigo snakes, visual surveillance for this species will occur.

c. The state-listed threatened alligator snapping turtle, southern bald eagle, and round-tailed muskrat are present at Moody AFB and have the potential to occur within the project area. Visual surveys for these species will be completed.


d. Nesting and breeding migratory bird species protected under the Migratory Bird Treaty Act (MBTA) have the potential to breed within the Southwest Land Purchase Property. Nesting bird species protected under the MBTA would be avoided to the maximum extent possible. To the extent possible, construction activities would be limited to the non-breeding season within areas identified as having potential for nesting birds. If construction activities occur during the general avian breeding season (February-August) within areas known to have historically supported breeding protected migratory bird species, a pre-construction nesting bird survey would be conducted (within 7 days of proposed activity) to identify active nests. If active nests are identified, an avoidance buffer (distance per regulatory guidance and/or discretion of monitoring biologist) would be established and the nest would be monitored until the juvenile birds have fledged.

4. Impacts to federally listed or candidate species and migratory birds are not anticipated as a result of the Proposed Action. However, if determined necessary, conservation measures focusing on avoidance and minimization of adverse impacts to breeding, wintering, and migratory birds and other federally protected species would be implemented during project activities. If any of the above described species are identified within the vicinity of the project site during construction activities, the expected impact would include temporary displacement of individuals. Therefore, we are anticipating a determination of “may effect, not likely to adversely affect” for listed species as appropriate for the Proposed Action.

5. The Southwest Land Purchase Property lies within the Grand Bay-Banks Lake wetland complex, which covers more than 13,000 acres and is one of the largest freshwater lake/swamp systems in the Georgia coastal plain. A wetland delineation of the Southwest Land Purchase Property was conducted in June 2016; the property was found to contain 92.52 acres of wetlands. The Proposed Action would disturb approximately 1.75 acres of wetlands within the Southwest Land Purchase Property, including a 20 foot buffer around construction areas (see Attachment 2). All portions of the Proposed Action that fall within Waters of the U.S. will be permitted under Section 404 of the Clean Water Act.

5. The Air Force appreciates your initial review of our project activities and assistance with our efforts to identify important biological resources early in the EA development. Upon completion, a copy of the draft EA will be forwarded to your office for review in addition to the Section 7 informal consultation package.

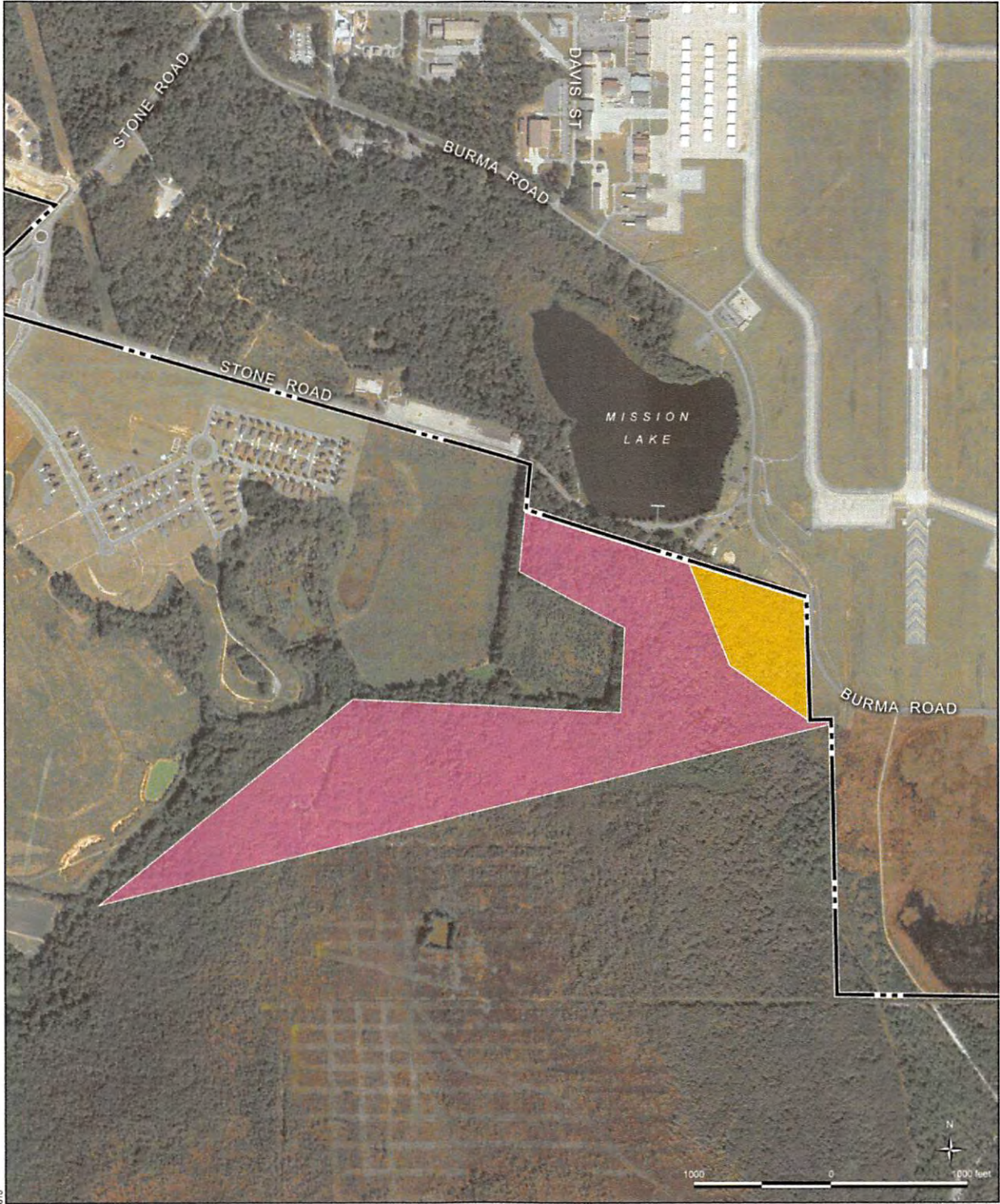
6. Please direct any questions to Mr. Henry Santicola, Moody AFB Environmental Planner/NEPA Manager. He can be reached via e-mail at henry.santicola.2@us.af.mil or via telephone at (229) 257-2396.



JOHN L. EUNICE, III, GS-14, DAF
Deputy Base Civil Engineer

Attachments:

1. Southwest Land Purchase Property
2. Proposed Project Layout



MOODY AFB SWLP EBS0010

- LEGEND**
- Parcel 0181 025D (93.48 acres)
 - Parcel 0181 025C (12.61 acres)
 - Base Boundary

**Southwest Land Purchase
Property
Attachment 1**



MOODY AFB SW.P. EBS013

LEGEND

- Proposed Road Alignment and Road Cut
- Wetlands
- Facilities to be Removed
- Current Base Boundary
- Future Base Boundary
- Perimeter Fence
- Airfield Security Fence

Proposed Project

Attachment 2



United States Department of the Interior

Fish and Wildlife Service

105 West Park Drive, Suite D
Athens, Georgia 30606
Phone: (706) 613-9493
Fax: (706) 613-6059

West Georgia Sub-Office
Post Office Box 52560
Fort Benning, Georgia 31995-2560
Phone: (706) 544-6428
Fax: (706) 544-6419

Coastal Sub-Office
4980 Wildlife Drive
Townsend, Georgia 31331
Phone: (912) 832-8739
Fax: (912) 832-8744

October 19, 2016

Lieutenant Colonel Oscar F. Portillo
Department of the Air Force
23rd Civil Engineer Squadron
3485 Georgia Street
Moody Air Force Base, Georgia 31699
Attention: Mr. Henry Santicola

Re: USFWS 2016-0772

Colonel Portillo:

Thank you for your letter initiating informal section 7 consultation for the proposed Southwest Land Purchase at Moody Air Force Base (AFB), Lowndes County, Georgia. We submit the following comments in accordance with provisions of the Endangered Species Act of 1973, as amended; (16 U.S.C. 1531 *et seq.*), the Bald and Golden Eagle Protection Act of 1940 (BGEPA), and the Migratory Bird Treaty Act of 1918 (MBTA) to further the conservation of fish and wildlife resources and their habitat, including federally listed threatened and endangered species.

Moody AFB proposes to purchase 106.10 acres of privately owned land located immediately adjacent to the southwest boundary of Moody AFB and implement multiple projects on this land that will allow the removal of three airfield waivers. These projects include the relocation of the installation perimeter fence and airfield security fence; the realignment of Burma Road; and clearing of approximately twelve acres of trees.

Five federally listed species were identified as potentially affected by the proposed action. These species are: frosted flatwoods salamander (*Ambystoma cingulatum*), eastern indigo snake (*Drymarchon couperi*), striped newt (*Notophthalmus perstriatus*), gopher tortoise

(*Gopherus polyphemus*), and wood stork (*Mycteria americana*). Additionally, the bald eagle (*Haliaeetus leucocephalus*), is protected under the BGEPA and MBTA.

Based on the information provided in your letter, we concur with your determination that the proposed action “may effect, not likely to adversely affect” federally protected species. Based on the known distribution of the federally protected species in and around the proposed action area and the scope of the proposed action, we do not anticipate significant risks of adverse effects on these protected species as a result of implementing the proposed action.

We appreciate the opportunity to comment during the planning stages of your project. If you have any additional questions, please write or call our Coastal Georgia Sub Office staff biologist, Gail Martinez at 912-832-8739 extension 7.

Sincerely,



Strant Colwell
Coastal Georgia Supervisor

PUBLIC COMMENTS



United States Department of the Interior

Fish and Wildlife Service

105 West Park Drive, Suite D
Athens, Georgia 30606
Phone: (706) 613-9493
Fax: (706) 613-6059

West Georgia Sub-Office
Post Office Box 52560
Fort Benning, Georgia 31995-2560
Phone: (706) 544-6428
Fax: (706) 544-6419

Coastal Sub-Office
4980 Wildlife Drive
Townsend, Georgia 31331
Phone: (912) 832-8739
Fax: (912) 832-8744

March 2, 2017

Lieutenant Colonel Oscar F. Portillo
Department of the Air Force
23rd Civil Engineer Squadron
3485 Georgia Street
Moody Air Force Base, Georgia 31699
Attention: Mr. Hank Santicola

Re: USFWS File Number 2017-0322

Dear Colonel Portillo:

Thank you for the opportunity to provide comments on the February 2017 draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI)/Finding of No Practicable Alternative (FONPA) for the Southwest Land Purchase Property at Moody Air Force Base (AFB) in Lowndes County, Georgia. We submit the following comments of this action under provisions of the Endangered Species Act of 1973, as amended; (16 U.S.C. 1531 *et seq.*) and the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 *et seq.*) to further the conservation of fish and wildlife resources and their habitats, including federally listed threatened and endangered species.

Moody AFB proposes to purchase 106.10 acres of privately owned land located immediately adjacent to the southwest boundary of Moody AFB and implement multiple projects on this land that will allow the removal of three airfield waivers. These projects include the relocation of the installation perimeter fence and airfield security fence; the realignment of Burma Road; clearing of trees and continued monitoring of remedial actions at Environmental Restoration Program (ERP) Site LF-01.

Five federally listed species were identified as potentially affected by the proposed action. These species are: frosted flatwoods salamander (*Ambystoma cingulatum*), eastern indigo

snake (*Drymarchon couperi*), striped newt (*Notophthalmus perstriatus*), gopher tortoise (*Gopherus polyphemus*), and wood stork (*Mycteria americana*). Additionally, the bald eagle (*Haliaeetus leucocephalus*), is protected under the BGEPA and MBTA.

Based on the February 2017 draft Environmental Analysis document for the proposed action, we concur with your determination that the proposed action “may effect, not likely to adversely affect” federally protected species. Based on the known distribution of the federally protected species in and around the proposed action area and the scope of the proposed action, we do not anticipate significant risks of adverse effects on these protected species as a result of implementing the proposed action.

Thank you for the opportunity to provide comments. Should you have further questions or need additional assistance please contact our Coastal Georgia Sub Office staff biologist, Gail Martinez, at 912-832-8739 extension 7.

Sincerely,

A handwritten signature in blue ink, appearing to be 'D. Imm', written in a cursive style.

FOR

Donald Imm
Project Leader

From: [Thompson, Claudia S](#)
To: [SANTICOLA, HENRY J GS-12 USAF ACC 23 CES/CEIEA](#)
Cc: [Eastin, William](#); [McClain, Marquita A](#)
Subject: Draft EA and FONSI
Date: Tuesday, February 21, 2017 2:29:35 PM

Hello Mr. Santicola,

The GDOT Office of Planning has reviewed the information provided regarding the proposed Southwest Land Purchase Property at Moody Air Force Base in Lowndes County, Georgia. This notice is considered to be consistent with those state plans with which this organization is concerned. The Southwest Land Purchase Property is not in the immediate vicinity of any currently programmed GDOT road projects. For further information that maybe needed concerning this review, please contact Claudia Thompson at (404) 631-1742 or cthompson@dot.ga.gov <<mailto:cthompson@dot.ga.gov>>

Thank you,

Claudia Thompson

Transportation Planner, Office of Planning

GA Department of Transportation

600 West Peachtree St NW, 5th Floor

Atlanta, Georgia 30308

Phone: 404.631.1742

Pedestrian deaths are surging in Georgia - 206 people were killed while walking in 2015. With pedestrian deaths up 37% in two years, Georgia DOT's SEE & BE SEEN campaign, in partnership with PEDS, aims to make it safer to walk in Georgia. Safety is a shared responsibility. Walkers and drivers: Pay attention. Walkers: make sure you can SEE & BE SEEN. Drivers: Slow down (speed kills). Visit www.dot.ga.gov/DS/SafetyOperation/SBS. #ArriveAliveGA



GEORGIA

DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

Richard E. Dunn, Director

**Watershed Protection Branch
Nonpoint Source Program
Floodplain Unit**
2 Martin Luther King, Jr. Drive
Suite 1152, East Tower
Atlanta, Georgia 30334

FLOODPLAIN ENCROACHMENT REVIEW

To: Mr. Hank Santicola
23 CES/CEIEA
3485 Georgia Street, Moody AFB, Georgia 31699

PROJECT NAME:	Moody AFB Southwest Land Purchase Property	COUNTY:	Lowndes	COMMUNITY:	Lowndes
LOCATION:	106.1 acres immediately adjacent to the southwest boundary of Moody AFB.				
BRIEF PROJECT DESCRIPTION:	Relocation of the installation perimeter fence line and the airfield security fence; realignment of Burma Road; clearing of trees; and continued monitoring of remedial actions.				
APPLICANT:	Department of the Air Force	APPLICATION DATED:	2/12/2017	APPLICATION RECEIVED:	2/13/2017

SFHA* ENCROACHMENT:	No	EFFECTIVE PANEL(S):	13185C0150E	FLOOD RISK ZONE(S):	X
www.georgiadfirm.com		PRELIMINARY PANEL(S):	NA	FLOOD RISK ZONE(S):	NA
https://msc.fema.gov/portal		PENDING PANEL(S):	NA	FLOOD RISK ZONE(S):	NA
WATERSHED(S):	Alapaha (HUC 8 Code 03110202)	COMMUNITY CONTACT:	Lowndes County EMA Director, 1503 Madison Hwy, Valdosta GA 31601; 1 (229) 671-2790		
COMMENTS:	<p>From inspection of the effective Flood Insurance Rate Maps (FIRMs) developed by the Federal Emergency Management Agency (FEMA), the site is located outside of the Special Flood Hazard Area (SFHA), in Zone X (unshaded), an area of minimal flood hazard. A Floodplain Snapshot Map showing the designated floodplain impacts in the vicinity of the project location, accompanied by the relevant extract of FEMA's FIRMs are attached.</p> <p>Please note that this response addresses issues related specifically to the possible effects of the project on floodplains in the area and does not represent the complete review process of the Georgia Department of Natural Resources, Environmental Protection Division (EPD).</p>				
Prepared By:	Haydn Blaize	Telephone:	(404) 463-4935	Email:	Haydn.blaize@dnr.ga.gov
Signature:			Date:	2/20/2017	

*Special Flood Hazard Area

Cc: Attachments: Floodplain Snapshot
FEMA FIRM Extract



DEPARTMENT OF THE AIR FORCE
23D CIVIL ENGINEER SQUADRON (ACC)
MOODY AIR FORCE BASE GEORGIA

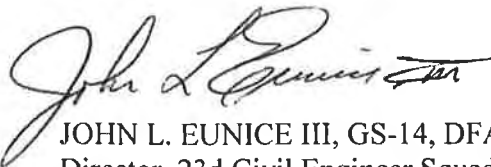
MEMORANDUM FOR FEDERAL, STATE, AND LOCAL PUBLIC AGENCIES, OTHER INTERESTED PARTIES, AND MEMBERS OF THE PUBLIC

FROM: 23 CES/CD
3485 Georgia Street
Moody AFB, GA 31699

/ 2 FEB 2017

SUBJECT: Draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI)/Finding of No Practicable Alternative (FONPA) for the Southwest Land Purchase Property at Moody Air Force Base (AFB), Georgia

1. We are pleased to provide you the Draft EA (Attachment 1) and FONSI/FONPA (Attachment 2) for the proposed purchase of 106.10 acres of privately-owned land located immediately adjacent to the southwestern boundary of Moody AFB to facilitate multiple projects to allow the removal of three airfield waivers. Proposed activities include the relocation of the installation perimeter fence line and the airfield security fence; realignment of Burma Road; clearing of trees; and continued monitoring of remedial actions at Environmental Restoration Program (ERP) Site LF-01. This Draft EA and FONSI/FONPA have been prepared in accordance with the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action and alternatives.
2. There will be a 30-day review period for the Draft EA and FONSI ending on March 13th, 2017. Comments on the Draft EA may be forwarded by mail to Mr. Hank Santicola, 23 CES/CEIEA, 3485 Georgia Street, Moody AFB, GA 31699 or by e-mail to henry.santicola.2@us.af.mil. If you have any questions, please contact Mr. Santicola by telephone at (229) 257-2396. Thank you for your participation.



JOHN L. EUNICE III, GS-14, DFAC
Director, 23d Civil Engineer Squadron

- 2 Attachments:
1. Draft Environmental Assessment
 2. FONSI/FONPA

Received

EPD Watershed Protection Branch

GEORGIA FLOOD M.A.P. FLOOD RISK SNAPSHOT

Mapping Assessment & Planning

DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Moody Air Force Base

GA



Legend with Flood Zone Designations

- Flood Control Structures
- Base Flood Elevations
- Cross Sections
- Coastal Traverses
- FIRM Panel Index
- Floodway Decrease
- Floodway Increase
- 100-Year Flood Zone Decrease
- 100-Year Flood Zone Increase
- Zone Change
- 1% Flood - Floodway (High Risk)
- 1% Flood - Zone AE (High Risk)
- 1% Flood - Zone A, AH, AO, or D (High Risk)
- 0.2% Flood - Shaded Zone X (Moderate Risk)
- 1% Flood - Zone VE (High Risk)
- Area Not Included
- Letters of Map Revision
- Coastal Barrier Resource Area

Who needs flood insurance?

Federal flood insurance is required by most lenders for buildings mapped in the high-risk Special Flood Hazard Areas (SFHA) shown on flood hazard maps. Flood insurance is available to homeowners, renters, condo owners/renters, and commercial owners/renters within NFIP participating communities. Costs vary depending on how much insurance is purchased, what it covers, and the property's flood risk.

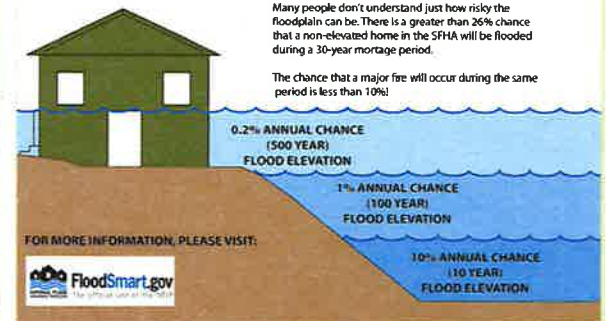
What is the Special Flood Hazard Area (SFHA)?

The SFHA is that portion of the floodplain subject to inundation by the 1% Annual chance flood and/or flood-related erosion hazards. These areas are shown on the FIRMs as Zones A, AE, AH, AO, AR AND A99

Not in a mapped floodplain?

Unfortunately, it's often after a flood that many people discover that their home or business does not cover flood damage. Approximately 25% of all flood damage occurs in low risk zones, commonly described as being 'outside the mapped flood zone'.

Nature Doesn't Read Flood Maps



Many people don't understand just how risky the floodplain can be. There is a greater than 26% chance that a non-elevated home in the SFHA will be flooded during a 30-year mortgage period.

The chance that a major fire will occur during the same period is less than 10%!

FOR MORE INFORMATION, PLEASE VISIT:



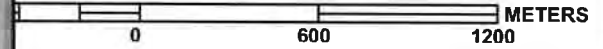
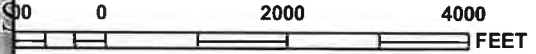
Flood Risk Status

Panel ID:	13185C0150E,13173C0175C
Current Flood Zone:	X
Preliminary Flood Zone:	N/A
Flood Zone Change Type:	N/A
*Probability of Flooding over 30-Year Period:	N/A

Disclaimer: This data is not to be used to determine any base flood elevations or flood zone designations for NFIP (National Flood Insurance Program) purposes. For NFIP flood insurance and regulation purposes, please refer to the published effective FIRM (Flood Rate Insurance Map) for your area of concern. Values displayed for Current Flood Zone, Preliminary Flood Zone, Flood Zone Change Type, and Probability of Flooding over a 30-year period based on center of dot location, not extent of structure(s). Address search function provided by Bing Maps.



MAP SCALE 1" = 2000'



NFIP

PANEL 0150E

FIRM
FLOOD INSURANCE RATE MAP
LOWNDES COUNTY,
GEORGIA
AND INCORPORATED AREAS

PANEL 150 OF 400

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
LOWNDES COUNTY	130469	0150	E
VALDOSTA, CITY OF	130200	0150	E

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER
13185C0150E

EFFECTIVE DATE
SEPTEMBER 26, 2008

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

APPENDIX B
CRITERIA AND HAZARDOUS POLLUTANTS
AND
GREENHOUSE GAS EMISSIONS ANALYSIS

B.1 Introduction

This appendix provides the following analyses of potential air quality impacts:

- Clean Air Act (CAA) general conformity rule applicability determination and criteria and hazardous pollutants emissions analysis
- Greenhouse gas analysis.

