CONSTRUCTION OF
OPEN BURNING FACILITY
MOODY AIR FORCE BASE, GEORGIA

Environmental Assessment
And Finding of No Significant Impact

January 2009

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The approval of this document serves only as official written documentation that the environmental effects of the proposed action and any alternatives have been considered and analyzed per NEPA/EIAP, resulting in a Finding of No Significant Impact (FONSI). This document should not be construed to mean that the proponent has authorization or approval to conduct or implement the proposed action or any of the alternatives. Final approval and authorizations to conduct this action must be obtained through the proponent's chain-of-command IAW applicable DoD, AF, and Wing policies, directives, and instructions.

CONSTRUCTION OF OPEN BURNING FACILITY FOR DISPOSAL OF VEGETATIVE DEBRIS MOODY AIR FORCE BASE, GEORGIA

FINDING OF NO SIGNIFICANT IMPACT

1.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

1.1 Proposed Action

Moody Air Force Base (AFB) proposes to construct an open burning facility for the disposal of vegetative debris from grounds maintenance activities on the installation. The purpose of this action is to safely dispose of vegetative debris through burning in lieu of deposition in a landfill. Previously, vegetative debris was disposed of by shredding in a tub grinder and being stored as mulch. However, this method of vegetation disposal was extremely expensive to operate, and the quality of the mulch was too poor for commercial use, either by an off-base contractor or Moody AFB personnel, resulting in tons of stored mulch throughout the installation. The stored mulch was considered a fire hazard, hampered military training, and was aesthetically unpleasing. Additionally, the use of a tub grinder by Moody AFB was not supported by the installation's major command, Air Combat Command (ACC), and funding for the operation and maintenance of the tub grinder was withdrawn from the Grounds Maintenance Contract. Therefore, an alternative method of disposing of vegetative debris is required.

The proposed open burning facility will consist of a 2.5-acre fenced compound to secure and store accumulated vegetative debris. A temporary burn pit 9 feet wide by 30-feet long and 8 to 10-feet deep will be constructed for quarterly burning with an air curtain incinerator, a portable or stationary combustion device that directs a plane of high velocity forced draft air through a manifold head into a pit with vertical walls in such a manner as to maintain a curtain of air over the surface of the pit and a recirculating motion of air under the curtain. The pit will be filled in following the completion of the burn, and a new pit will be dug each quarter.

1.2 Alternatives

The five alternatives to the proposed action are: 1) to construct an open burning facility south of the Munitions Storage Area (MSA); 2) to construct an open burning facility north of Stone Road adjacent to the former mulching location; 3) disposal of vegetative debris in an off-base landfill; 4) construction and operation of a mulching facility for disposal of the vegetative debris; and, 5) the no action alternative.

Of these five alternatives, only Alternative Two, construct an open burning facility north of Stone Road, and Alternative Five, the no action alternative, were considered viable alternatives and were further evaluated in the document. The other three alternatives were rejected as feasible because of economic, logistical, and siting constraints.

2.0 SUMMARY OF ENVIRONMENTAL IMPACTS

The EA analyzed the potential environmental effects of implementing the proposed action and alternative on the following resources: Air Quality, Cultural Resources, Land Use, Physical Resources, Vegetation Resources, and Wildlife Resources (including rare, threatened, and endangered species). The proposed action and alternatives would result in a slight disturbance to vegetation and wildlife resources, but these were not considered significant because of the limited duration of effect and the small size of the proposed construction area. None of the other resources were deemed likely to be significantly affected by the proposed action or evaluated alternatives. Therefore, there would not be any significant impacts to the environment as a result of implementation of the proposed action or any of the evaluated alternatives. Also, there were no significant cumulative effects noted that would occur as a result of implementation of the proposed action or any of the evaluated alternatives.

3.0 CONCLUSION:

The attached EA was prepared and evaluated pursuant to the National Environmental Policy Act (Public Law 91-190, 42 U.S.C. 4321 *et seq.*) and according to 32 Code of Federal Regulations 989, *The Environmental Impact Analysis Process.* Based on the findings of the environmental assessment, no significant impact is anticipated from implementation of the proposed action. I have concluded that the proposed project titled, "Construction of Open Burning Facility" does not constitute a "major Federal action significantly affecting the quality of the human environment" when considered individually or cumulatively in the context of the referenced act, including both direct and indirect impacts. Therefore, issuance of a Finding of No Significant Impact is warranted, and an environmental impact statement is not required. Pursuant to Executive Order (EO) 11988 and EO 11990, the authority delegated in Secretary of the Air Force Order 791.1, and taking the above information into account, I find there is no practicable alternative to this action.

HENRY J. SANTICOLA, Colonel, USAF
Vice Commander, 23rd Wing

14 JAN 09
Date

CONSTRUCTION OF OPEN BURNING FACILITY
FOR DISPOSAL OF VEGETATIVE DEBRIS
Moody Air Force Base, Georgia

Environmental Assessment

Table of Contents

Page

List of Figures

List of Tables

CONSTRUCTION OF OPEN BURNING FACILITY
FOR DISPOSAL OF VEGETATIVE DEBRIS
MOODY AIR FORCE BASE, GEORGIA

ENVIRONMENTAL ASSESSMENT

1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 Background, Purpose, and Need for the Proposed Action

Moody Air Force Base (AFB) proposes to construct an open burning facility for the disposal of vegetative debris from grounds maintenance activities on the installation. The purpose of this action is to safely dispose of vegetative debris through burning in lieu of deposition in a landfill. Previously, vegetative debris was disposed of by shredding in a tub grinder and being stored as mulch. However, this method of vegetation disposal was extremely expensive to operate, and the quality of the mulch was too poor for commercial use, either by an off-base contractor or Moody AFB personnel, resulting in tons of stored mulch throughout the installation. The stored mulch was considered a fire hazard, hampered military training, and was aesthetically unpleasing. Additionally, the use of a tub grinder by Moody AFB was not supported by the installation's major command, Air Combat Command (ACC), and funding for the operation and maintenance of the tub grinder was withdrawn from the Grounds Maintenance Contract. Therefore, an alternative method of disposing of vegetative debris is required.

The proposed open burning facility will consist of a 2.5-acre fenced compound to secure and store accumulated vegetative debris. A temporary burn pit 9 feet wide by 30 feet long and 8-10 feet deep will be constructed for quarterly burning with an air curtain incinerator, a portable or stationary combustion device that directs a plane of high velocity forced draft air through a manifold head into a pit with vertical walls in such a manner as to maintain a curtain of air over the surface of the pit and a recirculating motion of air under the curtain. The pit will be filled in following the completion of the burn, and a new pit will be dug each quarter.

1.2 Location of Proposed Action

Moody AFB is located in south-central Georgia about 10 miles northeast of Valdosta on 11,457 acres of federally owned land in Lowndes and Lanier counties (Figure 1-1). The installation consists of the main base (5,094 acres), Grand Bay