B.2 Clean Air Conformity

The 1990 amendments to the CAA require federal agencies to ensure that their actions conform to the appropriate State Implementation Plan (SIP) in a nonattainment area. The SIP provides for implementation, maintenance, and enforcement of the National Ambient Air Quality Standards (NAAQS); it includes emission limitations and control measures to attain and maintain the NAAQS. Conformity to a SIP, as defined in the CAA, means conformity to a SIP's purpose of reducing the severity and number of violations of the NAAQS to achieve attainment of the standards. The federal agency responsible for a proposed action is required to determine if its proposed action conforms to the applicable SIP.

The U.S. Environmental Protection Agency (EPA) has developed two sets of conformity regulations; federal actions are differentiated into transportation projects and non-transportation-related projects:

- Transportation projects, which are governed by the “transportation conformity” regulations (40 Code of Federal Regulations [CFR] Parts 51 and 93), effective on December 27, 1993 and revised on August 15, 1997.
- Non-transportation projects which are governed by the “general conformity” regulations (40 CFR Parts 6, 51 and 93) described in the final rule for *Determining Conformity of General Federal Actions to State or Federal Implementation Plans* published in the *Federal Register* on November 30, 1993 (U.S. EPA, 1993). The general conformity rule became effective January 31, 1994 and was revised on March 24, 2010.

Because the Proposed Action would occur at Moody Air Force Base (AFB) within Lowndes County, Georgia, an attainment area for all criteria pollutants, the general conformity rule does not apply to the Proposed Action.

B.3 Emissions Determination

Direct and indirect nitrogen oxide (NO_x) and volatile organic compounds (VOCs), carbon monoxide (CO), and particulate matter equal to or less than 10 microns in diameter (PM₁₀), sulfur dioxide (SO₂), hazardous pollutants, and greenhouse gas emissions would potentially result from the following activities:

- Use of diesel-powered nonroad equipment.
- Movement of trucks and worker's commuting vehicles during construction activities.

B.3.1 Construction Emissions Estimates

B.3.1.1 Proposed Construction Activities Resource Data Estimates

A construction estimate to identify equipment, material, and manpower requirements for the construction associated with the Proposed Action was performed and discussed below.

Estimates as to construction crew and equipment requirements and productivity are based on data presented in:

- “2003 RSMeans Facilities Construction Cost Data”, R.S. Means Co., Inc., 2002
- “2011 RSMeans Facilities Construction Cost Data”, R.S. Means Co., Inc., 2010.

Based on the planning-level descriptions of the Proposed Action in this EA, the proposed work includes multiple projects with no specific schedule. However, based on the scope of work it is anticipated that the work could be completed in a single year. Three types of construction include clearing and grubbing, grading, construction and demolition of fencing, and construction and demolition of roadways.

Perimeter Fence Relocation/Demolition

A total of 1,400 Linear Foot (LF) of perimeter fencing and 1,000 LF of airfield fencing would be installed, and 1,300 LF of perimeter fence and 850 LF of airfield fence would be demolished. It is further assumed that a 20-ft wide area (10 ft on either side of the fencing) will be cleared and grubbed along the new perimeter fence to provide space for perimeter security patrols. The total length of new fencing is 2,400 LF, the total length of fencing demolition is 2,150 LF, and the total length of cleared, grubbed and graded patrol area is 2,800 SF (0.64 acres.). The construction activities associated with this element include:

- Clearing and Grubbing
- Fencing

General Site Work

General site work would include site clearing and grubbing.

Road Realignment

The realignment of Burma Road calls for the installation of approximately 3,100 LF of new road (24-ft wide) and an 8-ft wide jogging/cycling path through a 50-ft wide cut that would include:

- Clearing and Grubbing
- Road/cycling path surface
- Asphalt pavement over approximate one acre surface.

B.3.1.2 Equipment Operations and Emissions

Estimates of equipment emissions on an annual basis were based on the estimated hours of usage and emission factors for each motorized source for the project. Emission factors for each pollutant related to heavy-duty diesel equipment were obtained from the U.S. EPA's Motor Vehicle Emission Simulator

(MOVES) MOVES2014a emission factor model (U.S. EPA, 2015).

The U.S. EPA recommends the following formula to calculate hourly emissions for the *i*th pollutant from non-road engine sources including tractors:

$$M_i = N \times HP \times EF_i$$

where:

- M_i = mass of emissions of *i*th pollutants during inventory period;
- N = source population (units);
- HP = average rated horsepower; and
- EF_i = average emissions of *i*th pollutant per unit of use (e.g., grams per horsepower-hour) predicted by MOVES2014a.

Estimated emissions from operation of nonroad equipment are presented in Table B-1.

B.3.1.3 Construction On-road Vehicle Operations and Emissions

MOVES 2014a program was used to predict both truck and commuter vehicle emission factors for both criteria and hazardous pollutants and greenhouse gas emissions in terms of carbon dioxide (CO₂) (U.S. EPA, 2015). The national default input parameters applicable for Lowndes County, Georgia area where the project site is located were used in emissions factor modeling. Estimated emissions from operation of trucks and commuter vehicles associated with each element are presented in Table B-2.

B.3.1.4 Fugitive Dust Emissions

In addition to construction vehicle and equipment exhaust emissions as discussed above, the on-paved road surface fugitive dust emissions would also be generated from vehicles. The U.S. EPA AP-42, *Compilation of Air Pollution Emission Factors* (U.S. EPA, 1995), was used to predict fugitive dust emissions from vehicles traveling on paved roads. Total paved road dust emissions are summarized in Tables B-3.

B.3.1.5 Pavement Fugitive VOCs

The fugitive VOC emissions resulting from pavement construction (asphalt paving) were calculated and are summarized in Table B-4.

B.3.1.6 Total Construction Emissions

Total combined construction emissions with potential to occur within the construction period including both on-site equipment and on-road vehicle operational emissions are summarized in Table B-5.

B.3.2 Operational Emissions

No new buildings would be constructed; therefore no new operational emissions would result.

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Table B-1: Construction Equipment Emissions

Equipment Type	Number of Units	Days	Hours	Horsepower (hp)	Emission Factor (grams/hp-hour)								Emission (tons)							
					VOC	NO _x	CO	PM _{2.5}	PM ₁₀	SO ₂	HAPs	CO ₂	VOC	NO _x	CO	PM _{2.5}	PM ₁₀	SO ₂	HAPs	CO ₂
Asphalt paver, 130 HP	1	3	24	130	0.20	1.61	0.69	0.16	0.16	0.00	0.10	536.28	0.00	0.01	0.00	0.00	0.00	0.00	0.00	1.84
Backhoe loader, 48hp	1	125	1000	48	0.34	4.04	1.62	0.25	0.26	0.00	0.21	695.02	0.02	0.21	0.09	0.01	0.01	0.00	0.01	36.74
Backhoe loader w/ attachment	1	1	8	93	0.84	3.94	4.89	0.68	0.70	0.00	0.43	693.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57
Chipping machine	1	16	128	144	0.33	3.54	1.00	0.21	0.21	0.00	0.16	530.09	0.01	0.07	0.02	0.00	0.00	0.00	0.00	10.76
Dozer, 300 HP	1	6	48	300	0.18	1.93	0.78	0.11	0.11	0.00	0.09	536.33	0.00	0.03	0.01	0.00	0.00	0.00	0.00	8.51
Front end loader, 1.5 cy, cml	1	6	48	243	0.56	3.45	1.77	0.32	0.33	0.00	0.28	624.96	0.01	0.04	0.02	0.00	0.00	0.00	0.00	8.01
Front end loader, TM, 2.5cy	1	16	128	243	0.56	3.45	1.77	0.32	0.33	0.00	0.28	624.96	0.02	0.12	0.06	0.01	0.01	0.00	0.01	21.37
Grader, 30,000 lb	1	15	120	204	0.18	1.25	0.41	0.07	0.07	0.00	0.17	536.35	0.00	0.03	0.01	0.00	0.00	0.00	0.00	14.49
Pneumatic wheel roller	1	3	24	99	0.23	2.08	2.00	0.25	0.26	0.00	0.13	595.51	0.00	0.01	0.01	0.00	0.00	0.00	0.00	1.56
Roller, vibratory	1	6	48	92	0.23	2.08	2.00	0.25	0.26	0.00	0.13	595.51	0.00	0.01	0.01	0.00	0.00	0.00	0.00	2.90
Rollers, steel wheel	1	6	48	92	0.23	2.08	2.00	0.25	0.26	0.00	0.13	595.51	0.00	0.01	0.01	0.00	0.00	0.00	0.00	2.90
Tandem roller, 10 ton	1	120	960	70	0.23	3.32	1.80	0.19	0.19	0.00	0.13	595.50	0.02	0.25	0.13	0.01	0.01	0.00	0.01	44.07
Tractor truck, 240 HP	1	6	48	240	0.18	1.42	0.48	0.09	0.09	0.00	0.09	536.32	0.00	0.02	0.01	0.00	0.00	0.00	0.00	6.80
Water tank truck, 5000 gal	1	6	48	783	0.28	3.73	1.15	0.14	0.15	0.00	0.11	536.05	0.01	0.15	0.05	0.01	0.01	0.00	0.00	22.19
Total Equipment Emissions													0.09	0.96	0.43	0.06	0.06	0.00	0.05	182.72

Table B-2: Construction Vehicle Emissions

			Emission Factor (lb/mi)								Emission (tons)								
	Number of Trips	Total Miles	VOC	NO _x	CO	PM _{2.5}	PM ₁₀	SO ₂	HAPs	CO ₂	VOC	NO _x	CO	PM _{2.5}	PM ₁₀	SO ₂	HAPs	CO ₂	
Trucks	40	20	0.00	0.04	0.01	0.00	0.00	0.00	0.00	4.93	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.97
Cars	694	20	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.93	0.01	0.02	0.11	0.00	0.00	0.00	0.00	0.00	6.45
Total motor vehicle emissions											0.01	0.03	0.11	0.00	0.00	0.00	0.00	0.00	8.43

Table B-3: Construction Vehicle Paved Roads Fugitive Dust Resuspension Emissions

Vehicle Type	Number of Units	Total Roundtrip Miles per Veh	PM ₁₀ Emission Factor	PM _{2.5} Emission Factor	PM ₁₀ Emissions	PM _{2.5} Emissions ⁵	Annual PM ₁₀ FD Emissions	Annual PM _{2.5} FD Emissions ⁵
			lb/VMT	lb/VMT ⁵	lb/veh	lb/veh	ton/yr	ton/yr
Trucks	4184	20	0.04	0.01	0.89	0.22	1.86	0.46
Cars	14444	20	0.003	0.001	0.06	0.01	0.40	0.10
Total							2.26	0.56

Table B-4: Estimated Annual Asphalt Pavement VOC Emissions

Year Pavement square yards ¹	Hot Mix Emission Factor (lbs/ton) ²	Emulsified Emission Factor (lbs/ton) ³	Hot Mix Application Rate (gal/SY) ⁴	Primary Coat Application Rate (gal/SY) ⁵	Tack Coat Application Rate (gal/SY) ⁵	Hot Mix, Primary & Tack Coat asphalt (tons VOC/SY)	Annual Emissions VOC (tons)
4,840	0.040	17.900	0.060	0.25	0.30	2.05x10 ⁻⁵	0.10

Notes:

1. Based on approximate pavement area estimated.
 2. Hot Mix Emulsified emission factors were obtained from the SMAQMD 1991 survey (SMAQMD, 1991).
 3. Emulsified Emission factors are used for Primary and Tack Coats.
 4. Hot Mix application rate was obtained from the *Hot-Mix Asphalt Paving Handbook* (USACE, 2000).
 5. Primary and Tack Coat Application rates were obtained from: *Road and Bridge Specifications* (FHWA, 2002).
- The density of asphalt (8.34 lb/gal) used in the calculations was obtained from: U.S. EPA, *Emission Inventory Improvement Program Technical Report Series* (U.S. EPA, 2001).

Table B-5: Total Construction Annual Emissions

Pollutant Emissions (tons)							
VOC	NO_x	CO	PM_{2.5}	PM₁₀	SO₂	HAPs	CO₂
0.20	1.00	0.86	0.07	0.10	0.00	0.05	191.15

REFERENCES

- Council on Environmental Quality, 2016. Memorandum for Heads of Federal Departments and Agencies from: Nancy H. Sutley, Chair, Council on Environmental Quality Subject: *Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Process*, August 1.
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APPENDIX C

**PHASE I CULTURAL RESOURCE ASSESSMENT FOR THE SOUTHWEST LAND
PURCHASE AT MOODY AFB**

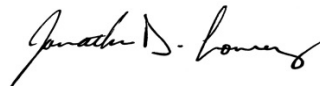
AND

**CULTURAL RESOURCE ASSESSMENT ADDENDUM FOR THE SOUTHWEST LAND
PURCHASE AT MOODY AFB**

**A PHASE I CULTURAL RESOURCE ASSESSMENT
FOR
THE SOUTHWEST LAND PURCHASE
AT MOODY AIR FORCE BASE
LOWNDES COUNTY, GEORGIA**

**By
Jonathan Daniel Lowrey**

**For
Moody Air Force Base**



Jonathan Daniel Lowrey, Principal Investigator

Project # 60504134



ABSTRACT

On August 15-16, 2016, AECOM, Inc. of Atlanta, GA performed a cultural resource assessment for the proposed Southwest Land Purchase at Moody Air Force Base. The field investigation was intended to locate, identify, and record culturally significant archaeological sites within the project boundary as it was defined by the client. Daniel Lowrey, Principal Investigator, and Patrick Smith conducted the field survey. Site photographs are provided to document the present conditions within the project area with regard to land use, terrain, and flora. The subject property, comprised of approximately 106.1 acres, is located two miles northwest of the town of Bemiss, Lowndes County, GA adjacent to the current southwest property boundary of Moody Air Force Base as shown on the 1971 Bemiss, GA 7.5' USGS topographic quadrangle.

The Phase I cultural resources assessment resulted in recording two archaeological isolated finds (Moody AFB-IF-1 and Moody AFB-IF-2). A single, non-diagnostic artifact was recovered from each. These isolated finds do not meet the criteria to be archaeological sites based on guidelines by the Georgia Council of Professional Archaeologists. Thus, these isolated finds will not receive site numbers. Furthermore, because of the paucity of cultural materials recovered and the plow-disturbed nature of their contexts, neither isolated find is eligible for inclusion on the National Register of Historic Places (NRHP). It is AECOM's opinion that activities related to the purchase and subsequent development of the subject property will not adversely affect any resources significant to national or state history or those eligible for the NRHP. As such, no further cultural resource investigations are recommended for the proposed project.

CONTENTS

ABSTRACT	i
Figures	iv
PROJECT DESCRIPTION	1
ENVIRONMENTAL SETTING.....	1
Soils	1
Hydrology	1
Flora	5
REGIONAL CULTURAL HISTORY	5
Paleoindian Period (15,000-9,900 BP)	5
Archaic Period (9,900 BP-3,000 BP)	9
Woodland Period (3,000 BP- AD 1150)	9
Mississippian Period (AD 900-1565)	11
Historic Aboriginal AD 1540- ca. 1832.....	11
Spanish Exploration and Colonization AD 1513-1727	12
English Colonization in Georgia AD 1733-1775	12
The American Revolutionary War and Early Republic Period AD 1775-1789.....	13
Federal and Frontier Period AD 1789-1821	14
Antebellum Period AD 1821-1861	14
Confederate and Reconstruction Period AD 1861-1872	15
Recovery, Growth, and Depression Period AD 1872-1941.....	17
History of Lowndes County AD 1825-Present	18
LITERATURE AND DOCUMENT SEARCH	19
Previously Recorded Sites and Surveys.....	19
Site 9LW30.....	20
Site 9LW62.....	20
Site 9LW63.....	20
Site 9LW66.....	20
Site 9LW70.....	20
Site 9LW71.....	21

Site 9LW72.....	21
Site 9LW73.....	21
Site 9LW74.....	21
Site 9LW87.....	22
Site 9LW89.....	22
Site 9LW90.....	22
Site 9LW91.....	23
NRHP and GNAHRGIS.....	23
METHODOLOGY.....	24
RESULTS.....	25
Moody AFB-IF-1.....	25
Moody AFB-IF-2.....	25
RECOMMENDATIONS.....	27
REFERENCES.....	28
Appendix A- Vitae.....	32

FIGURES

Figure 1. <i>Map depicting project location with previously recorded archaeological sites, surveys, and historic structures, based on 1971 Bemiss, GA USGS 7.5' topographic quadrangle.....</i>	2
Figure 2. <i>Map depicting project location and delineated wetlands, based on aerial image.</i>	3
Figure 3. <i>Map depicting soil types in the project area, based on aerial image.....</i>	4
Figure 4. <i>Photograph depicting upland environs, facing south.....</i>	6
Figure 5. <i>Photograph depicting wetland environs, facing southwest.....</i>	6
Figure 6. <i>Photograph depicting remediation injector in northeast portion of survey area, facing southwest</i>	7
Figure 7. <i>Photograph depicting berm in the northeast portion of the survey area, facing west.</i>	7
Figure 8. <i>Map depicting shovel test transects, judgmental shovel tests, and Isolated Finds, based on aerial image.</i>	26

PROJECT DESCRIPTION

The proposed project area (survey area) is a 106.1-acre parcel located south of Mission Pond, immediately adjacent to the southwest boundary of Moody Air Force Base in Lowndes County, Georgia (Figure 1). In a recent ecological survey of the area conducted by AECOM, 89.79 acres of the survey area were found to be in wetlands or open water (Covington 2016) (Figure 2). These wetlands eventually drain into Grand Bay to the south. Moody Air Force Base proposes to purchase this property and make modifications to it. First, approximately 2,150 feet (ft.) of existing fence would be removed and 2,400 ft. of new fencing would be installed around parts of the perimeter of the property. Approximately 3,100 linear feet of new pavement would be installed in order to realign Burma Road in the eastern portion of the project area. Additionally, a paved, eight-foot wide bicycle/jogging path would be installed along the new Burma Road alignment. Lastly, approximately 12 acres of the property would be cleared to ensure clearance for the nearby airfield. Groundwater remediation activities are currently taking place in the northeastern portion of the survey area and are expected to continue after the property is purchased.

ENVIRONMENTAL SETTING

The project area is located within the Tifton Upland district of the Lower Coastal Plain province. The Tifton Upland district is characterized by small, rounded streams in a dendritic pattern (Clark Jr. and Zisa 1976). The waterways are separated by narrow, rounded interfluves, rising between 50 and 200 feet above the valley floors. Elevations in this district range from 480 feet in the north to 150 in the southeast.

SOILS

Soils on uplands in this region were formed in deep sedimentary sands and clays. Alluvial soils (which made up the majority of those observed in the project area) near streams and tributaries generally originated from materials eroded from the uplands. Five soils types are recorded in the project area (Figure 3) (Web Soil Survey 2016). Soils in the upland portions of the project area include Lee field loamy sand (Le), Olustee sand (Oa), and Clarendon loamy sand (Cn). Soils in lower elevations and wetlands include Bayboro loam (Bm) and Pelham loamy sand (Pe). Soil profiles encountered in shovel testing were consistent with soils recorded by the Natural Resources Conservation Service and were characterized by an upper stratum of fine sand or silty sand underlain by a sterile substratum of sandy clay.

HYDROLOGY

The major hydrological features near the project area include Grand Bay to the south and Mission Pond along the northern edge. A small drainage, originating north of Mission Pond, runs roughly north to south, emptying into the swamp in the central and southern portion of the survey area and eventually into Grand Bay. Grand Bay is a Carolina Bay fed by small drainages and groundwater. Carolina bays are elliptical depressions in the ground surface concentrated along the Atlantic Seaboard. The bays and their associated upland ponds are rich in biodiversity and recent research suggests that they were important microenvironments utilized by humans in the late Pleistocene and early Holocene epochs (Brooks, Taylor, Grant 1996).

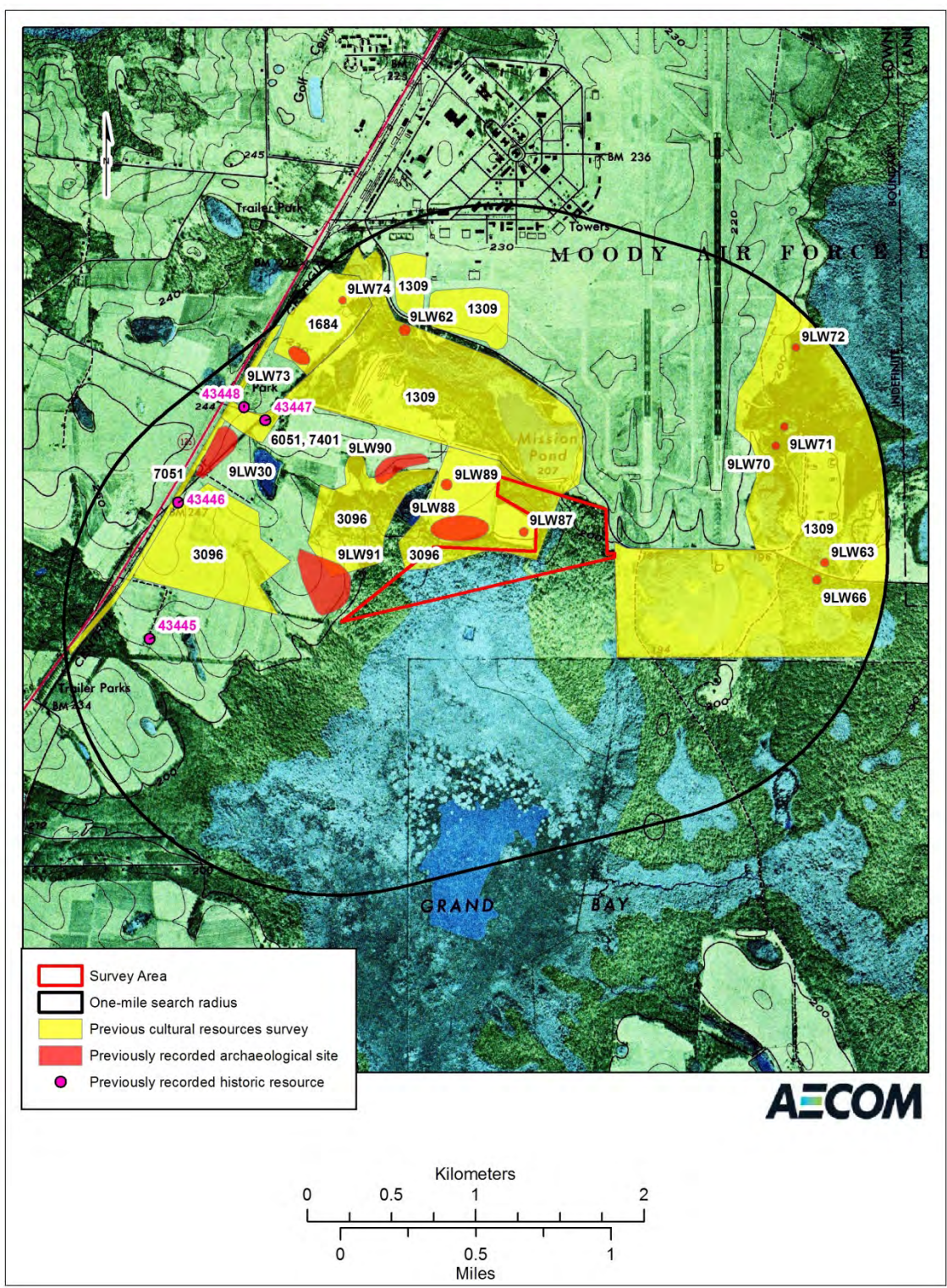


Figure 1. Map depicting project location with previously recorded archaeological sites, surveys, and historic structures, based on 1971 Bemiss, GA USGS 7.5' topographic quadrangle

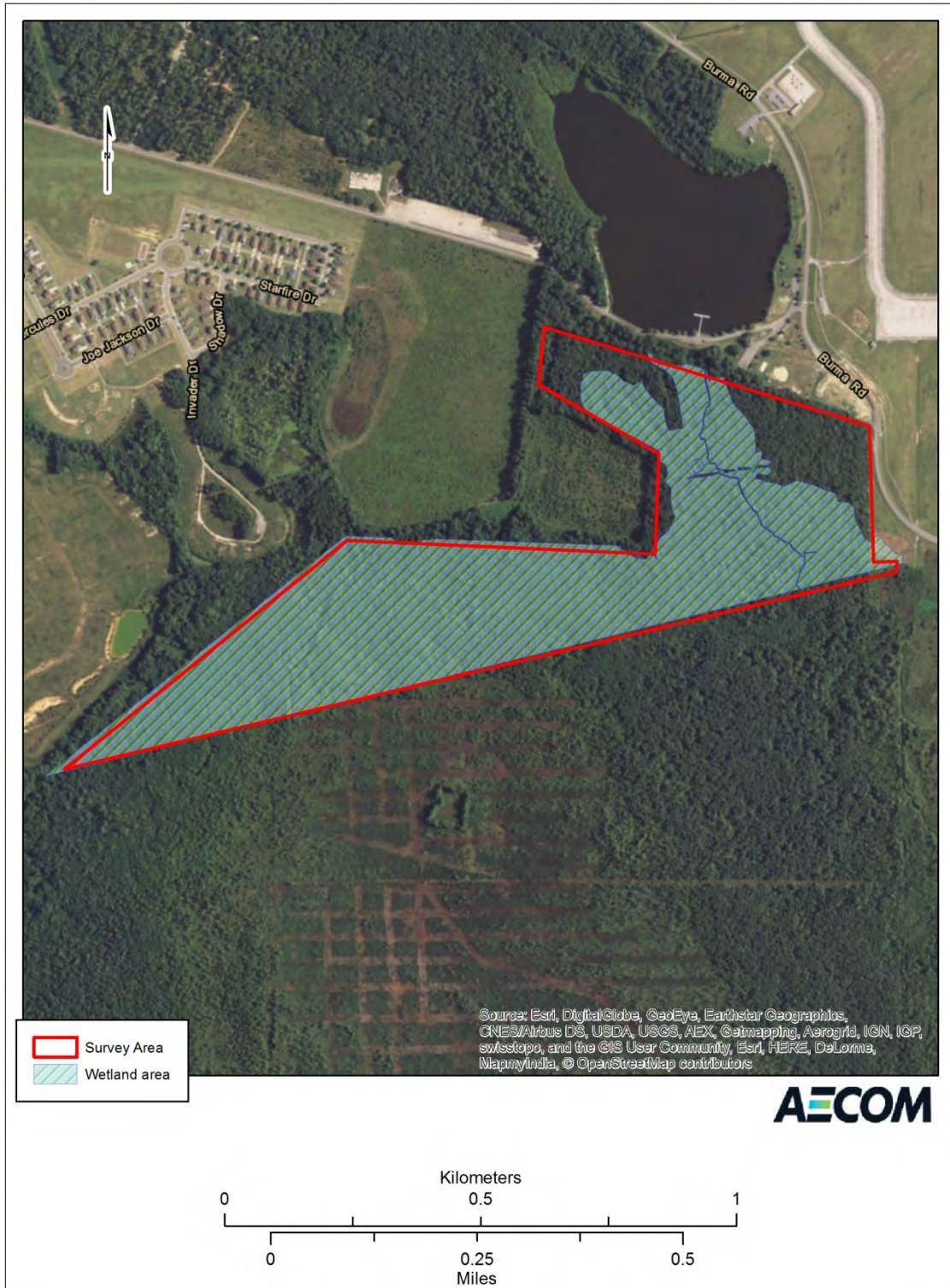


Figure 2. Map depicting project location and delineated wetlands, based on aerial image.

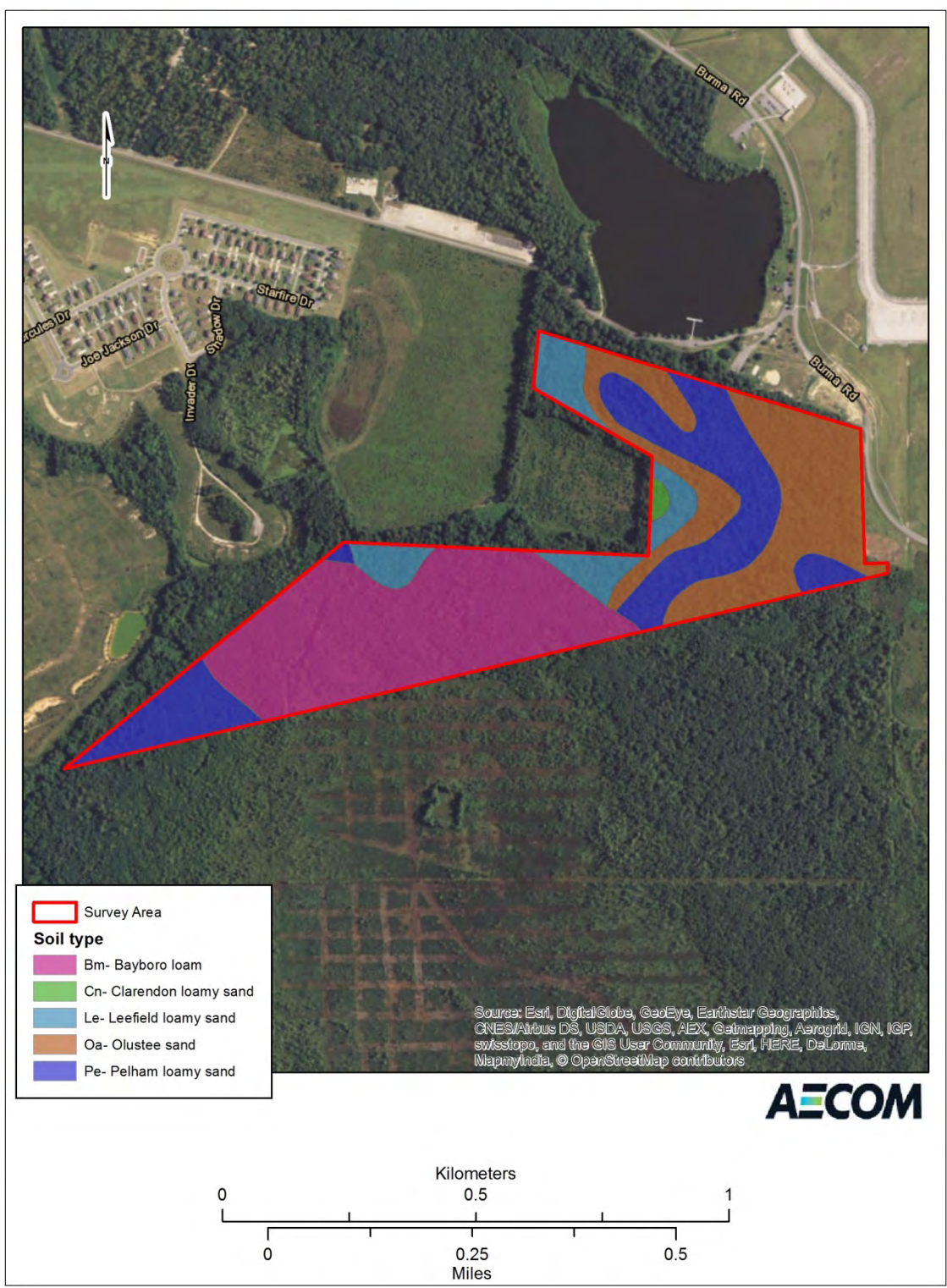


Figure 3. Map depicting soil types in the project area, based on aerial image.

FLORA

Flora in the survey area varies from upland forests to low-lying wetlands and swamps. The upland portions of the project area are covered with mature pines and hardwoods including loblolly pines, longleaf pines, water oak, sweetgum, and live oak (among other varieties) (Figure 4). The understory on upland portions of the survey area is light to moderate in density due to shading and is covered mostly in woody shrubs, briars, and vines. Low-lying portions of the project area are made up of wetlands and swamps (Figure 5). The wetland areas are vegetated mainly in black gum and cypress with an understory covered in palmetto, greenbrier, ferns and other hydrophilic species. The swamps are vegetated mostly in black gum, cypress, and other wetland trees.

Though much of the project area is undisturbed, the eastern portion of the survey area has been disturbed by the installation of groundwater remediation apparatuses (Figure 6). Also, an earthen berm has been constructed in the northeast portion of the survey area (Figure 7). Other disturbances to the project area include small ponds and ditches, presumably used for flood control. Given the historical land use of the area, it is also likely that much of the area was cultivated in the past.

REGIONAL CULTURAL HISTORY

The history of the North American continent is generally divided into three major eras: Pre-Contact, Contact, and Post-Contact. The Pre-Contact era refers primarily to Native American groups and cultures that were present for at least 10,000 to 12,000 years prior to the arrival of the first Europeans to explore the Americas. The Contact era refers to the time of first European exploration of the Americas and the establishment of the first European settlements on the continent. The Post-Contact era refers to the time after the establishment of European settlements when (consequentially) Native American populations experienced dramatic declines. These eras are subdivided according to important events and changes in the lifeways of native and Euro-Americans.

PALEOINDIAN PERIOD (15,000-9,900 BP)

In all likelihood, human habitation of present-day Georgia began around 15,000 to 11,000 years before the present (BP), during the Late Glacial era of the Pleistocene epoch (Anderson, Ledbetter, O'Steen 1990). At that time, sea levels were approximately 200 feet lower than at present time and the Atlantic and Gulf shorelines were considerable seaward from their present positions. As the planet warmed and the glacial sheet covering much of North America retreated, returning much water to the oceans, sea levels drastically rose. By around 9,000 BP sea levels were within only a few feet of their present levels. The massive environmental changes that took place during this period had a profound effect on the floral and faunal diversity of North America. Mass extinctions of much of North America's large mammalian species (i.e. megafauna) were largely complete by 10,000 BP and had a marked impact on human lifeways. These mass extinctions were once largely accepted to be the result of overexploitation by North America's earliest human inhabitants. Today, it is generally accepted that mammalian species' failure to adapt to rapidly changing climate condition was the prime reason for the mass extinction event that took place in North America in the Late Pleistocene (Stuart 1991). However, other contributing factors were disease and human predation.



Figure 4. *Photograph depicting upland environs, facing south.*



Figure 5. *Photograph depicting wetland environs, facing southwest.*



Figure 6. *Photograph depicting remediation injector in northeast portion of survey area, facing southwest*



Figure 7. *Photograph depicting berm in the northeast portion of the survey area, facing west.*

Human beings are thought to have been mostly nomadic during the Paleoindian period. Social groups were likely made up of small, loosely organized bands whose size would fluctuate seasonally and in response to depleting local resources. The Paleoindian subsistence strategy was based on following and hunting large migratory animals such as mastodons, though they are known to have relied on a variety of other wild plant and animal species as well. This would have been especially true of the Late Paleoindian Period when megafauna became rarer as the climate shifted to Holocene conditions. The Paleoindian tool kit included large lanceolate projectile points/knives (fluted and unfluted), scrapers, burins, end scrapers as well as unifacial and bifacial knives. It is also likely that bone, wood, and antler were utilized during the Paleoindian Period, based on worked ivory artifacts that have been recovered (Goodyear 1999).

Evidence of human habitation in the Paleoindian Period in Georgia is sparse. Most Paleoindian Period sites come from the Late Paleoindian Period and are concentrated in the Piedmont region of North Georgia (Anderson et al 1986). Though slight, the evidence for Paleoindian habitation of Georgia does exist throughout the state. However, to date no Paleoindian sites have been recorded in Lowndes County (Williams 1994). Other than surface finds, Paleoindian sites in Georgia include the Theriault Site (Brockington 1971), the Taylor Hill Site (Elliott and Doyon 1981), and the Rucker's Bottom Site (Anderson and Schuldenrein 1985). Recently, the Page-Ladson Site was discovered 11.5 miles inland from the Gulf of Mexico in a deep sinkhole in the Aucilla River between Jefferson and Taylor Counties in Florida. It is a mastodon butchery site dating to about 14,500 BP (Halligan et al. 2016). Pre-Clovis stone tools were found along with mastodon bones in an undisturbed geological context.

The Paleoindian Period in the lower Southeast is broken down into three major sub-periods: Early Paleoindian, Middle Paleoindian, and Late Paleoindian. These subperiods are based largely on patterns in stone tool technology calibrated with radiocarbon dates from secure site contexts throughout the southeast. Given the relative paucity of data on the earliest Paleoindian sites, especially in Georgia, these subperiods should be viewed as tentative guidelines rather than hard rules. The Early Paleoindian Period is thought to date from ca. 13,000-11,000 BP and is characterized by fluted, chipped stone tools similar to the Southwestern Clovis projectile point type. These points are large lanceolates with parallel, ground haft edges, concave bases, and single/multiple flutes extending from the base to more than a third of the length of the point (Anderson, Ledbetter, O'Steen 1990). Smaller specimens with similar attributes are normally interpreted as extensively resharpened versions of these larger points.

The Middle Paleoindian Period in the lower Southeast dates from 11,000 to 10,500 BP and is characterized by smaller fluted and unfluted lanceolate points and points with broad blades and constricted hafts. Forms including the Cumberland, Suwannee, and Simpson types are examples of the latter.

The Late Paleoindian Period of the lower Southeast dates from 10,500 to 9,900 BP and is characterized by yet smaller, more triangular points including the Dalton, Quad, and Beaver Lake types. This tripartite Southeastern Paleoindian chronology is generally accepted (albeit with slight variations) though it is based on thin evidence from a very broad geographic range. The three major subperiods are assumed to equate to the initial exploration of the region (Early Paleoindian), the establishment of the first population concentrations (Middle Paleoindian), and the switch to lifeways more effective for the Holocene environmental setting (Late Paleoindian). Around 9,900 BP changes in site distributions and lithic

technologies took place across much of the Southeast. These changes would mark the end of the Paleoindian Period and the beginning of the Archaic Period.

ARCHAIC PERIOD (9,900 BP-3,000 BP)

The Archaic is the longest period of Georgia's prehistory, spanning from the end of the Paleoindian Period (ca. 9,900 BP) to the Woodland Period (ca. 3,000 BP) (Elliot and Sassaman 1995). The Archaic environment was characterized by warmer temperatures and higher sea levels. These conditions resulted in the emergence of the mesic oak-hickory forest (Watts 1980). The changing Pleistocene climate resulted in a change of subsistence strategies for Archaic people. Subsistence strategies increasingly focused on non-migratory small game, wild plant foods, shellfish and fish and people became less nomadic. Thus, a variety of site types is found from the Archaic Period including base camps and short-term/seasonal camps.

Like the Paleoindian Period, the Archaic is split into three subperiods: Early, Middle, and Late Archaic periods. During the Early and Middle Archaic, sites in Georgia were concentrated in the northern Piedmont, as they had been during the Paleoindian Period (Elliot and Sassaman 1995). During the Late Archaic, sites continued in the Piedmont but also proliferated along the coast.

Changes in lithic technology are an important aspect of how the Archaic Period is defined. The outset of the archaic period is marked by the innovation of side-notched projectile points and scrapers throughout the eastern United States. By around 9,500 BP the side-notch projectile point technology was largely supplanted by corner-notched variants. The Middle Archaic tradition is marked by the innovation of the stemmed hafted biface projectile points/knives. Several stemmed points, including the Kirk and Morrow Mountain, are considered diagnostic of the Middle Archaic Period. In Florida, the numbers of sites proliferated with greater distribution of surface water. It would stand to reason that southern Georgia would have seen similar site proliferation, though it is poorly documented.

The Late Archaic Period saw innovations that would mark fundamental changes in the everyday lives of Native Americans. The beginning of the Late Archaic is set at ca. 5,000 BP. Around this time dependence on riverine resources intensified. Also ground and polished stone tools and soapstone cooking vessels were developed. While the Georgia-Carolina area generally lagged behind the rest of the Southeast in regards to these innovations, it was home to some of the earliest pottery in North America. While the innovation of fired pottery has long been regarded as marking the terminus of the Archaic Period and onset of the Woodland, this is an inappropriate marker for the Georgia-Carolina area where pottery wasn't in widespread use until about a millennium after its introduction. Much of the earliest pottery in Georgia is fiber-tempered, though some sand-tempered pottery dating to the Archaic period has been recovered from sites along the eastern Coastal Plain (Elliott and Sassaman 1995). The innovation of pottery corresponded to increased population and settlement stability that began during the Late Archaic period and intensified during the Woodland Period.

WOODLAND PERIOD (3,000 BP- AD 1150)

The trend toward larger, more sedentary populations that began in the Archaic Period intensified during the Woodland Period. It is during the Woodland Period that small, sedentary villages were established in river valleys and the long-distance trade of certain commodities intensified. Though wild game, fish, and

wild plants made up the majority of the diet, people were increasingly reliant on horticulture (especially of maize in the latter part of the Woodland Period) for subsistence. Fired-clay pottery proliferated during the Woodland Period. Early on, fiber-tempered and rough sand-tempered pottery dominated. However, as the innovation spread, new materials including grit and shell, were employed to temper pottery and pottery forms and decorations took on regional styles. Much of the seriation of the Woodland Period is dependent upon decorative styles and shapes of ceramic vessels. It is in these differing pottery traditions that we can see the variations between groups of Native Americans. Mortuary practices involving stone and/or earthen mounds and other material culture are evident during this period.

The sequencing of the Woodland Period is mainly seriated according to changes in decorative styles in pottery (Steinen 1995). Two separate ceramic traditions existed in the Georgia Coastal Plain regions. One, located along the upper Flint River, Ocmulgee River, Oconee River, Ogeechee River and the upper Altamaha River is characterized by distinctive cord-marked pottery. This pottery tradition is thought to be associated with either Gulf Coast or Piedmont types. The other, along the Chattahoochee and Lower Flint Rivers, is similar to one found along the Florida Panhandle and is characterized by Deptford Phase pottery styles in the Early Woodland period and by a Swift Creek and Weeden Island pottery styles in the Middle and Late Woodland Periods, respectively. Cord-marked pottery is also found at sites along in the Flint and Ocmulgee drainage basins in the Middle and Late Woodland periods.

The earliest phases of the Woodland Period have very similar material culture to the Late Archaic period. When pottery is found it is usually fiber-tempered. Archaeological evidence from sites indicates an egalitarian social organization. Also, sites are generally found along the coast of Georgia, with little occupation in the interior. Significant cultural changes become evident with the advent of the Deptford culture (named after Deptford style pottery). Most deposits of Deptford pottery come from sites along the coasts of Florida and Georgia. In this way, the site distributions are similar to the preceding Late Archaic Period. However, other evidence from Deptford phase sites signifies important cultural shifts. Sears recognized a shift in ceremonial activities during the Deptford phase to what he would define as the Yent Ceremonial Complex (Steinen 1995). The Yent Complex is characterized by evidence for the continuous use of burial mounds containing copper pan pipes, cymbal-shaped copper embellishments, cut animal mandibles, and other artifacts similar to those found in the Hopewell Ceremonial Complex in Louisiana and the Midwest. The use of burial mounds and the presence of middens on sites indicate increased sedentism which is characteristic of the Woodland Period in general.

The Middle Woodland Period in the Lower Coastal Plain region of Georgia ranges from around 2,200 BP to 1,700 B.P. and is marked by significant changes in pottery styles and site distributions (Steinen 1995). It is during this period that the Swift Creek style and the Green Point Ceremonial Complex are first evident. During the Late Swift Creek phase, Kolomoki re-emerged. It is thought to have functioned as a center of civic activities.

The Late Woodland Period is marked by a decline of the Hopewellian Interaction Sphere. In Georgia, Alabama, eastern Tennessee and Northern Florida, Late Woodland sites are characterized by the occurrence of Swift Creek pottery styles through about AD 500. Around AD 950 the northern and central portions of Georgia evolved into the core of the South Appalachian Mississippian Culture. The people of the Gulf Coastal region of Georgia followed suit by around AD 1150. Settlements in the coastal plain of

Georgia become smaller and more dispersed during the Late Woodland Period. In the Coastal Plain, mound construction seems to have ceased during the Late Woodland period.

MISSISSIPPIAN PERIOD (AD 900-1565)

The Mississippian Period is marked by a rise in ceremonialism, increased social stratification, and specialization. The intensification of maize agriculture among Native North Americans reached its zenith in the Mississippian Period. Social organization became more stratified with individuals being ranked according to lineage with political power shared between civic and religious institutions. Many villages were securely permanent, having palisaded walls and houses that were rebuilt over a number of years. Mound construction continued during the Mississippian Period with some distinctions from the Woodland Period mound-building. Mounds in the Woodland Period were generally built in successive phases over a long period of time. In the Mississippian Period, mounds were constructed over a short period of time as part of large public construction projects.

The Chiefdom level of social organization is most pronounced during the Mississippian Period, with civic leaders exercising more direct control over constituents (though to what degree is debated). Also, it is clear from proto-historic accounts that a supra-chiefdom level of social organization also existed, where paramount chiefs exercised authority over a small fiefdom. Records from Spanish expeditions recount chiefs traveling from village to village displaying royal power and receiving gifts and tribute from subverted groups (Smith and Hally 1992).

The Mississippian Period ends around AD 1565 with the arrival of Spanish armies under the command of Hernando de Soto and Tristan de Luna. Inland groups were relatively free of European encroachment until the 17th century when widespread displacement of inland groups occurred.

HISTORIC ABORIGINAL AD 1540- CA. 1832

The Protohistoric and Historic periods for American aboriginals was largely governed by the encroachment of Europeans into the East Coast. From as early as 1540 AD until their forced removal in the 1830s, the Historic Creek Indians occupied much of Alabama and Georgia. The Creek Confederacy was a confederacy of culturally and linguistically diverse Native Americans who banded together for common protection from other Native American groups and from EuroAmerican peoples (Knight 1994). Until the late 17th century, most European settlements in Georgia were along the coast. However, starting in the late 17th and early 18th centuries, European people began moving inland displacing Native American groups who would then settle along a few river valleys in Georgia and Alabama. These displaced groups would seek refuge under the protection of indigenous Creeks, forming cohesive tribal groups with a certain amount of autonomy.

The Creeks lived in towns and depended heavily on communal maize agriculture for subsistence with a similar reliance on the production of squash and beans. Early in the protohistoric period, the *town* was the center of Creek social life and was the basic unit of economic production. As a result of European contact potatoes, rice, melons, and tobacco were added to the Creek repertoire and patterns of agricultural production began to center on the *family* rather than the town. During the 19th century, the southern states began petitioning the federal government to remove Native Americans to a place west of the Mississippi River. In 1832, the Creeks ceded their remaining lands in Alabama and Georgia to the United States and

accepted relocation to reservation lands in Oklahoma. Though several Historic Aboriginal sites have been identified along the coast and in the Chattahoochee River Valley in South Georgia, no sites have been identified within Lowndes County.

SPANISH EXPLORATION AND COLONIZATION AD 1513-1727

The first Europeans known to have explored Georgia were Spanish. While based in Florida, Spaniards dispatched by Juan Ponce de León may have touched on Georgia soil on an exploratory mission, looking for treasure and the Northwest Passage (Coleman 1991). A few years later, Alonso de Pineda sailed along the Georgia coast and in 1521 Francisco de Gordo landed on the sea islands off the coast of Georgia. They were followed by Lucas Vázquez de Ayllón, who attempted Spain's first colony on the North America's eastern seaboard. Though previously thought to have been located in South Carolina, the site of Vázquez' settlement, San Miguel de Gualdape, is now thought to have been located near present-day Sapelo Sound in Georgia (Weber 1994). Vázquez' settlement was short-lived; it was occupied for only three months before its inhabitants, dying of disease and starvation, fled back to Hispaniola. Of its roughly 600 colonists about 450 of San Miguel de Gualdape's inhabitants died, including its founder. Nevertheless, this was the first European colony in North America.

After Pedro Menéndez de Avilés was sent to recapture Florida from the French in the early 1560s, he established the town of St. Augustine in Florida and then set out to inspect the Carolina-Georgia coast (Coleman 1991). In April 1566 he met the Indian leader, Guale, on the island of Santa Catalina (St. Catherine's), whose name eventually became synonymous with the entire Georgia coastal region. Impressed with the island, Menéndez left a garrison at the San Pedro mission and sent an expedition into the interior. After returning to Spain in 1567, Menéndez was promoted to Captain General of the west. He, in partnership with the Jesuit order and later the Franciscans, convinced Phillip II to redouble their missionary efforts in Guale.

The Spanish colonization scheme relied on two institutions: the presidio and the mission. The presidio was a small frontier fort garrisoned with Spanish troops and supported by Native American allies. The mission was attended by a friar and was responsible for educating and proselytizing the Native Americans. Unlike the British, the Spanish colonization plans centered on winning the hearts and minds of native groups. It was Menéndez's hope that the Native Americans would embrace the Spanish way of life, thus bring all of Guale under the dominion of Phillip II. Though this was never to come to pass, the presidio/mission system would persist for over a century. Starting in the 1660's the missions in Georgia's interior were abandoned due to massive depopulation of the Native Americans living there. Pirate raids as well as slave-raids by Indians allied with the English eventually forced the total withdrawal of the mission system. Georgia became a battleground between the Spanish, French, and English, all of whom vied for alliances with the Creek and Cherokee Indians.

ENGLISH COLONIZATION IN GEORGIA AD 1733-1775

In 1730, twenty-one prominent Englishmen, James Oglethorpe among them, requested a charter to found the colony of Georgia, south of Carolina on the American East Coast (Coleman 1991). Georgia was defined in the charter as the land between the Savannah and Altamaha Rivers, inland to their headwaters, and westward "to the South Seas." Georgia was planned as a refuge for European Protestants and as a buffer for the more northward colonies from the French, who had well-established themselves in present-

day Alabama, and the Spanish, diminished but still persisting in present-day Florida. Oglethorpe and the first group of colonists arrived in what would be Savannah, Georgia on February 1, 1733. In May of the same year, Oglethorpe finalized a treaty with Tomochichi, the chief of the Yamacraw Indians. Oglethorpe and the other “Trustees” that governed Georgia envisioned a colony of yeoman farmers from whom a fighting force could be raised should need be. Thus, decrees limiting the amount of land one could own to small lots and prohibiting slavery were strictly enforced early on in the English colony. Georgia, the English colony, would indeed act as a buffer for Carolina during the War of Jenkin’s Ear against the Yamasee Indians and the Spanish.

In 1752, the colonial charter expired and Georgia became an English royal province, under the direct rule of the crown (Coleman 1991). Under royal rule, Georgia’s population and trade would grow quickly. This is largely due to Oglethorpe’s slavery prohibition being lifted. Thus, plantations sprung up in Georgia and an increasing proportion of the population was made up of African slaves. By 1773, slaves made up nearly half the population of Georgia and slavery had established itself as one of the chief enterprises of the Georgia province. Georgia was as prosperous as ever and content under the rule of Governor James Wright.

In 1763, England emerged victorious over the Spanish and French in their Great War for Empire. Trade taxes in America had been largely flaunted without penalty until that point, but the crown, in an effort to pay down war debts, decided on a “New Colonial Policy” that would see the colonies paying their taxes. This started with the Sugar Act in 1764, which was the first policy intended to raise money from the American Colonies. This act was largely accepted in Georgia, though hotly protested in New England. Two year later, when the Stamp Act was passed, the mood in Georgia had changed and an effigy of a stamp master was hanged and burned in Savannah. On November 6, 1775 the Sons of Liberty proclaimed that any stamp master would be unwelcome in Georgia. The social affability in Georgia deteriorated further with the Townshend Acts and finally with the English reaction to the Boston Tea Party (which were known in the colonies as the “Intolerable Acts”). Wright’s administration lost control of Georgia and, though Georgia lagged behind most other colonies in rising to revolution, radical Whigs gained prominence in the colony. In mid-January 1776, combat broke out in Georgia when the British navy, hoping to purchase supplies, sent ships to the mouth of the Savannah River. Wright urged Whigs to cooperate with the British, but instead Wright was arrested along with other royal officials. British reinforcements arrived in February. Wright and his officials escaped to British ships and thus ended royal rule in Georgia.

THE AMERICAN REVOLUTIONARY WAR AND EARLY REPUBLIC PERIOD AD 1775-1789

On November 4, 1775, the Continental Congress authorized Georgia’s first revolutionary troops (Coleman 1991). Georgia had between 2,500 and 4,000 men eligible to enlist in the revolutionary army. However, if even half of them were conscripted it would have seriously damaged the state’s economy. The next February, the Continental Congress commissioned the Continental Southern Military Department (Georgia, the Carolinas, and Virginia). Even still, the men and supplies needed for the frontier state could not be mustered and Georgia’s defenses flagged. In the summer of 1776 Georgia was authorized to raise two more battalions of infantry, one regiment of rangers, two companies of artillery, and four row galleys for coastal defense; another battalion was authorized in the fall. Recruitment was authorized to draw from colonies all the way to Pennsylvania. Still, recruits and supplies were difficult to

come by (Coleman 1991). In the fall of 1776 an unsuccessful foray to take St. Augustine was attempted by Georgia troops. A second and third attempt failed over the next two years. On December 23, 1778, Savannah was captured largely due to infighting between General Robert Howe, Governor John Houstoun, and Colonel George Walton. Attempting to escape, the Whigs suffered 100 killed or drowned in the swamps and 450 captured.

On January 14, 1779, the British invited Georgians to surrender and take an oath of loyalty and receive a full royal pardon (Coleman 1991). About 1,400 men submitted and were formed into royal militia units. The British continued to attempt to raise Tories in the backcountry, but they were less successful than they had hoped. Also, they failed to secure the Native American support that they anticipated. Though they did persuade some colonists to turn, their loyalty proved unreliable and in confrontations at Augusta and Kettle Creek, British armies were routed and took many casualties.

In September of 1779, the French navy along with revolutionary troops from the South Carolina attempted to recapture Savannah (Coleman 1991). Their attempt was nearly successful and they had a definite advantage in manpower, but the two groups failed to cooperate and after an unsuccessful barrage of the town, the French gave up. Shortly thereafter, the Revolutionary Army suffered crushing defeats at Charles Town, where many Georgia troops were stationed in its defense. Soon after the fall of Charles Town, the British occupied Augusta and restored a colonial government. This government was given financial support from Parliament so that no taxes need be raised from Georgians. By July of 1780, Wright reported that all but 800-900 Georgians had submitted to British rule. From the end of May 1780 until July 1871, the existence of a state government is unknown; tradition holds that the government moved around the backcountry of Wilkes County or into South Carolina.

In April 1781 the Continental commander in the South, General Nathanael Greene, began an offensive against the British (Coleman 991). Georgia's and Carolina's militias began a siege of Augusta which fell to Revolutionary troops on June 5, 1781. An assembly met at Augusta and a new state government was assembled. On July 11, 1782, the British evacuated Savannah because they needed the troops elsewhere. This was the last engagement of the American Revolutionary War in Georgia.

FEDERAL AND FRONTIER PERIOD AD 1789-1821

The close of the eighteenth century and the first quarter of the nineteenth century saw expansion into the interior of Georgia from the Atlantic Ocean to the Ocmulgee River, which was then the boundary with the Creek Confederation (Coleman 1991). These lands were gained through a number of separate Native American land cessions, which continued up to 1835. Fort Hawkins was built in 1806 as the first permanent American settlement along the Ocmulgee and proved to be a strategic location during the War of 1812 and the Seminole wars of the 1830s.

ANTEBELLUM PERIOD AD 1821-1861

During the period preceding the Civil War, Georgia expanded in agricultural development and industry. By 1820, Georgia's population was made up of 189,570 whites and 151,419 blacks and had increased 35 percent in only a decade (Coleman 1991). In 1821, the Creek Indians ceded the lands between the Ocmulgee and Flint Rivers in the controversial Treaty of Indian Springs. Five new counties were created out of this acquisition.

In 1829, the *North Carolina* became the first steamboat to successfully navigate the Altamaha and Ocmulgee River from Darien to Macon. By 1836, this route had become one of the most successful trade networks in the South, bringing finished goods into the Georgia interior. Numerous trading posts were established between the Ocmulgee and Flint Rivers, most established along old Native American trails. In this period the central and southwestern portions were the heartland of the state. Here the cotton industry was booming and railroads were constructed to facilitate trade for the cotton and textile industries. Other important goods produced in Georgia included butter, wheat, tobacco, honey, sweet potatoes, and turpentine. Turpentine and cotton were particularly important industries for Lowndes County. Also, other commodities like leather goods, machines, books, and milled or processed foodstuffs were being produced in great amounts in towns. By the end of the Antebellum Period, the Industrial Revolution had reached Georgia.

Slavery was an integral part of Georgia's economic prosperity. Skilled and unskilled black labor was used in every emerging industry and in many areas slaves made up over 30 percent of the population. Approximately five percent of the slave population of the United States labored in Georgia industries. In the late 1850s there was palpable political unrest around the slave issue. Ever since 1808 when the United States government outlawed the African slave trade, slaves had been periodically smuggled into Georgia. But in 1858, Charles A. L. Lamar smuggled 409 African slave laborers into Georgia via Jekyll Island. This was meant not only as an economic protest, but also a political protest in the face of the growing abolishment movement.

CONFEDERATE AND RECONSTRUCTION PERIOD AD 1861-1872

Disputes between Northern and Southern states finally culminated in the secession of South Carolina in December of 1860. Georgia officially seceded from the Union on January 19, 1861. No Civil War battles were fought in Lowndes County, though several Confederate Army companies were raised from the population. Upon secession, Georgia officially cut all ties with Washington, but continued to uphold virtually all old federal laws (Coleman 1991). The Georgia secession convention reconvened in Savannah on May 7, 1861 and, acting as a legislature, adopted the Confederate Constitution on March 16 without a popular referendum. It passed many acts, including important ones authorizing the transfer of military operations in Georgia to the Confederate government. Finally, it replaced the obsolete state constitution of 1789. The new constitution was largely the work of T. R. R. Cobb, president of the secession convention.

By October of 1861, 25,000 Georgians had volunteered for Confederate service; by the end of the war the number would reach 120,000. In April 1862, the Confederate government initiated conscription (the first national draft in American history). Georgia's Governor Joseph E. Brown was convinced that the conscription was unconstitutional and moved to retake control of the Georgia militia. The Supreme Court decided against him and he begrudgingly yielded and proceeded to shore up the state troops with men too young or too old to serve in the Confederate Army. Governor Brown also led the charge against impressment- the seizure of private property at arbitrary prices by the Confederate Army. In the summer of 1862, Brown successfully thwarted Confederate General Braxton Bragg's proclamation of martial law in Atlanta.

The industrial base built in the 1850s expanded to meet the demands of the Confederate war effort which was cut off from European industry by a Federal blockade. Military equipment was made in Atlanta,

Columbus, Macon, Augusta, and Savannah. Georgia's textile industry kept pace, but could not expand due to lack of machinery. The economy would eventually be undermined by inflation. Sherman's invasion would finally topple the already hampered economy.

The military defeat of Georgia started on the coast. By March of 1861, the Union navy had seized all of Georgia's sea islands, which became havens for runaway slaves from the mainland. On the morning of April 10, 1862, Union artillery devastated Fort Pulaski and isolated it from Savannah. In the summer of 1863, a Union amphibious attack destroyed the town of Darien. However, five separate naval attacks failed to take Fort McAllister at the mouth of the Ocmulgee River.

In April 1862, a Union spy named James J. Andrews and twenty Ohio soldiers crossed Confederate lines dressed as civilians and stole a small train a few miles north of Marietta. On their way to Chattanooga, they were finally caught at Ringgold before they could significantly damage the railroad. A year later Colonel Abel D. Streight and 1,600 mounted infantrymen entered Georgia via Alabama. Colonel Streight was stopped at Rome and routed by a hodgepodge of rebels and by General Nathan Bedford Forrest and six hundred new recruits. In September 1863 Union General William S. Rosecrans's army captured Chattanooga and moved into northwestern Georgia. General Braxton Bragg met them and won a bloody battle at Chickamauga. Ulysses S. Grant then replaced Rosecrans and quickly reinforced his troops at Chattanooga. In November, Grant attacked Lookout Mountain and Missionary Ridge, sending Bragg's troops back into Georgia. Grant was then ordered east to face General Lee in Virginia; he left General William T. Sherman with an army of nearly 100,000 to bring the war to Georgia in Spring 1864. Bragg was replaced by General Joseph E. Johnston, who hurriedly prepared his 50,000 men for the invasion.

In May of 1864, Grant defeated Lee in Virginia. Sherman moved toward Atlanta and, using his superior numbers, inflicted heavy losses on Johnston at Resaca. The Confederates retreated down the Western and Atlantic Railroad. They fought again at New Hope Church and at Kennesaw Mountain, taking serious losses in each battle. By July 9, Sherman's army was on the north bank of the Chattahoochee River, preparing to assault Atlanta. Johnston was replaced by General John Bell Hood who readied what defense he could muster from impressed slaves and Governor Brown's ten-thousand-man militia of the old and young. Hood arrived in Atlanta on July 18 and began a series of headlong attacks that were easily repelled. Taking losses in the attacks, his army retired into a defensive position and thus began the forty-day siege of Atlanta. Hood attempted several more attacks but all were unsuccessful. Eventually, he ordered much war material and railroad supplies to be destroyed and his army evacuated Atlanta.

In mid-November, Sherman launched his "march to the sea." He ordered all the main buildings in Atlanta burned, destroying practically everything in Atlanta. Then, he marched southeastward and cut a wide swath through the scattered Confederate forces. On November 22, Union troops entered the capital of Milledgeville and held a mock legislature, repealing the ordinance of secession. Sherman's army then headed for Savannah. On December 13 they took Fort McAllister and Confederate General William J. Hardee and his army evacuated Savannah. Sherman shot a telegraph to President Lincoln: "I beg to present you as a Christmas gift the city of Savannah, with one hundred and fifty heavy guns and plenty of ammunition, also about twenty-five thousand bales of cotton."

In the course of the war, more than 630,000 Union and Confederate soldiers died from battle or disease. Hundreds of thousands more were wounded. After the war, Southern states were financially ruined amid the destruction of factories, homes, farms, and infrastructure.

Lowndes County escaped the widespread destruction like that visited upon Atlanta. Because a fire destroyed the county records in 1877, few primary sources exist for the early Reconstruction Period. However, some witness accounts have survived. Confederate troops from Valdosta did not arrive home until months after war's end and many had to walk from Savannah to Doctortown since the railroad had apparently been destroyed (Daugherty 2016). Also, some local citizens were not released from northern prisons for several months after the Confederate surrender. Shortly after the war ended, a northern garrison, largely made up of black soldiers, was stationed in the Valdosta courthouse. This garrison issued an arrest warrant for Dick Force, a white man, accusing him of verbally and physically assaulting a former slave. Force and witnesses disputed the charges, yet still, Force was wanted by the northern garrison. While attending a party for a relative in Valdosta, Force was approached by members of the garrison who intended to arrest him and the confrontation resulted in Force's death. This event, among others, instigated further animosity against the north and the former Union administration.

RECOVERY, GROWTH, AND DEPRESSION PERIOD AD 1872-1941

Reconstruction ended in 1877 when the last federal troops were withdrawn from other states in the region (Coleman 1991). Eventually, Lowndes County and the other counties of southwest Georgia would recover economically; Lowndes County grew into the largest inland producer of Sea Island cotton in the world by the early twentieth century. As the industrial revolution continued, European demand for American cotton grew. However, with the collapse of the Confederacy and the abolishment of slavery, the economy of Georgia had to be restructured. Thus, the tenant/sharecropper system developed. This resulted in the breakdown of large plantations into small farmsteads. Former slaves and landholding white ultimately became a part of this new system wherein farmland was rented for cash and for a share of each season's harvest.

A major problem began to develop in the tenant/sharecropper system. In lean years, sharecroppers would be forced to mortgage future crops for immediate needs. Successive years of poor crop yields would land many farmers in an endless cycle of debt. By the twentieth century, Georgia's overproduction of cotton would regularly drive prices down and growing it in successive years sapped the soil so that more and more fertilizer were necessary (making it more expensive to grow, even as prices dropped). Though some agricultural diversification did occur, most farmers stuck with cotton for several reasons. Chief of which was that Georgia lacked an adequate banking and lending system. Long-term, low-interest loans were not accessible for small farmers. Those who did take out loans were charged very high fees and interest rates. Thus, starting a new venture was too expensive and risky for most. Some diversification would be achieved during the financial panic of the 1890s. Cotton prices fell so drastically that farmers were forced to refocus on livestock and other foodstuffs for sale and private consumption. Thus melons, pecans, dairy products, and peaches gained permanent footholds in Georgia's agricultural economy. After the turn of the twentieth century, cotton prices rose and farmers once again began to rely heavily on cotton. And during World War I, with cotton prices soaring, Georgia farmers once again experienced the prosperity that they had in the 1850s. While the war also caused prices of other crops to rise, Georgia's agricultural strategy changed very little; cotton was still King.

In 1920 the wartime prosperity came to a sudden and dramatic halt when a financial depression permanently altered Georgia's agricultural economic system. The boll weevil had first entered southeast Georgia in 1913, but high cotton prices effectively offset its effects. By 1919 the boll weevil had spread

through much of the state and, coupled with the financial crisis and exhausted farm land, its effects were disastrous. Over the next five years, Georgians would experience poverty like no other time in the state's history. By 1925 droughts and insecticides had largely dealt with the boll weevil, but cotton production in the state never again rose to pre-weevil levels.

Still reeling from the economic losses from the financial panic of 1920 and crop destructions, Georgians would endure the Great Depression in 1929. Between 1929 and 1932, farm prices fell sixty percent and the gross average annual earnings of Georgia farmers sank from \$206 to just \$83.

Georgia's agricultural economic system underwent major changes with the implementation of Franklin D. Roosevelt's New Deal programs. In 1933 farmers agreed to restrict production of certain crops in return for subsidy payments, thereby stabilizing crop prices. In 1936, farmers were offered other subsidies for planting soil-conserving crops in place of staples. Other beneficial programs helped to reverse soil erosion, the tendency towards small farms, and tenant farming. The New Deal also helped to create a more accessible and fair lending program for farmers. Although the New Deal did have a significant positive impact on many Georgia farmers, many more left their farms and moved from rural towns into cities around the US. Some found prosperity there, and many others found poverty.

HISTORY OF LOWNDES COUNTY AD 1825-PRESENT

Lowndes County was created in 1825 by an act of the state legislature (Tomberlin 2016). The county was named for William Jones Lowndes, whose father had been an American Revolutionary War hero named Rawlins Lowndes. In 1827, settlers established the first town, Franklinville, which was the first county seat. In 1833 a courthouse was built at Lowndesville, which then became the county seat. Lowndesville was later renamed Troupville, in honor of Georgia governor George Troup. On December 12, 1859, the Lowndes County Commission purchased 140 acres to establish a new county seat. The town was named Valdosta, after Val d'Aosta, a plantation owned by former governor Troup.

The reason for moving the county seat was to connect with a railroad line from Savannah. From 1890 to 1916, Valdosta became the largest inland market for Sea Island cotton in the world, though the arrival of the boll weevil in 1915 eventually devastated cotton crops across the state.

In addition to cotton, textiles, timber and turpentine were all important industries in Lowndes County in the early 20th century. The headquarters of the American Turpentine Farmers Association was founded in Valdosta in 1936. The second plant to bottle Coca-Cola was located in Lowndes County.

In 1906, South Georgia State Normal College was founded in Valdosta and provided opportunities for higher education for women in the area. After World War II many more men wanted to attend college and the school became coeducational in 1950 and was renamed Valdosta State College; it became a university in 1993.

In 1941, Valdosta was chosen as the location for Moody Air Force Base, named in honor of Major George Putnam Moody, who was killed in May 1941 while test-piloting a Beech AT-10 in Wichita, Kansas. Moody Air Force Base is located about ten miles north of Valdosta and is home to the 23rd wing. The base supports training and deployment of combat-ready fixed-wing aircraft including the A-10, HC-

130, and HH-60. More than 4,600 military and civilian personnel are assigned to Moody AFB. The base occupies nearly 12,000 acres and, in 2003, generated over \$320 million to the local economy.

LITERATURE AND DOCUMENT SEARCH

Before conducting fieldwork, AECOM performed a literature and document search in order to gather pertinent background information regarding the subject property and its surroundings. This research included inspections of the Georgia Archaeological Site Files (GASF), Georgia's Natural, Archaeological, and Historic Geographic Information System (GNAHRGIS) database (GNAHRGIS 2016), and the National Register of Historic Places (NRHP) (National Park Service 2016). Additionally, historic aerial imagery and topographic quadrangles were examined.

PREVIOUSLY RECORDED SITES AND SURVEYS

Research of the GASF identified fourteen previously recorded archaeological sites and six previous cultural resource surveys within a one-mile radius of the project area (See Figure 1, Table 1, Table 2). None of the previously recorded sites are located within the project area.

Site Number	Cultural Affiliation	NADB Eligibility	Reference
9LW30	unknown aboriginal	unknown	GASF 2016
9LW62	unknown aboriginal	Recommended Ineligible	Grover et al. 1996
9LW63	unknown aboriginal	Recommended Eligible	Grover et al. 1996
9LW66	unknown aboriginal/19th century historic	Recommended Ineligible	Grover et al. 1996
9LW70/9LW71	Paleoindian, Archaic, Woodland, 19th-20th century historic	Recommended Eligible	Grover et al. 1996; Jones et al. 1999
9LW72	unknown aboriginal	Recommended Ineligible	Grover et al. 1996
9LW73	20th century historic/ unknown aboriginal	Recommended Ineligible	Morgan 1998
9LW74	unknown aboriginal	Recommended Ineligible	Morgan 1998
9LW87	unknown aboriginal	Recommended Ineligible	Hendryx et al. 2005
9LW88	Early Archaic, Middle Archaic, unspecified prehistoric	Recommended Ineligible	Hendryx et al. 2005
9LW89	unknown aboriginal	Recommended Ineligible	Hendryx et al. 2005
9LW90	Middle/Late Archaic	Recommended Ineligible	Hendryx et al. 2005
9LW91	Middle/Late Archaic	Recommended Ineligible	Hendryx et al. 2005

Table 1. Previously recorded archaeological sites within one-mile search radius

GASF Report Number	Survey Size	Results	Reference
1309	3,600 acres	NRHP-potentially eligible resources recorded	Grover et al. 1996
1684	19.5 acres	No eligible resources found	Morgan 1998
3096	220 acres	No eligible resources found	Hendryx et al. 2005
6051	1,200 feet (linear)	No eligible resources found	GDOT 2009
7051	8.3 miles (linear)	No eligible resources found	GDOT 1995
7401	1.3 acres	No eligible resources found	GDOT 2011

Table 2. Previous cultural resource surveys within the one-mile search radius.

SITE 9LW30

Recorded by Valdosta State University in 1973, Site 9LW30 is a prehistoric site dating to an unspecified period represented by two stemmed projectile points/knives found on the surface in a cultivated field. The Georgia Archaeological Site Form for the site lists no other details and no report associated with the finding. No recommendation for NRHP eligibility is listed for the site.

SITE 9LW62

Site 9LW62 is a prehistoric aboriginal site dating to an unspecified time period discovered by Panamerican Consultants, Inc. in their 1996 cultural resources survey for the Grand Bay Ordnance Range on Moody Air Force Base in Lowndes County, Georgia. This site is represented by five chert flakes recovered from three shovel tests. The site is located approximately 60 meters (m) south of Perimeter Road and 80 m east of an unnamed creek on Moody Air Force Base. Site 9LW62 was recommended ineligible for inclusion on the NRHP.

SITE 9LW63

Site 9LW63 is a prehistoric aboriginal site dating to an unspecified time period discovered by Panamerican Consultants, Inc. in their 1996 cultural resources survey for the Grand Bay Ordnance Range on Moody Air Force Base in Lowndes County, Georgia. This site is represented by 22 chert and quartz flakes recovered from four shovel tests. The site is located on a small rise between two swamps about 65 m north of Burma Road. Because of the quantity of artifacts and the depth at which they were recovered, this site is thought to have the potential for valuable research information. Since deposits at the site are deeply buried, there exists the possibility of locating intact cultural features that could help in chronology building and further the understanding of the Archaic period. Thus, Site 9LW63 was recommended as potentially eligible for inclusion on the NRHP.

SITE 9LW66

Site 9LW66 consists of an unknown prehistoric and nineteenth century historic scatter. The site is located 40 m south of Burma Road on Moody Air Force Base in Lowndes County, Georgia. The site is represented by three chert flakes, a fragment of aqua glass, a fragment of transfer print whiteware, a fragment of green glass, and a fragment of colorless glass recovered from five shovel tests. Soils on the site were heavily mottled, suggesting that the site lacked stratigraphic integrity. This fact, along with the sparse recovery of cultural materials, contributed to determining Site 9LW66 ineligible for inclusion on the NRHP.

SITE 9LW70

Site 9LW70 is a Woodland Period site situated on a small rise south of a swamp west of Perimeter Road on Moody Air Force Base in Lowndes County, Georgia. This site is represented by 31 chert and quartz flakes and four pottery sherds recovered from 15 shovel tests. Though recovery at the site was relatively high, disturbances to the soil undermined stratigraphic integrity. This site was eventually incorporated into the boundaries of Site 9LW71, both collectively known now as 9LW71.

SITE 9LW71

Site 9LW71 is a Woodland Period site situated on a small rise overlooking a swamp about 140 m west of Perimeter Road and 310 m east of the airstrip. The site was initially discovered through shovel testing. Twenty chert flakes and one pottery sherd were recovered from the site during the Phase I survey. Because of the relative abundance of artifacts recovered from shovel tests and the depth at which some materials were recovered, further research was recommended to establish NRHP eligibility of the site. Thus, a Phase II archaeological testing of 9LW71 was performed in 1999.

The Phase II study showed the site to be multicomponent, dating to the Late Paleoindian Period, the Early Archaic Period, and the Deptford and Weeden Island phases of the Woodland Period. The lithic assemblage at the site was interpreted as the detritus of secondary lithic reduction, likely for the manufacture of expedient tools and tool maintenance. The presence of scrapers, blades, and utilized lithic debitage associated with Archaic projectile point types suggests that the site was associated with subsistence activities. A minor late nineteenth-early twentieth century historic component was also evident at the site; evidenced by two metal gutters or aprons and cut faces on pine trees associated with the collection of pine gum for the production of turpentine for the naval stores industry. Ultimately, site 9LW71 was recommended eligible for inclusion on the NRHP under Criterion D (Research Potential).

SITE 9LW72

Site 9LW72 represents a Woodland period site located 35 m north of a swamp and 20 m west of Perimeter Road on Moody Air Force Base. The site was identified by one positive shovel test from which two sand-tempered sherds, four chert flakes, and one quartzite flake were recovered. Eight additional shovel tests were dug in an attempted to delineate the site's boundaries, but all were negative for cultural materials. Due to the paucity of artifacts recovered, Site 9LW72 was recommended ineligible for inclusion on the NRHP.

SITE 9LW73

Site 9LW73 is a twentieth century historic ceramics scatters with a single chert flake and a prehistoric, sand tempered pottery sherd representing an unspecified prehistoric component. The site is located east of Bemiss Road approximately 600 m south of the Moody Air Force Base South Gate. Shovel testing on the site yielded fourteen red earthenware turpentine cups (Herty cups), one porcelain fragment, one stoneware fragment, one chert flake, and one sand tempered prehistoric sherd. Since all artifacts were recovered from the plow zone it was unlikely that additional investigations at the site would have contributed to the understanding of the turpentine industry or twentieth-century settlements in Lowndes County. Thus, Site 9LW73 was recommended ineligible for inclusion on the NRHP.

SITE 9LW74

Site 9LW74 is an unknown prehistoric site represented by a single chert flake recovered from a shovel test. The site is located in an overgrown, fallow field which had previously been cultivated. Seven additional shovel tests were dug in an attempted to delineate the boundaries of the site, but all were negative for cultural materials. Given the paucity of cultural materials recovered, Site 9LW74 was recommended ineligible for inclusion on the NRHP.

SITE 9LW87

Site 9LW87 is an aceramic prehistoric lithic scatter located on a sand ridge 50 m west of a north-to-south flowing unnamed drainage that feeds into Grand Bay. Twenty-two lithic artifacts were recovered from the surface and from three positive shovel tests. Two of the flakes had been thermally altered, suggesting that they had been deposited after the Early Archaic Period. Though shovel testing on the site suggested that the site was ineligible, a 1 by 1 meter test unit was excavated in the area of highest artifact concentration and mechanical stripping was performed in an attempt to locate cultural features. The test unit yielded twelve artifacts; ten prehistoric lithic artifacts and two Herty cup fragments. All but three of the artifacts were recovered from the plow zone. The mechanical stripping involved removing the plow zone from about 40 square meters across the area of the site with the highest concentration of artifacts. No cultural features were revealed by mechanical stripping. Based on these results, the site was determined to lack stratigraphic integrity and thus was recommended ineligible for inclusion on the NRHP.

SITE 9LW89

Site 9LW89 consists of a sparse lithic scatter on a low rise in a cultivated field about 100 m east of a depressional wet area at the head of Grand Bay. Five lithic artifacts were recovered from the site including four chert flakes recovered from three positive shovel tests and one chert scraper recovered from the surface. All of the subsurface artifacts were recovered from the plow zone. Though the site had very low artifact density, mechanical stripping was employed to better assess the NRHP eligibility of the site. A backhoe was used to excavate a trench 130 cm wide and 45 m in length, removing the plow zone in order to identify cultural features in the undisturbed stratum beneath it. Mechanical stripping revealed no cultural features. Thus, given the paucity of artifacts and lack of intact cultural features, Site 9LW89 was recommended ineligible for inclusion on the NRHP.

SITE 9LW90

First recorded by Tetra-Tech, Inc. and recommended for evaluative testing, Site 9LW90 was revisited by Environmental Services, Inc. (ESI) in order to determine its National Register eligibility status. The majority of the site is located in a fallow agricultural field and saturated forest land, though a 30 m by 7 m area of the southwestern end of the site is forested and not saturated. ESI's investigation involved placing 216 shovel tests, excavating test units, and mechanical stripping. Seventy-one shovel tests were positive for cultural material, producing a total of 127 artifacts. The majority of these (n=116) were prehistoric artifacts but a small number were historic (n=7) or modern (n=4). The historic component was represented by glass from the late 19th and early 20th centuries. The modern artifacts consisted of three melted pieces of plastic and a shotgun shell.

The prehistoric assemblage from Site 9LW90 was predominated by chert flakes. Also a few diagnostic projectile points were recovered, dating the site to the Early, Middle, and Late Archaic Periods. Test units and mechanical stripping were systematically placed in areas with the highest concentrations of artifacts, but no cultural features were discovered below the plow zone. During mechanical stripping, a small pocket of blackened soil and oyster shell was discovered in the plow zone. This was interpreted as a small cooking pit that had been spared by the plow. The matrix of the feature was screened yet no artifacts were recovered.

Site 9LW90 was interpreted as an Archaic and Woodland Period hunting camp. This interpretation is consistent with findings at the site. The lithic assemblage was made up mostly of small chert flakes, suggesting late-stage lithic reduction and tool resharpening predominated the lithic production activities at the site. Furthermore, the lack of cultural features associated with storage or structure posts suggests that the area was not inhabited long-term, but instead was visited seasonally.

Since most artifacts from the site were recovered from disturbed contexts and no intact cultural features (besides the shell features which offered little insight) were found, Site 9LW90 was recommended ineligible for inclusion on the NRHP.

SITE 9LW91

Site 9LW91 is an Early Archaic lithic scatter located in an agricultural field northwest of Grand Bay. ESI's investigation of the site included systematically placing shovel tests, excavating test units, and mechanically stripping the plowzone. Shovel testing at the site recovered 27 artifacts including chert debitage, a spoke shave, a Bolen Bevel projectile point, and a Marianna projectile point. The projectile points dates to the Early Archaic Period and fit well with current research that located early lithic sites near Carolina Bays.

Test units at the site recovered a similar artifact assemblage as shovel testing. A single plain, sand tempered sherd was recovered, suggesting a later prehistoric component may exist at the site. In addition to the shovel testing and test units, a backhoe was used to excavate four trenches across the areas of the site with the highest artifact densities. The plow zone was removed in these trenches, but no cultural features were revealed.

Based on these testing results, the site revealed sparse artifact density and is unlikely to contain intact cultural features. It is likely that the site's stratigraphic integrity was compromised by years of plowing and subsequent erosion. Thus, Site 9LW91 was recommended ineligible for inclusion on the NRHP.

NRHP AND GNAHRGIS

Research of the NRHP revealed no listed National Register properties within a mile of the project area. In the 2011 Integrated Cultural Resources Management Plan FY 12-16 for Moody Air Force Base, only one structure, a water tower built in 1941, has been previously recommended as eligible for inclusion on the NRHP. This resource is located over one mile from the project area. The view of the tower from the project area is obstructed by several buildings. Also, the proposed project is located in a low-lying area. Thus, the view of the tower from the project area is obstructed by buildings and the natural topography. The proposed project is anticipated to have no visual impact on the water tower.

A search of GNAHRGIS revealed four historic properties within a one-mile radius of the survey area (Resource ID 43445, 43446, 43447, 43448). Resource 43445 is residential house constructed ca. 1950-1955. The structure is located at the end of Miller Road in Bemiss, Georgia. Three outbuildings were recorded associated with the structure including a well, a modern shed, and a historic shed. No recommendation for NRHP eligibility has been made for this structure. This resource is located .71 miles west of the survey area and is separated by tall vegetation and topographical features. The proposed project will have no visual impact on this resource.

Resource 43446, the Ward House, is located on Roberts Road near its intersection with Bemiss Road in Bemiss, Georgia. The Ward House is a residential craftsman bungalow with a side gable built ca. 1935-1945. A modern shed is associated with this structure. No recommendation for NRHP eligibility has been made for this structure. This resource is located .75 miles west of the survey area and is separated by tall vegetation, topographic features, and a modern residential development. The proposed project will have no visual impact on this resource.

Resource 43447 is located at 4645 Roberts Road in Bemiss, Georgia. It was constructed ca. 1915-1925 and functioned as a general store. It is currently vacant. At the time of its recording, several non-historic farm structures were associated with the resource. This resource is located .75 miles northwest of the survey area and is separated by tall vegetation, topographic features, and a modern residential development. The proposed project will have no visual impact on this resource.

Resource 43448 is located at 4742 Davidson Road in Bemiss, Georgia. It is a craftsman residential structure constructed ca. 1930-1939. It has been recommended ineligible for inclusion on the NRHP. It is located .85 miles northwest of the survey area. The proposed project will have no visual impact on this resource. A review of the 1917 Lowndes County Soil Survey map indicated no other historic structures within the survey area.

METHODOLOGY

The Phase I survey was guided by procedural standards established by the Georgia Council of Professional Archaeologists in concurrence with the Georgia Historic Preservation Division. Full land coverage requirements were achieved through visual inspections of the entire survey area and subsurface testing on all areas not inundated with water, covered in pavement, or within a delineated wetland. While conducting visual inspections, any exposed surfaces were carefully examined for cultural material.

Systematic subsurface testing was employed within the proposed survey area. Subsurface testing was performed along transects comprised of shovel tests spaced 30 m apart. Standard shovel tests consist of 30 centimeter (cm) diameter cylindrical holes excavated to the top of sterile subsoil layer or until water was encountered. Soils from each test were screened through 0.64 cm hardware cloth for the purpose of recovering any cultural material that may exist at that location. When cultural material was encountered, the material was sorted by provenience and placed into bags labeled with the pertinent excavation information before being transported to AECOM's laboratory for analysis. Any archaeological site identified within the project area during transecting was further examined in order to better define its horizontal and vertical limits. Site delineations were conducted by placing additional shovel tests around positive shovel tests or surface finds. These additional tests were placed at 15 m intervals until at least two consecutive negative shovel tests were encountered in each direction or until delineations extended beyond the property boundary onto private property. A hand-held Trimble GPS unit was used to record the site location and a sketch map was drawn by compass and pace and plotted to scale. Digital photographs were taken for any site recorded as well as for the survey area.

The Phase I survey included the placement of 101 shovel tests along 19 transects and five additional tests placed judgmentally in areas of high probability for containing cultural materials (Figure 4). Of these tests, 98 were negative for cultural materials, six were not excavated due to standing water or other

wetland conditions, and two were positive for cultural materials. Additional tests were dug in an attempt to delineate the boundaries of the sites indicated by the two positive shovel tests, but all delineation tests were negative for cultural materials.

RESULTS

Shovel testing resulting in recording two archaeological isolated finds (IF), Moody AFB-IF-1 and Moody AFB-IF-2, in the northwestern portion of the survey area (See Figure 4). Both IFs were represented by prehistoric material found within the uppermost stratum of sandy soil in a moderately wooded area above the drainage that bisects the property running from the southern end of Mission Pond and draining into the swamp at the southern portion of the survey area.

MOODY AFB-IF-1

This IF was discovered along Transect 14. In Shovel Test 5, a single Coastal Plain chert thinning flake was recovered at 15 cm below the surface (cmbs) in the uppermost stratum composed of 10YR4\1 dark gray silty sand. The IF was situated on a low upland crest overlooking a small drainage to the east and a wetland area to the southeast. The area is covered with mature pines and hardwoods with a lightly vegetated understory. Ground cover consists of leaf litter so that the ground surface is not visible.

In an effort to establish the site boundaries, shovel tests were dug in cardinal directions from the positive tests, though all tests were negative for cultural materials. Given the paucity of diagnostic artifacts, it is unlikely that the site retains significant archaeological data and is therefore recommended ineligible for inclusion on the NRHP.

MOODY AFB-IF-2

This IF was discovered along Transect 19. In shovel test 2, a single piece of Coastal Plain chert shatter was recovered from 0-30 cmbs in the uppermost stratum composed of 10YR4\1 dark gray silty sand. This IF was situated on a low ridge toe overlooking a small drainage to the east and a wetland area to the south. The area is covered with mature pines and hardwoods with a moderately vegetated understory. Ground cover consists of leaf litter so that the ground surface is not visible.

In an effort to establish the site boundaries, shovel tests were dug in cardinal directions from the positive tests, though all tests were negative for cultural materials. Given the paucity of diagnostic artifacts, it is unlikely that the site retains significant archaeological data and is therefore recommended ineligible for inclusion on the NRHP.

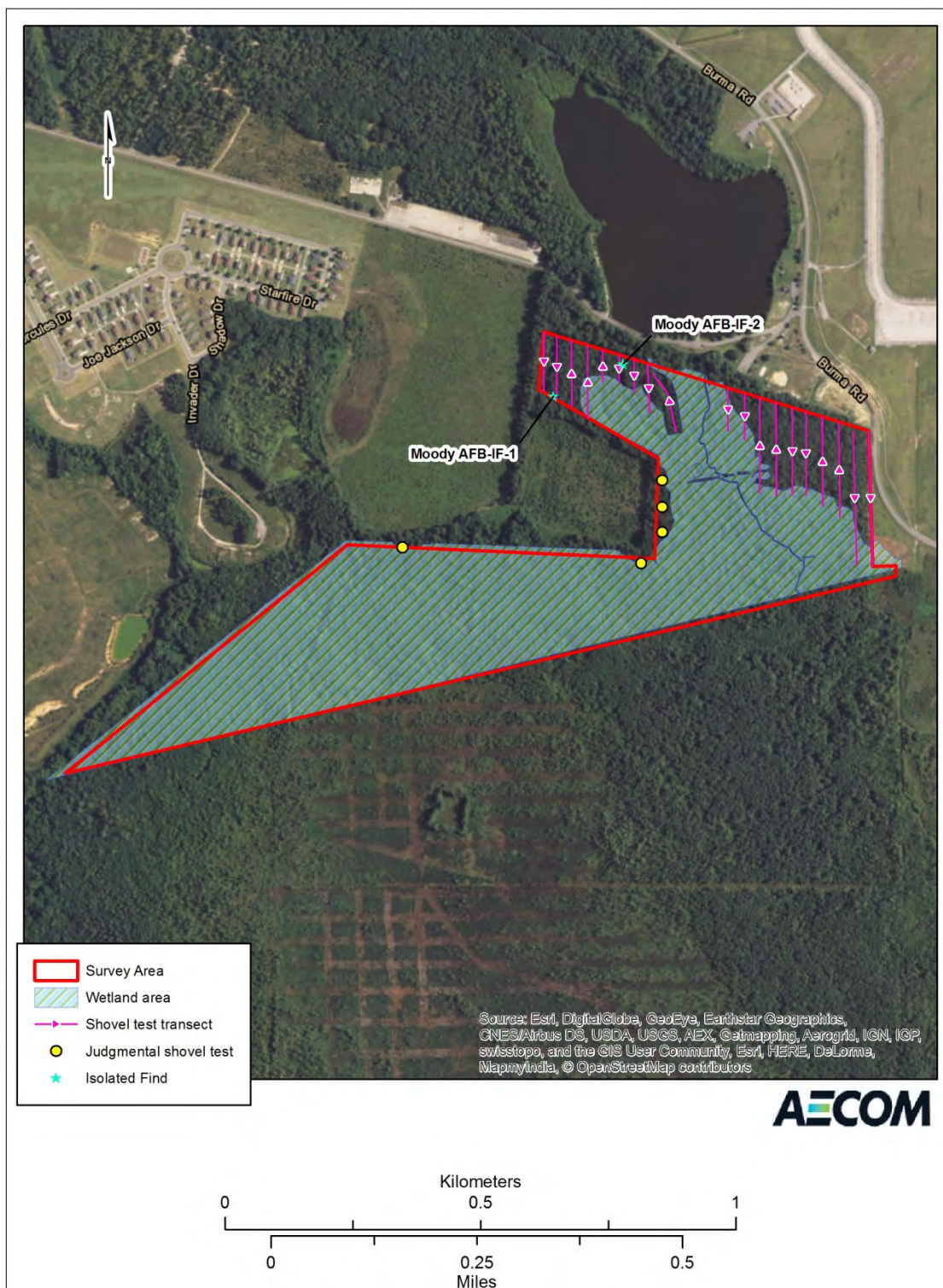


Figure 8. Map depicting shovel test transects, judgmental shovel tests, and isolated finds, based on an aerial image.

RECOMMENDATIONS

AECOM, Inc., under contract with Moody Air Force Base, performed a Phase I cultural resources survey for the proposed purchase of a 106.1-acre parcel located immediately adjacent to the southwest boundary of the base in Lowndes County, Georgia. The investigation recorded two new archaeological IFs, neither of which was recommended eligible for inclusion on the NRHP. Based on the findings of this investigation, the proposed project will have no impact on significant archaeological or historic resources. No further cultural resources studies are recommended for the subject property.

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Williams, Mark

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APPENDIX A- VITAE



www.aecom.com

Jonathan Daniel Lowrey

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Jonathan.Lowrey@aecom.com

EDUCATION

The University of Alabama

Master of Arts in Anthropology, 2014

Troy University

Bachelor of Science in Social Science, 2010

*Principal Investigator,
Staff Archaeologist
AECOM, Inc.*

BACKGROUND SYNOPSIS

Jonathan Lowrey has conducted projects in all phases of archaeological research and has written or co-authored many technical reports. He specializes in zooarchaeology and subsistence studies. Prior to working with AECOM, Mr. Lowrey worked as a Principal Investigator and Staff Archaeologist for TerraXplorations, Inc. In this capacity, he managed Phase I and Phase II Cultural Resource Assessments and developed clients in the energy and transportation markets. Prior to working with TerraX, Mr. Lowrey also worked as a Graduate Research Assistant and Adjunct Lecturer for the University of Alabama at Birmingham Department of Anthropology. In that position, he had the opportunity to work on numerous Phase I, II, and III archaeological projects as well as conduct extensive laboratory analysis of the UAB Josselyn Archaeological Collection. Prior to that, Mr. Lowrey worked as a field and laboratory technician with the Troy University Archaeological Research Center in Troy, AL. There, he conducted Phase I and II archaeological projects and analyzed various cultural materials in the laboratory.

Mr. Lowrey specializes in subsistence studies, especially the analysis of faunal remains from archaeological sites. As a zooarchaeologist he has conducted projects in the Southeast United States, Israel, and Jordan. As the faunal expert on the Roman Aqaba Project and the Petra North Ridge Project, Mr. Lowrey studies the subsistence strategies of Roman-Byzantine cultures in arid environments.

As a practicing archaeologist in the field of Cultural Resource Management, Mr. Lowrey has field experience in all levels of investigation. At AECOM he serves as a Principal Investigator, overseeing all aspects of archaeological projects. At TerraXplorations, Inc. he served as a field technician, field director, principal investigator and project manager. As part of his routine duties Mr. Lowrey directs field research, conducts archaeological and historical surveys, conducts archaeological and historical research, authors reports, and manages all archaeological work with the Georgia Department of Transportation.

EXPERIENCE

August 2016 to present

Principal Investigator/Staff Archaeologist, AECOM, Inc.

- Planning and executing all phases of cultural resource assessments.
- Supervising subcontractors.
- Research.
- Laboratory analysis.
- GIS mapping and research.

January 2015 to August 2016

Principal Investigator/ Project Manager, TerraXplorations, Inc.

Responsibilities include:

- Planning and executing all phases of cultural resource assessments.
- Supervising field and laboratory employees.
- Marketing and business development.
- Research.
- Zooarchaeological consulting.
- GIS mapping and research.
- Reporting on cultural resource assessments.
- Project management.
- Conducting Phase I historical surveys.

April 2012 to 2014

Archaeological Technician, TerraXplorations, Inc.

Responsibilities included: Phase I and II cultural resource assessments

May 2014 to 2015

Field Director, T. G. Earnest and Associates, LLC.

Responsibilities included:

- Leading phase I archaeological surveys in the Southeast US.
- Providing specialists consultations for the identification and analysis of faunal material from archaeological sites.
- Conducting background research for archaeological mitigations.
- GIS mapping.
- Reporting on cultural resource assessments.

August 2012 to June 2014

Graduate Research Assistant, University of Alabama at Birmingham, Department of Anthropology.

Responsibilities included:

- Curated the UAB Josselyn Collection: A collection of over 200,000 historic and prehistoric artifacts.
- Assisting in the completion of the UAB Federal NAGPRA Inventory.
- Trained in collections management policies and procedures to help govern the collection.
- Trained in proper museum object handling, standard accession system, and the proper use of archival supplies.

August 2008 to May 2010

Archaeological Technician, Troy University

Responsibilities included: Conducted phase I cultural resource assessments.

PUBLICATION LIST

2016

Lowrey, Jonathan

A Phase I Archaeological Direct Effects Survey for the Proposed Seven Hills Cellular Tower in Paulding County, Georgia. Prepared by TerraXplorations, Inc. for Trileaf Corporation.

A Phase I Archaeological Direct Effects Survey for the Proposed Lake Laurel Cellular Tower in Baldwin County, Georgia. Prepared by TerraXplorations, Inc. for Trileaf Corporation.

A Phase I Archaeological Direct Effects Survey for the Proposed Innsbrook Cellular Tower in Muscogee County, Georgia. Prepared by TerraXplorations, Inc. for Trileaf Corporation.

A Phase I Archaeological Direct Effects Survey for the Proposed Neals Mill Cellular Tower in McDuffie County, Georgia. Prepared by TerraXplorations, Inc. for Trileaf Corporation.

A Phase I Archaeological Direct Effects Survey for the Proposed Kingwood Cellular Tower in Rabun County, Georgia. Prepared by TerraXplorations, Inc. for Trileaf Corporation.

A Phase I Archaeological Direct Effects Survey for the Proposed Elliott Road Cellular Tower in Henry County, Georgia. Prepared by TerraXplorations, Inc. for Trileaf Corporation.

A Phase I Archaeological Direct Effects Survey for the Proposed Crutchfield Tower in Fulton County, Kentucky. Prepared by TerraXplorations, Inc. for Trileaf Corporation.

A Phase I Archaeological Direct Effects Survey for the Proposed Chavers Tower in Floyd County, Georgia. Prepared by TerraXplorations, Inc. for Trileaf Corporation.

A Phase I Cultural-Resources Survey for the Proposed Kingston-Cartersville 230kV Transmission Line, Bartow County, Georgia. Prepared by TerraXplorations, Inc. for Georgia Transmission Corporation, Inc.

A Phase I Archaeological Direct Effects Survey for the Proposed USC Long Branch Cellular Tower in Transylvania County, North Carolina. Prepared by TerraXplorations, Inc. for GSS, Inc.

A Phase I Archaeological Direct Effects Survey for the Proposed Zenith Cellular Tower in Crawford County, Georgia. Prepared by TerraXplorations, Inc. for Trileaf Corporation.

Lowrey, Jonathan and Amy Carruth

A Phase I Archaeological Direct Effects Survey for the Proposed Coppage Road Tower in Scott County, Kentucky. Prepared by TerraXplorations, Inc. for Trileaf Corporation.

A Phase I Archaeological Direct Effects Survey for the Proposed Taylorsville Road Tower in Jefferson County, Kentucky. Prepared by TerraXplorations, Inc. for Trileaf Corporation.

A Phase I Archaeological Direct Effects Survey for the Proposed Dana Drive Tower in Jefferson County, Kentucky. Prepared by TerraXplorations, Inc. for Trileaf Corporation.

2015

Lowrey, Jonathan

A Phase I Cultural-Resources Survey for the Carter Mine Site, Tuscaloosa County, Alabama. Prepared by TerraXplorations, Inc. for PERC Engineering Company, Inc.

2014

Lowrey, Jonathan

A Phase I Cultural-Resources Survey for the Carter Mine Site, Tuscaloosa County, Alabama.

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The role of astragalus dice in promoting the production of surplus in Bronze and Iron Age Syro-Palestine: a new interpretation for knucklebones., MA Thesis.

2013

Lowrey, Jonathan

A Phase I Cultural-Resource Survey for the Proposed Higdon Mill Road Bridge (BIN# 14268) Replacement Project in Pickens County, Alabama.

A Phase I Cultural-Resource Survey for the Proposed Double Branch Road Bridge (BIN# 13992) Replacement Project in Pickens County, Alabama.

A Phase I Cultural-Resource Survey for the Proposed Creek Road Bridge (BIN# 12842) Replacement Project in Pickens County, Alabama.

A Phase I Cultural-Resource Survey for the Proposed Lacy Keasley Road Bridge (BIN# 13387) Replacement Project in Pickens County, Alabama.

A Phase I Cultural-Resource Survey for the Proposed Mars Hill Road Bridge (BIN# 12230) Replacement Project in Pickens County, Alabama.

AECOM, Inc.

Jonathan D. Lowrey

A Phase I Cultural-Resource Survey for the Proposed Alma Cole Road Bridge (BIN# 1014) Replacement Project in Pickens County, Alabama.

A Phase I Cultural-Resource Survey for the Proposed Bradford Road Bridge (BIN# 10628) Replacement Project in Pickens County, Alabama.

A Phase I Cultural-Resource Survey for the Proposed Marvin Chapel Road Bridge (BIN# 12602) Replacement Project in Pickens County, Alabama.

A Phase I Cultural-Resource Survey for the Proposed County Road 37 Bridge (BIN# 13318) Replacement Project in Pickens County, Alabama.

A Phase I Cultural-Resource Survey for the Proposed Gordo City Dump Road Bridge (BIN# 13674) Replacement Project in Pickens County, Alabama.

A Phase I Cultural-Resource Survey for the Proposed Fredrick Road Bridge (BIN# 2858) Replacement Project in Pickens County, Alabama.

A Phase I Cultural-Resource Survey for the County Road 16 Bridge (BIN# 11804) Replacement Project in Gordo, Pickens County, Alabama.

Lowrey, Jonathan and William Glass

A Phase I Cultural-Resources Survey of the Burrow Property Cullman County, Alabama. (Co-authored with William J. Glass).

2009

Lowrey, Jonathan

Report on the Zooarchaeological Analysis of 1Mt90. Contribution to the final report compiled by Professor Jason Mann of the Middle Woodland site, 1Mt90, in Montgomery County, Alabama. Report on file at Troy University, Troy, Alabama. 2009.

PRESENTATIONS

2013. Priests and Players: a cross-cultural survey of astragalus dice utilization. Presented at the Southern Anthropological Society Annual Conference.

2013. Tools, Toys and Trinkets: the bone artifacts from the Petra North Ridge Project; Guest lecture to Dr. Bill Grantham's undergraduate class "High Civilizations of the Old World."

2012. Animal Bone Archaeology and the Bones from the Petra North Ridge... So far; Presented as part of the Petra North Ridge Project's affiliated field schools for students from North Carolina State University and East Carolina University.

2011. Zooarchaeology: Bones and Culture; Invited presentation at North Georgia College for the Blue Ridge Archaeology Guild.

2011. The Faunal Remains of Roman Aila; Presented at North Carolina State University's Conference on the Roman Aqaba Project.

2011. Economy and Subsistence Patterns in Roman Aqaba: A Zooarchaeological Perspective; Presented at the Alabama Academy of Sciences.

2011. Zooarchaeology of Ancient Aila; Presented for the Chancellor's Fellowship for Research reception at Troy University

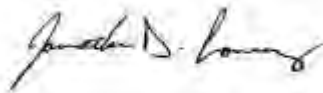
PROFESSIONAL AFFILIATIONS

Southeastern Archaeological Conference
Society for Georgia Archaeology
Georgia Council of Professional Archaeologists

CULTURAL RESOURCE ASSESSMENT ADDENDUM
FOR
THE SOUTHWEST LAND PURCHASE
AT MOODY AIR FORCE BASE
LOWNDES COUNTY, GEORGIA
HP-151228-008

By
Brittany Miller

For
Moody Air Force Base



Jonathan Daniel Lowrey, Principal Investigator

Project # 60504134

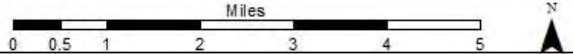
AECOM



Lowndes County
Georgia

**Southwest Land Purchase
Moody Air Force Base**

Figure 1 - Site Location
November 2016



The proposed project was field surveyed for historic resources in compliance with Section 106 of the National Historic Preservation Act of 1966 and amendments thereto. The survey boundary and methodology were established as a result of past interaction with the State Historic Preservation Officer (SHPO) and his staff and were agreed upon by the Department of Air Force and the SHPO.

PROJECT DESCRIPTION

The proposed project area (survey area) is a 106.1-acre parcel located south of Mission Lake, immediately adjacent to the southwest boundary of Moody Air Force Base in Lowndes County, Georgia (see Figure 1: Site Location Map). Moody Air Force Base proposes to purchase this property and make modifications to it. First, approximately 2,150 feet (ft.) of existing fence would be removed and 2,400 ft. of new fencing would be installed around parts of the perimeter of the property. Approximately 3,100 linear feet of new pavement would be installed in order to realign Burma Road in the eastern portion of the project area. Additionally, a paved, eight-foot wide bicycle/jogging path would be installed along the new Burma Road alignment. Lastly, approximately 12 acres of the property would be cleared to ensure clearance for the nearby airfield. Groundwater remediation activities are currently taking place in the northeastern portion of the survey area and are expected to continue after the property is purchased.

The area of potential effect (APE), as defined in 36 CFR 800.16(d), is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character of use of historic properties if any such properties exist. Because of the nature and scope of the undertaking, the area of potential direct effects consists of the project view shed and the construction of the proposed project, within which all construction and ground disturbing activity would be confined (see Figure 1: Site Location Map and Images 1-7). No potential for indirect effects in anticipated by implementation of the proposed project.

HISTORIC RESOURCE IDENTIFICATION

Section 106 coordination for this project began with the distribution of the Notification letter on December 22, 2015. A response letter was received from the Georgia SHPO in a memorandum dated January 13, 2016 (see Notification and Correspondence in Appendix A). A Phase 1 Cultural Resource Assessment for the subject project was submitted to SHPO on October 12, 2016. A response letter was received from the Georgia SHPO in a memorandum dated November 1, 2016. The SHPO concurred with zero (0) findings of eligible archaeological resources. However, the SHPO found the historic resource identification inadequate and requested for a current survey be completed (see Correspondence in Appendix B).

No National Historic Landmarks and no bridges determined eligible for inclusion in the National Register in the updated Georgia Historic Bridge Survey (GHBS) are located within the proposed project's APE. Review of existing information on previously identified historic properties

revealed zero (0) properties listed in the National Register of Historic Places (NRHP) within the proposed project's APE.

The 2016 Phase 1 Cultural Resource Assessment for this project found one (1) historic structure eligible for listing in the NRHP within approximately a one-mile radius of the survey area. The resource was identified as LW-M-3 in the 1999 Survey of Historic Buildings and Structures at Moody Air Force Base, Lowndes and Lanier Counties, Georgia prepared by New South Associates (see survey form in Appendix C). This report was submitted to SHPO in August 1999. SHPO concurred with the findings of that report on September 20, 1999 (see Correspondence in Appendix C). LW-M-3, a water tower constructed in 1941, is also recognized as Structure 618 "Water Tower" within Moody AFB Historical Facility Status Listing. The 2016 Assessment completed for this project also identified four (4) historic resources listed in Georgia's Natural, Archaeological, and Historic Resources Geographic Information System (GNAHRGIS) within a one-mile radius of the survey area (Resource ID: 43445, 43446, 43447, and 43448). These five (5) resources have been determined to be located outside of the proposed project's APE (refer to Images 8-9).

To date, several investigations have been completed which have identified the cultural resources located on base (see Figure 2: Resource Location Map). These investigations focused on identifying both historic buildings and structures. Two of such surveys identified historic resources within the APE of this project. In 1999, New South Associates conducted an inventory of the buildings, structures, and landscapes at Moody AFB that were over 50 years of age or were associated with the Cold War era, to assess their historic significance. More recently, an inventory and assessment of World War II and Cold-War era buildings and structures built between 1941 and 1965 was completed by Geo Marine, Inc.

The 1999 survey report completed by New South Associates was reviewed and identified three (3) additional resources within the proposed project's APE which were determined not eligible for inclusion in the NRHP. These resources are identified as buildings 1713, 1100, and 1106 (see survey excerpts in Appendix C). Building 1713 was demolished in 2008 and reconstructed; nothing remains from the 1957 structure (see Images 10-11).

The 2011 "Moody Air Force Base: World War II and Cold War-Era Historic Property Survey" report prepared by Geo-Marine, Inc. was reviewed and revealed four (4) additional resources within the proposed project's APE which were determined not eligible for inclusion in the NRHP. These resources are identified as facilities: 7046, 1704, 7001, and 1705 (see survey excerpts in Appendix D). This report was submitted to SHPO in April 2011. SHPO requested further documentation on May 23, 2011 and concurred with the additional findings of that report on July 6, 2011 (see Correspondence in Appendix D). Since the time of this survey, three (3) of the identified resources have reached the fifty (50) year threshold for NRHP-criteria evaluation. Facilities 7001, 7046, and 1704 are re-evaluated under Criteria A-D below.

The November 2016 historic resource survey conducted by AECOM resulted in the finding of zero (0) additional resources which have reached the fifty (50) year threshold for historic significance that have not been previously recorded. See Table 1 for a list of all previously recorded historic resources that are within the project's APE.

TABLE 1: PREVIOUSLY IDENTIFIED HISTORIC RESOURCES

Name of Resource	Date of Construction	Facility Use	Previous Documentation / Year	National Register Status
618	1941	Water Tower	LW-M-3 / 1999	Eligible
1705	1961	Latrine	2011	Not Eligible
7001	1965	Athletic Fields	2011	Not Eligible
7046	1964	Playground	2011	Not Eligible
1704	1965	Spillway	2011	Not Eligible
1713	1957 / 2008	Electrical Power Station	1999	Not Eligible, Historic Building Not Extant
1100	1941	Munitions Storage Igloo	1999	Not Eligible
1106	1941	Munitions Storage Igloo	1999	Not Eligible

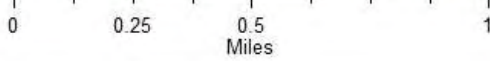



Figure 2

Resource Location Map

 Proposed Project

HP-151228-008
 Southwest Land Purchase
 Lowndes County



RE-EVALUATION OF PREVIOUSLY IDENTIFIED RESOURCES

Facility 7001-The Athletic Fields at Mission Lake (Facility 7001) were originally constructed in 1965 and consist of a softball field, a beach volleyball court, and a wood pavilion, (refer to Appendix D for 2011 Survey excerpt and Images 12-13). The historic wood pavilion consists of a front-gabled corrugated metal roof with arched glue-lam beams, supported by diagonal brackets and square wood posts. Since the 2011 survey, the historic metal picnic pavilion has been demolished and a new wood pavilion is currently under construction. It is being built with the same design of the existing wood pavilion associated with Facility 7001. There have not been any modifications to the field.

As recorded in the 2011 report, despite being constructed during the Cold War era, Facility 7001 does not represent the philosophy, strategy, and/or technology associated with the Cold War. The resource is not associated with any individuals whose specific contributions to history that can be identified. Therefore, there is no reason to evaluate the resource under Criteria A or B. As a support structure intended for recreational purposes, the resource lacks exceptional historical or architectural significance. The resource as whole lacks design or engineering merit. Additionally, the historic metal pavilion associated with Facility 7001 has recently been demolished. The remaining wood shelter does not present any unique or uncommon architectural features and is not recommended eligible under Criterion C. The resource does not yield nor is likely to yield information of exceptional importance to human history or prehistory. Therefore, there is no reason to evaluate the resource under Criterion D. Therefore, as a group, Facility 7001 is recommended **not eligible** for NRHP inclusion.

Facility 7046-The Playground at Mission Lake (Facility 7046) was originally constructed in 1964 (refer to Appendix D for 2011 Survey excerpt and Images 14-15). The site is located on the northeast side of the lake and is surrounded by metal chain link fencing. The facility consists of a non-historic jungle gym, slide, and swing sets which were installed in 2008. A fabric cover was installed over the playground in 2016. Additionally, there is a wood picnic shelter grounded in a concrete pad that measures 20'x16' and features a gabled roof supported by glue-lam arches and square wood posts.

As recorded in the 2011 report, despite being constructed during the Cold War era, Facility 7046 does not represent the philosophy, strategy, and/or technology associated with the Cold War. The resource is not associated with any individuals whose specific contributions to history that can be identified. Therefore, there is no reason to evaluate the resource under Criteria A or B. As a support structure intended for recreational purposes for children, the resource lacks exceptional historical or architectural significance. The resource as whole lacks design or engineering merit. Additionally, the jungle gym, slide, and swings are not 50 years old. Therefore, it is not

recommended eligible under Criterion C. The resource does not yield nor is likely to yield information of exceptional importance to human history or prehistory. Therefore, there is no reason to evaluate the resource under Criterion D. Therefore, as a group, Facility 7046 is recommended **not eligible** for NRHP inclusion.

Facility 1704-The Spillway at Mission Lake (Facility 1704) is a recessed concrete spillway with a concrete single barrel headwall and angled wing walls that was constructed in 1965 (refer to Appendix D for 2011 Survey excerpt and Image 16). The structure is located at the southeast side of Mission Lake. The barrel of the structure is covered by a protective metal grill and topped with metal pipe railings. No alterations have been made to the structure.

As recorded in the 2011 report, despite being constructed during the Cold War era, Facility 1704 does not represent the philosophy, strategy, and/or technology associated with the Cold War. The resource is not associated with any individuals whose specific contributions to history that can be identified. Therefore, there is no reason to evaluate the resource under Criteria A or B. As a recreational support structure intended to provide the controlled release of water from Mission Lake, the resource lacks exceptional historical or architectural significance. The resource as a whole lacks design or engineering merit, and is not representative of a significant example of a mid-twentieth century engineering structure. Therefore, it is not recommended eligible for the NRHP under Criterion C. The resource does not yield nor is likely to yield information of exceptional importance to human history or prehistory. Therefore, there is no reason to evaluate the resource under Criterion D. Therefore, as a group, Facility 1704 is recommended **not eligible** for NRHP inclusion.

EFFECTS EVALUATION OF ELIGIBLE RESOURCES

Structure-618 is located approximately one mile from the proposed project area. Although the water tower is visible from the project area, there is no view of the project area from the resource (refer to Images 8-9). This is due to the low-lying area of the project area as well as a shield of buildings south of the water tower. The proposed project is anticipated to have no visual impact on the resource.

RECOMMENDATIONS

AECOM, Inc., under contract with Moody Air Force Base, conducted research and performed a historic resource survey for the proposed purchase of a 106.1-acre parcel located immediately adjacent to the southwest boundary of the base in Lowndes County, Georgia in November 2016. The investigation resulted in the identification of eight (8) previously recorded historic resources, one (1) of which was recommended eligible for inclusion on the NRHP and one (1) of which is no longer extant. Based on the findings of this investigation, the proposed project will have no impact on significant historic resources. No further cultural resources studies are recommended for the subject property

PHOTOGRAPH KEY (1)-NOT TO SCALE



PHOTOGRAPH KEY (2)-NOT TO SCALE





Image 1: North of Project Area, facing north



Image 2: North of Project Area, facing east



Image 3: North of Project Area and Visible Downward Slope, facing south



Image 4: North of Project Area, facing west



Image 5: South of Project Area, facing north



Image 6: South of the Project Area, facing east



Image 7: South of the Project Area, facing west



Image 8: View North of Structure 618, facing south



Image 9: View South of Structure 618, facing south



Image 10: Non-Historic 1713, facing west



Image 11: Non-historic 1713, facing north



Image 12: Facility 7001, Non-Historic Wood Pavilion, facing southeast



Image 13: Facility 7001, Non-Historic Wood Pavilion, facing northwest



Image 14: Facility 7046, facing north



Image 15: Facility 7046, facing south



Image 16: Facility 1704, facing southwest

Appendix A:

Section 106
Early Coordination



HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

January 13, 2016

John L. Eunice, III, GS-14, DAFC
Deputy Base Civil Engineer
23d Civil Engineer Squadron
3485 Georgia Street
Moody Air Force Base, Georgia 31699
Attn: Hank Santicola, ER Project Manager

RE: Moody AFB: Purchase 106.1 Acres, Southwest of Installation, Valdosta
Lanier and Lowndes County, Georgia
HP-151228-008

Dear Mr. Eunice,

The Historic Preservation Division (HPD) has received initial information concerning the above referenced project requesting comments pursuant to the National Environmental Policy Act of 1969. Our comments are offered to assist the Department of the Air Force and Moody Air Force Base (AFB) in complying with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended.

Thank you for notifying us of this federal undertaking. We look forward to receiving Section 106 compliance documentation as appropriate.

Please refer to project number **HP 151228-001** in future correspondence regarding this project. If we may be of further assistance, please contact me at (770) 389-7851 or Jennifer.dixon@dnr.ga.gov.

Sincerely,

Jennifer Dixon, MHP, LEED Green Associate
Program Manager
Environmental Review & Preservation Planning



DEPARTMENT OF THE AIR FORCE
23D CIVIL ENGINEER SQUADRON (ACC)
MOODY AIR FORCE BASE GEORGIA

14 SEP 2016

MEMORANDUM FOR Ms. Jennifer Dixon
Environmental Review Coordinator
Historic Preservation Division (HPD)
Jewett Center for Historic Preservation
2610 GA Hwy 155, SW
Stockbridge, GA 30281

FROM: 23 CES/CD
3485 Georgia Street
Moody AFB GA 31699-1707

SUBJECT: Section 106 Consultation Initiation and Confirmation of Methodology,
Environmental Assessment for Southwest Land Purchase Property, Moody Air
Force Base (AFB), Lowndes County, Georgia

Reference: (a) HPD letter dated January 13, 2016, Ref HP-151228-008

1. The purpose of this letter is to initiate consultation early in accordance with references (a) above. The U.S. Air Force is in the process of preparing an Environmental Assessment (EA) that evaluates the potential environmental impacts associated with the purchase of 106.10 acres of privately-owned land located immediately adjacent to the southwestern boundary of Moody AFB, and the implementation of multiple projects on a portion of the property that will allow the removal of three airfield waivers. In reference to (a) above, the following documentation is presented as our initiation of Section 106 consultation regarding effects on historic resources.

2. The Proposed Action involves the purchase of two parcels of privately-owned land totaling 106.10 acres located immediately adjacent to the southwestern boundary of Moody AFB. Parcel 0181 025D is 93.48 acres in size; Parcel 0181 025C is 12.61 acres in size (Attachment 1). The proposed land purchase will facilitate multiple projects to allow the removal of three airfield waivers for violation of airfield obstruction clearance requirements. Activities that would occur include relocation of the installation perimeter fence and the airfield security fence; realignment of Burma Road; and clearing of trees (Attachment 2).

a. Perimeter Fence. Approximately 1,300 linear feet (LF) of existing perimeter fencing would be removed and 1,400 LF of new fencing would be installed to secure the installation. The new perimeter fence line would coincide with the realigned Burma Road, approximately 20 feet from the paved roadway surface.

b. Airfield Security Fence. Approximately 850 LF of existing airfield security fencing would be removed and 1,000 LF of new fencing would be installed to secure the graded portion of the southern Clear Zone.

c. Realignment of Burma Road. Approximately 3,100 LF of new pavement would be installed to realign Burma Road and the adjacent bicycle/jogging path to be outside of the graded

portion of the Clear Zone. The realigned Burma Road would be a 2-lane, 24 foot wide asphalt paved surface (undivided, one lane in each direction) with 6 foot unpaved shoulders. The bicycle/ jogging path would be an 8 foot wide asphalt paved surface.

d. Clearing of Trees. Approximately 12 acres of trees on the Southwest Land Purchase Property would be cleared to ensure Moody AFB airfield clearance criteria are maintained. Clearing of trees would involve cutting the trees and leaving the stumps.

3. Current Conditions. There are no structures or infrastructure improvements on the Southwest Land Purchase Property, which consists of vacant woodlands. The Moody AFB Environmental Restoration Program (ERP) has delineated groundwater contamination associated with ERP Site LF-01 (Burma Road Landfill) that affects the Southwest Land Purchase Property. Currently, there are 20 monitoring wells and 26 injection wells located on the Southwest Land Purchase Property associated with the remediation system. Groundwater samples have been collected during various investigations dating to 1990.

4. The Area of Potential Effect (APE) is the area within which construction activities and tree clearing activities would occur. It encompasses approximately 30 acres (both on Moody AFB and on the Southwest Land Purchase Property) and is ample enough to take into account potential direct and indirect effects of the undertaking. Attachment 3 is a map illustrating the APE. The proposed project is located on the U.S. Geological Survey (USGS) 7.5-minute quadrangle titled, Bemiss, at an elevation of approximately 250 feet above mean sea level.

5. Methodology and Identification of Historic Resources


a. Prehistoric and Historic Archaeological Resources. To date, archaeological investigations at Moody AFB have located 27 archaeological sites and 39 isolated finds. Two of the archaeological sites have been determined eligible for listing on the National Register of Historic Places (NRHP), and the remaining sites were determined to be not eligible for listing on the NRHP. None of the identified sites and isolated finds are in the vicinity of the APE. The Air Force will be conducting an archaeological survey of the 106.10-acre property to determine if prehistoric or historic resources are present. The survey will include results of a records search within a ½-mile radius of the property, recording methodology, survey findings, and management strategies. In the event that archaeological resources are encountered during the survey, sites will be recorded on standard survey forms following instructions provided by the Georgia State Historic Preservation Officer (SHPO). Form compilation will be conducted with care to ensure that consistency is maintained in the description of key elements used by the state in data storage and retrieval. Any data recovery would be performed in accordance with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation (48 FR 44734-37) and take into account the Advisory Council on Historic Preservation (ACHP) publication, *Treatment of Archaeological Properties*. Subsequent actions would follow guidance provided in 36 CFR Part 800.11 and/or the Native American Graves Protection and Repatriation Act (NAGPRA).

b. Historic Buildings and Structures. There are no structures or infrastructure improvements on the property, which consists of vacant woodlands.

c. Traditional Cultural Resources. There are no known traditional cultural resources at the project location. The Air Force has initiated consultations with representatives of Native American groups as required under the American Indian Religious Freedom Act (AIRFA). The purpose of these consultations is to determine AIRFA-related concerns such as access to sites of past cultural activity, landforms, and components of the natural environment that may occur at the project site and are important to traditional religious practices of Native American groups. The Native American groups consulted include the Poarch Band of Creeks, Thlopthlocco Tribal Town, Seminole Nation of Oklahoma, Kialagee Tribal Town, Coushatta Tribe of Louisiana, Muscogee Nation of Florida, and the Muscogee (Creek) Nation.

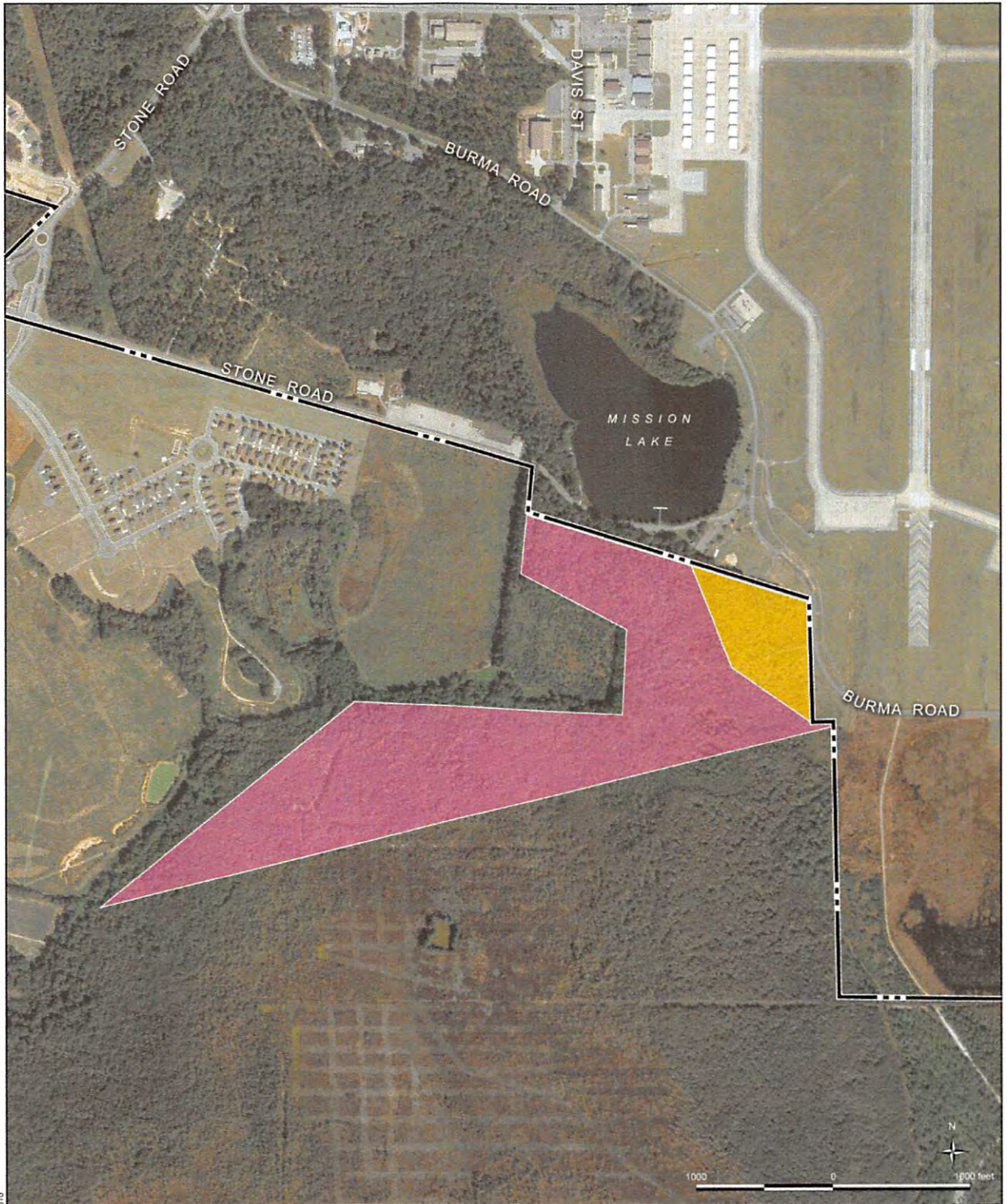
6. Based on the preceding, Moody AFB requests that the Georgia SHPO concur with our delineation of the APE for this undertaking, and with our approach for determining if prehistoric and historic archaeological resources, historic buildings and structures, or traditional cultural resources are present at the project location. The Air Force appreciates your review of our project activities and assistance with our efforts to identify important cultural resources early in the EA development. Upon completion, a copy of the draft EA and archaeological survey will be forwarded to your office for review along with the Section 106 consultation package.

7. Please direct any questions to Mr. Henry Santicola, Moody AFB Environmental Planner/NEPA Manager. He can be reached via e-mail at henry.santicola.2@us.af.mil or via telephone at (229) 257-2396.


JOHN L. EUNICE, III, GS-14, DAF
Deputy Base Civil Engineer

3 Attachments:

1. Southwest Land Purchase Property
2. Proposed Project
3. Area of Potential Effect



MOODY AFB SWLP EBS0010

LEGEND

- Parcel 0181 025D (93.48 acres)
- Parcel 0181 025C (12.61 acres)
- Base Boundary

**Southwest Land Purchase
Property
Attachment 1**



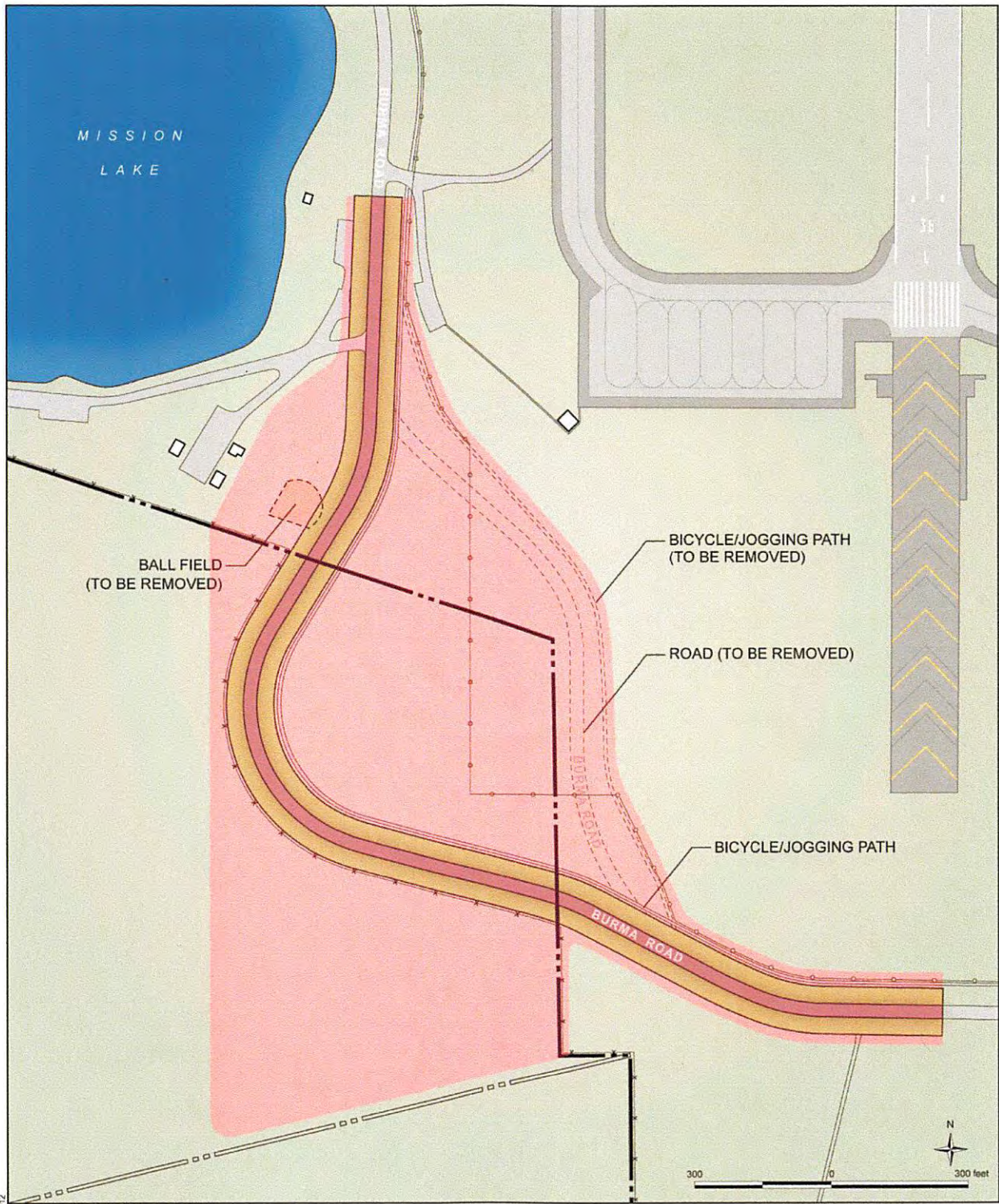
MOODY AFB SW/P/EB5011

LEGEND

- Proposed Road Alignment and Road Cut
- Facilities to be Removed
- Current Base Boundary
- Perimeter Fence
- Airfield Security Fence
- Future Base Boundary

Proposed Project

Attachment 2



MOODY AFB SW/P EBS012

LEGEND

- Proposed Road Alignment and Road Cut
- Area of Potential Effect
- Facilities to be Removed
- Current Base Boundary
- Perimeter Fence
- Airfield Security Fence
- Future Base Boundary

Area of Potential Effect

Attachment 3



HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

October 13, 2016

John L. Eunice, III, GS-14, DAF
Deputy Base Civil Engineer
Department of the Air Force
23D Civil Engineer Squadron
3485 Georgia Street
Moody Air Force Base, Georgia 31699-1707
Attn: Henry Santicola, Environmental Planner

**RE: Moody AFB: Acquire 106 Acres, Relocate Fencing/Road, Clear Trees
Lanier County et. al., Georgia
HP-151228-008**

Dear Mr. Eunice:

The Historic Preservation Division (HPD) has reviewed the information submitted concerning the above referenced project. Our comments are offered to assist the US Department of the Air Force and Moody Air Force Base (AFB) in complying with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA).

The subject projects consists of the acquisition of approximately 106 acres located southwest of the current boundaries for Moody AFB with subsequent construction projects including relocating fences, relocating a road, and clearing trees. Based on the information provided regarding the area of potential effects (APE) and methodology for identifying historic properties within the project area, HPD concurs with the majority of the methods presented within the initiation of Section 106 consultation documentation. However, HPD offers the following comments for consideration:

1. Regarding the APE, the undertaking appears to consist of not only the construction projects noted above, but the acquisition of approximately 106 acres. As such, HPD recommends the APE include the entire undertaking area, any staging areas or new access roads that may be needed, and nearby parcels, outside of the acquisition property, that may have an indirect effect.
2. Regarding methods and identification of historic buildings and structures, HPD recommends identifying any structures that are 50 years of age or older that are located in the entire APE, as proposed above, by reviewing topographic maps, the county tax assessor site, and if necessary, completing a field survey.
3. Regarding methods for identifying traditional cultural resources, HPD recommends confirming that no additional Tribal Nations have ancestral claims within this portion of Georgia.

HPD looks forward to receiving additional Section 106 documentation including eligibility and effects determinations, once available, and working with you as this project progresses. Please refer to project number **HP-151228-008** in any future correspondence regarding this project. If we may be of further assistance, please feel free to contact me at (770) 389-7851 or Jennifer.dixon@dnr.ga.gov.

Sincerely,

Jennifer Dixon, MHP, LEED Green Associate
Program Manager
Environmental Review & Preservation Planning

Appendix B:
SHPO Correspondence
Regarding
AECOM
2016
Cultural Resource Assessment



HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

November 1, 2016

Daniel Lowrey
URS/AECOM
400 Northpark Town Center
1000 Abernathy Road, NE, Suite 900
Atlanta, Georgia 30328

**RE: Moody AFB: Acquire 106 Acres, Relocate Fencing/Road, Clear Trees
Lanier County et. al., Georgia
HP-151228-008**

Dear Mr. Lowrey:

The Historic Preservation Division (HPD) has reviewed the draft report entitled, *A Phase I Cultural Resource Assessment for the Southwest Land Purchase at Moody Air Force Base, Lowndes County, Georgia*. Our comments are offered to assist the US Department of the Air Force and Moody Air Force Base (AFB) in complying with the provisions of Section 106 of the National Historic Preservation Act (NHPA).

Based on the information contained in the report, HPD concurs that isolated find (IF) Moody AFB-IF-1 and Moody AFB-IF-2 are not eligible for listing in the National Register of Historic Places (NRHP), since, by definition an IF is not an archaeology site. Therefore, HPD concurs that no archaeological resources that are listed or eligible for listing in the NRHP will be affected by this undertaking, as defined in 36 CFR Part 800.4(d)(1).

It is HPD's opinion that survey efforts for historic resource identification are inadequate. HPD would like to note that previous historic resources surveys noted in the current report are over 15 years old. Therefore, a current survey should be completed within the project's area of potential effect. HPD looks forward to receiving a historic resources survey, once available, in order to comment on the project's effects to historic resources.

Please refer to project number **HP-151228-008** in any future correspondence regarding this project. If we may be of further assistance, please do not hesitate to contact me at jennifer.dixon@dnr.ga.gov or (770) 389-7851.

Sincerely,

Jennifer Dixon, MHP, LEED Green Associate
Program Manager
Environmental Review & Preservation Planning

Cc: Henry Santicola, Moody AFB

Appendix C:
SHPO Correspondence
and
Survey Data Excerpts
New South Associates
1999
"Historical Documentation and Above-
Ground Historic Resource Survey,
Moody AFB, Lowndes and Lanier
Counties, Georgia"

Georgia Department of Natural Resources

Historic Preservation Division

Lonice C. Barrett, Commissioner

W. Ray Luce, Division Director and Deputy State Historic Preservation Officer
500 The Healey Building, 57 Forsyth Street, N. W., Atlanta, Georgia 30303
Telephone (404) 656-2840 Fax (404) 657-1040

September 20, 1999

Paul S. Metz, Jr.
Chief, Environmental Resources Branch
Savannah District Corps of Engineers
P. O. Box 889
Savannah, Georgia 31402-0889

re: Moody AFB: Historic Resources Survey
Lowndes County, Georgia
HP990830-003

Dear Mr. Metz:

The Historic Preservation Division (HPD) has reviewed the draft report "Historical Documentation and Above-Ground Historic Resources Survey, Moody Air Force Base, Lowndes and Lanier Counties, Georgia" dated August 1999. In our opinion, this is a well-researched and well-written report. It presents an excellent developmental history of the base and its relation to broader military history and local history, and it includes a well-reasoned application of the National Register Criteria for Evaluation to the extant buildings and structures on the base. We concur with the findings of the report as presented in Section V, pages 50-51, and Table 3.

Our only suggestion for a minor improvement in the final report is to include some brief comparative information about other World War II Army Air Corps training facilities in the 1940s, similar to the way this facility was compared to the other 40-plus Korean conflict Army Air Force training facilities. Also, for future planning purpose, it might be useful to ask the consultant for an estimated "shelf life" for this assessment report; in particular, in light of the report's findings, when might it be appropriate for the base to be reassessed (for example, 10 years? 20 years?).

We appreciate your effort in assessing the buildings and structures at Moody Air Force base. We believe this document will prove extremely useful in complying with the provisions of both Section 106 and Section 110 of the National Historic Preservation Act.

Sincerely,



Richard Cloues
Deputy State Historic Preservation Officer

that pivot open. A ribbon of high rectangular fixed windows on the west have been partially covered with exterior translucent panels.

The west elevation has a lower shed-roofed section containing offices and latrines. It is one room wide and is also original to the building, though changed extensively on both the inside and outside. North, south, and west exteriors are clad in corrugated metal, with the exception of the office section which is stuccoed. A three-foot brick wall is appended to the base of the exterior with decorative brick piers that were added in 1989. Many original materials have been replaced over the years, often with similar materials. Exterior awnings were removed in 1962, and interior finishes were changed in the offices the same year. The hangar doors were all replaced in 1975. The corrugated metal walls and roof were replaced in major 1989 renovations. The offices have modern fixed-pane windows, and new interior and exterior finishes.

Based on a review related to a previous undertaking, Building 609 was determined not eligible for the National Register of Historic Places in 1997. This determination had concurrence by letter from the Historic Preservation Division, Georgia Department of Natural Resources, dated May 23, 1997, and signed by Jeffrey L. Durbin, Environmental Review Coordinator (see Appendix B).

Facility # 618 (*7724 Savannah Street - Georgia Resource No. LW-M-3*)

Located on the southeast near the runway aprons, this 200,000-gallon-capacity steel water tower with elevated tank was constructed in 1941 (Figure 15). The initial cost was \$25,875 and the contractor was the R. D. Cole Manufacturing Company of Newnan, Georgia. The tower is 178 feet in total height, including the tank and eight steel columns on concrete piers. The tank was the first large water reservoir for Moody Field, supplying water at static pressure of 65 to 170 PSI. During the 1950s the structure was painted in a pattern of alternating aviation surface orange and white paint (see Figure 15). It is now monochromatic with the base insignia painted on the tank. It has a metal ladder to the tank, and several antennas are mounted around the top.

The previous architectural study did not recommend this structure as eligible for the National Register, but these results never went through review or comment from Georgia's HPD (see Adams 1997). This water tower was dominant on the landscape of Moody Field during World War II, highly visible even from the air (Figure 4). Its historical significance is partly symbolic, because it is one of the few remaining

recognizable structures that has remained almost constant for the entire history of Moody. It is recommended eligible for the National Register of Historic Places under Criterion A for its association with World War II mobilization and training activities at Moody Field. Its level of significance is local.

Facility # 701 (*8219 Apron A Road - Georgia Resource No. LW-M-12*)

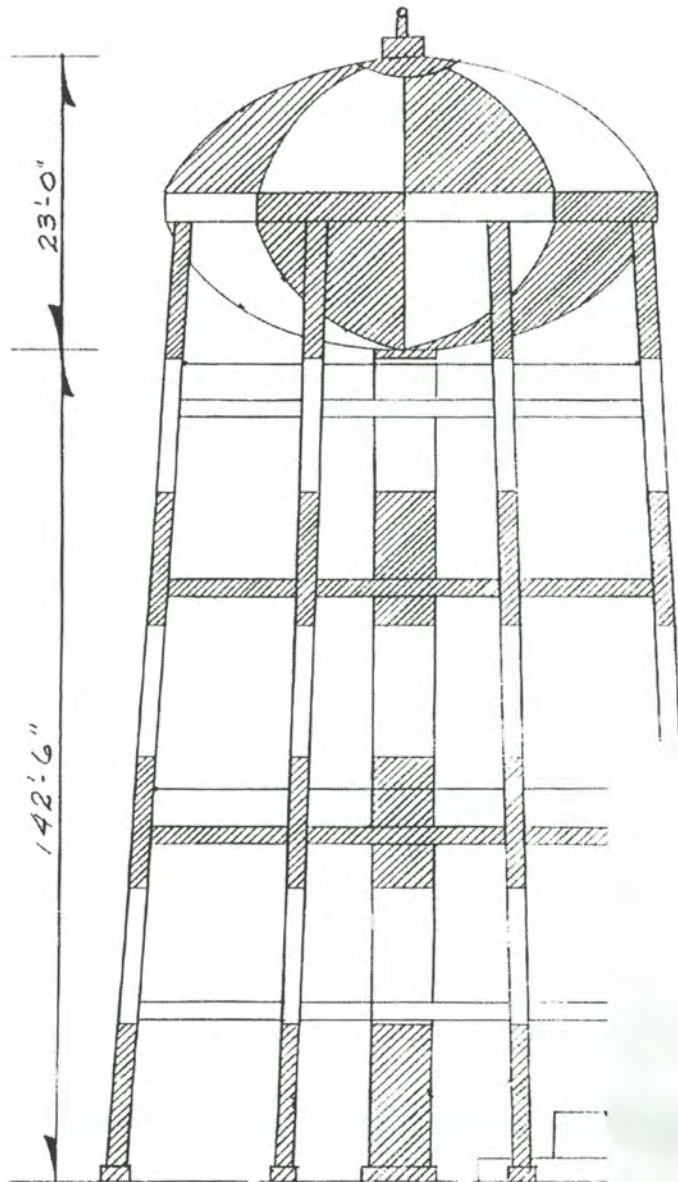
This 40,300-square-foot aircraft maintenance hangar was originally constructed in 1941 at a cost of \$138,248 (Figure 16). It is located on the southeast corner of Moody's main administrative area and adjacent to the runway apron. The steel-frame structure has a concrete slab foundation and concrete floors on the lower level. The main floor measures 162'8" x 201'8". It has a central open space with two levels of offices on each lateral side. The exterior and roof are metal and corrugated metal. A low-pitched gable roof is flanked on each lateral side by lower shed-type roofs on the lean-to sections. Aircraft enter through one of two hangar doors on each short end of the rectangular building. Ten sliding metal panels cover the hangar openings. Rectangular factory-sash and fixed-pane windows are located on the long sides of the building, along with several personnel doors. This hangar has a similar plan to Hangar 718 which was constructed at the same time. While the original 1941 construction plans were not located, real property cards seem to indicate that these were standardized designs.

While this hangar is potentially significant under National Register Criterion A, the integrity of the building has been substantially compromised by numerous alterations throughout its history. Past renovations (valued at nearly \$375,000 for just the 1972-1990 time period) have significantly changed the character of the building to the extent the it no longer embodies the distinctive characteristics of World War II design and construction. Based on a review related to a previous undertaking, Building 701 was determined not eligible for the National Register of Historic Places in 1996. This determination had concurrence by letter from the Historic Preservation Division, Georgia Department of Natural Resources, dated September 26, 1996, and signed by Jeffrey L. Durbin, Environmental Review Coordinator (Appendix B).

Facility # 718 (*8265 Knights Way - Georgia Resource No. LW-M-2*)

This 40,300-square-foot aircraft maintenance hangar was originally constructed in 1941 at a cost of \$139,617 (Figure 17). It is located to the southwest of Moody's main administrative area and adjacent to the southern runway apron. The steel-frame

Figure 15
Facility #618



ELEVATION

NO SCALE

↑ Water Tower with 1950's Paint Scheme

Facility #618 ⇨



infrastructure support facility that was not the site of a particular event, or directly associated with a significant individual, or of exceptional note as an example of architectural or engineering design. It is not emblematic of the installation, nor does it represent any significant aspect of Moody's World War II history or mission. This building is recommended ineligible for individual listing in the National Register of Historic Places, because it lacks significance in American history, architecture, archaeology, engineering, or culture. If the building once had any engineering significance, this is no longer present due to interior equipment changes.

Facility # 1100 (9043 Munitons Lane - Georgia Resource No. LW-M-9)

This facility was constructed in 1941 as an igloo-type magazine for the storage of explosive ordnance (Figure 23, 24). It is located in a secured complex approximately 7,000 feet to the southeast of the main base area. The facility is constructed of reinforced concrete and metal and is partially covered in an earthen berm. This design was used extensively in World War II ammunition storage facilities. It has 1,586 square feet of floor space, measuring 26' x 61'. The partially-buried design was adopted by the Army and Navy prior to World War II in order to reduce construction costs and improve safety. The interior is a semi-circular vault reached by a single metal door in the center of the concrete headwall. The floor is reinforced concrete. The concrete and metal arch is covered with earth, as is a facing blast wall. A vent pipe extends from the storage vault, and lightning protection systems are installed. Re-design of the ammunition storage area in the mid-1950s included several additional magazines and the renovation of the two older ones (1100 and 1106). The extent of these changes is unclear.

This fenced area now has approximately a dozen buildings and structures, but only two of these are over 50 years of age. Due to a lack of concentration of potentially historic structures and the re-design of the surrounding area, the two buildings would not qualify as a National Register district. They are no longer in direct proximity to each other and would be far outnumbered by nearby non-contributing structures. Since Facility 1100 is not part of any potential National Register eligible district, it must therefore be evaluated on its own for individual significance. This was an infrastructure support facility that was not the site of a particular event, or directly associated with a

significant individual, or of exceptional note as an example of architectural or engineering design. It is not emblematic of the installation, nor does it represent any significant aspect of Moody's World War II history or mission. This building is recommended ineligible for individual listing in the National Register of Historic Places, because it lacks significance in American history, architecture, archaeology, engineering, or culture.

Facility # 1106 (*9063 Munitions Lane - Georgia Resource No. LW-M-8*)

This facility is similar to Facility 1100. It was also constructed in 1941 as an igloo-type magazine for the storage of explosive ordnance (Figure 23, 24). It is located in a secured complex approximately 7,000 feet to the southeast of the main base area. The facility is constructed of reinforced concrete and metal and is partially covered in an earthen berm. This design was used extensively in World War II era ammunition storage facilities. It has 1,586 square feet of floor space, measuring 26' x 61'. The partially-buried design was adopted by the Army and Navy prior to World War II in order to reduce construction costs and improve safety. The interior is a semi-circular vault reached by a single metal door in the center of the concrete headwall. The floor is reinforced concrete. The concrete and metal arch is covered with earth, as is a facing blast wall. A vent pipe extends from the storage vault, and lightning protection systems are installed. Re-design of the ammunition storage area in the mid-1950s included several additional magazines and the renovation of the two older ones (1100 and 1106). The extent of these changes is unclear.

This fenced area now has approximately a dozen buildings and structures, but only two of these are over 50 years of age. Due to a lack of concentration of potentially historic structures and the re-design of the surrounding area, the two buildings would not qualify as a National Register district. They are no longer in direct proximity to each other and would be far outnumbered by nearby non-contributing structures. Since Facility 1106 is not part of any potential National Register eligible district, it must therefore be evaluated on its own for individual significance. This was an infrastructure support facility that was not the site of a particular event, or directly associated with a significant individual, or of exceptional note as an example of architectural or engineering design. It is not emblematic of the installation, nor does it represent any significant aspect of Moody's World War II history or mission. This building is recommended ineligible for individual listing in the National Register of Historic Places,

because it lacks significance in American history, architecture, archaeology, engineering, or culture.

Figure 24
Facilities #1100 and #1106



Facility #1100



Facility #1106

Appendix D:
SHPO Correspondence
and
Survey Data Excerpts
Geo-Marine Inc.
2011
"Moody AFB: WWII and Cold War-Era
Historic Property Survey"



HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

May 23, 2011

Marsha Prior, Ph.D.
Director, Historical Research Services
Geo-Marine, Inc.
2201 K Avenue, Suite A2
Plano, Texas 75074
mprior@geo-marine.com

**RE: Moody AFB: World War II & Cold War-Era Historic Property Survey
Lowndes County, Georgia
FP-110422-001**

Dear Dr. Prior:

The Historic Preservation Division (HPD) has reviewed the draft report entitled *Moody Air Force Base: World War II and Cold War-Era Historic Property Survey* prepared by Geo-Marine, Inc. and dated April 2011. Our comments are offered to assist the United States Air Force and Moody Air Force Base (AFB) in complying with the provisions of Section 110 of the National Historic Preservation Act of 1966, as amended.

Thank you for submitting this survey. Based on the information provided, HPD concurs with the recommendation that 40 of the 42 surveyed sites should be considered ineligible for inclusion in the National Register of Historic Places (NRHP). These include WWII Era resources 104, 112, 556, 617, 907, 908, 917, 918, 921, 976, 979 and 101 and Cold War-Era resources 23, 97, 108, 567, 571, 574, 623, 755, 757, 758, 769, 977, 988, 997, 1703-1705, 3148, 7001, and 7046 at Moody AFB and resources 2007, 2018, 2025, 20202, 20213, 20421, 20431, and 20441 at Grassy Pond Recreation Area. However, regarding Cold War Resources 451 (COMM Computer Training/former Disaster Preparedness) and 753 (Parachute Shop/Survival Equipment) at Moody AFB, we are unable to concur with the survey's finding that these buildings are not NRHP-eligible due to lack of architectural or historical significance and loss of integrity. In order to evaluate these resources, we need additional information. Specifically, we need historic photographs, views of all sides of the buildings, dates of alterations and context other than the buildings are not significant. In addition, regarding Resource 753, in our opinion a construction date of 1962 does not require that this building be evaluated under Criterion G.

Please refer to project number FP-110422-001 in future correspondence regarding this project. If we may be of further assistance, please do not hesitate to contact Elizabeth Shirk, Environmental Review Coordinator, at (404) 651-6624.

Sincerely,

Karen Anderson-Cordova, Program Manager
Environmental Review & Preservation Planning

KAC/ECS



HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

July 6, 2011

Marsha Prior, Ph.D.
Director, Historic Research Services
Geo-Marine, Inc.
2201 K Avenue, Suite A2
Plano, Texas 75074

**RE: Moody AFB: World War II & Cold War-Era Historic Property Survey
Lowndes County, Georgia
FP-110422-001**

Dear Dr. Prior:

The Historic Preservation Division (HPD) has reviewed the additional information submitted concerning the above referenced project. Our comments are offered to assist the United States Air Force and Moody Air Force Base (AFB) in complying with the provisions of Section 110 of the National Historic Preservation Act of 1966, as amended (NHPA).

Thank you for submitting the additional information we requested to complete our review. Based on the information received, HPD concurs with the recommendation that resources 451 and 753 should be considered ineligible for inclusion in the National Register of Historic Places (NRHP).

Please refer to project number **FP-110422-001** in any future correspondence on this project. If we may be of further assistance, please do not hesitate to contact Elizabeth Shirk, Environmental Review Coordinator, at (404) 651-6624.

Sincerely,

A handwritten signature in black ink that reads "Karen Anderson-Cordova". The signature is fluid and cursive, with a long, sweeping tail on the final letter.

Karen Anderson-Cordova
Program Manager
Environmental Review and Preservation Planning

KAC:ebp

cc: Bill Hersch, Geo-Marine, Inc. (bhersch@geo-marine.com)



Figure 34. Facility 1703, CE Storage building, facing southeast.

Facility 1704

The Spillway at Mission Lake (Facility 1704) was constructed in 1965 at the southeast side Mission Lake—the lake in the western part of Moody AFB (Figure 35). The structure is a recessed concrete spillway with a concrete, single barrel headwall and angled wing walls. The barrel of the structure is covered by a protective metal grill and topped with metal pipe railings. No alterations appear to have been made to the structure.

The resource is less than 50 years of age and therefore must be evaluated under Criterion Consideration G. As a recreational support structure intended to provide the controlled release of water from Mission Lake, the facility lacks exceptional historical or architectural importance and lacks design or engineering merit. Although the resource was constructed during the Cold War, the facility does not represent the philosophy, strategy, and/or technology associated with the Cold War. The resource has not made an exceptionally important contribution to broad patterns in our history, is not associated with the lives of persons of exceptional national importance, is not of exceptional architectural importance, and does not yield nor is likely to yield information of exceptional importance to human history or prehistory. Therefore, Facility 1704 is recommended not eligible for NRHP inclusion under Criterion Consideration G. Based upon the function of the resource as a support structure for the installation, and because this structure does not convey any other architectural or associative historic significance, the resource has little potential of meeting the requirements for historic significance under Criteria A-D of the NRHP once it reaches 50 years of age.



Figure 35. Facility 1704, Spillway at Mission Lake, facing south.

Facility 1705

Facility 1705 is the Latrine Facility at Mission Lake (Figure 36). Located on the south side of the lake, it was constructed in 1961 at a cost of \$7,769. The building is one story in height, two bays in width, and measures 364 square feet. Since its construction, the facility has not undergone any major alterations; however, windows and doors have been replaced. This building is composed of a concrete foundation, concrete block walls, and front-gabled roof with asphalt shingles and vertical wood siding in the gable. The primary façade has a centrally located drinking fountain flanked by two metal entry doors that lead into separate men and women latrine facilities and two metal fixed-sash one-light windows, a window type that is repeated along all façades of the structure.

The resource retains integrity of design, location, setting, feeling, and association; however, the material integrity of the resource has been lost due to the replacement of windows and doors. The building is also not a significant example of architectural workmanship.

Facility 1705 is not directly associated with the Cold War mission of Moody AFB and is not associated with any other historically significant events or persons under NRHP Criterion A or B. In addition, due to a lack of architectural integrity, the resource does not possess sufficient significance to meet NRHP eligibility under Criterion C at the state or national level of significance. The resource also has little potential to provide information that may contribute to an understanding of human history or prehistory under Criterion D. Therefore, Facility 1705 is recommended not eligible for listing in the NRHP.



Figure 36. Facility 1705, Latrine Facility at Mission Lake, facing southeast.

Facility 2007

Constructed in 1952 at Grassy Pond, Storage Facility (Facility 2007) was originally used for storage but has since been redesignated for use by the base Boy Scouts (Figure 37). The building measures 21'-x-36' and cost \$2,504 to construct. The 756-square-foot building is one-story in height and three bays in width. This building is composed of a concrete foundation, vertical wood siding, and a side-gabled roof with asphalt shingles. The central bay of the front façade has a single-glazed nine-light, three-panel door and a double-hung 1/1 metal window. Access to the door is provided by a symmetrical concrete porch with concrete steps at each end. A centrally positioned shed-roofed porch supported by four square posts projects from the primary façade. A small one-unit addition has been placed at the rear of the structure.

Although the resource retains integrity of materials, location, setting, and feeling, the association of the resource has been lost due to a change in its use. The building is also not a significant example of architectural workmanship, and the integrity of design has been lost due to the addition of space at the rear of the building.

The resource is not directly associated with the Cold War mission of Moody AFB and is not associated with any other historically significant events or persons under NRHP Criterion A or B. In addition, due to a lack of architectural integrity, the resource does not possess sufficient significance to meet NRHP eligibility under Criterion C at the state or national level of significance. The resource also has little potential to provide information that may contribute to an understanding of human history or prehistory under Criterion D. Therefore, Facility 2007 is recommended not eligible for listing in the NRHP.



Figure 40. Facility 3148, CEF Storage structure, facing east.

Facility 7001a–d

The Athletic Fields at Mission Lake (Facility 7001) consist of a softball field (7001a – Figure 41), beach volleyball court (7001b - Figure 42), wood pavilion (7001c – Figure 43), and a metal pavilion (7001d – Figure 44). This facility was constructed in 1965 to provide military personnel at Moody AFB a recreational area. Standing structures at this site are limited to the pavilion and picnic area. The wood pavilion (Facility 7001c) consists of a front-gabled corrugated metal roof with arched glue-lam beams, supported by diagonal brackets and square wood posts. The metal pavilion picnic area (Facility 7001d) is located near the parking area and consists of a corrugated metal folded-plate canopy that is supported by beveled metal posts.

The resources are less than 50 years of age and therefore must be evaluated under Criterion Consideration G. As support structures intended to provide recreational facilities to personnel at the base, the facilities lack exceptional historical or architectural importance. As a group of recreational structures, Facility 7001a–d also lacks design or engineering merit. Although the resources were constructed during the Cold War, the facilities do not represent the philosophy, strategy, and/or technology associated with the Cold War. The resources did not make exceptionally important contributions to broad patterns in our history, are not associated with the lives of persons of exceptional national importance, are not of exceptional architectural importance, and do not yield nor are likely to yield information of exceptional importance to human history or prehistory. Therefore, as a group, Facility 7001a–d is recommended not eligible for NRHP inclusion under Criterion Consideration G. Based upon the function of the resources as support structures for the installation, and because the structures do not convey any



Figure 41. Facility 7001a, Baseball Field, facing southwest.



Figure 42. Facility 7001b, Volleyball Court, facing south.



Figure 43. Facility 7001c, Wood Pavilion, facing south.



Figure 44. Facility 7001d, Metal Pavilion, facing west.

other architectural or associative historic significance, the resources have little potential of meeting the requirements for historic significance under Criteria A-D of the NRHP once they reach 50 years of age.

Facility 7046

Constructed in 1964, Facility 7046 is the Playground at Mission Lake. The site is located on the northeast side of the lake and is surrounded by metal chain link fencing. The activity structures, which include the jungle gym with slide and swing sets, were replaced with newer equipment in 2008 (Figures 45 and 46). Also located at the site is a wooden picnic shelter grounded in a concrete pad that measures 20'-x-16' and displays a gabled roof supported by glue-lam arches and square wood posts (Figure 47).



Figure 45. Facility 7046, Playground at Mission Lake, facing southwest.

Facility 7046 is less than 50 years of age and therefore must be evaluated under Criterion Consideration G. As a support structure intended to provide recreational opportunities for children of base personnel, the facility lacks exceptional historical or architectural importance and lacks design or engineering merit. Although the resource was constructed during the Cold War, the facility does not represent the philosophy, strategy, and/or technology associated with the Cold War. The resource has not made an exceptionally important contribution to broad patterns in our history, is not associated with the lives of persons of exceptional national importance, is not of exceptional architectural importance, and does not yield nor is likely to yield information



Figure 46. Facility 7046, Playground at Mission Lake, facing southwest.



Figure 47. Facility 7046, Playground at Mission Lake, wooden picnic shelter, facing northwest.

of exceptional importance to human history or prehistory. Therefore, Facility 7046 is recommended not eligible for NRHP inclusion under Criterion Consideration G. Based upon the function of the resource as a support structure for the installation, and because this structure does not convey any other architectural or associative historic significance, the resource has little potential of meeting the requirements for historic significance under Criteria A-D of the NRHP once it reaches 50 years of age.

Facility 20202

Facility 20202 is a Storm Drainage system at the Moody Recreation Annex at Grassy Pond. The drainage system was constructed in 1958 at a cost of \$2,112. Originally the system was 1,260 linear feet, although modifications have reduced its size to 829 linear feet. Although the majority of the drainage system is underground, three features are visible at surface level: two drains (Figures 48 and 49) and one spillway (Figure 50). The two drains are flat with metal grills covering the drainage barrel, and the spillway has a concrete single-barrel headwall with concrete wing walls.



Figure 48. Facility 20202, Storm Drain, detail view of inlet.

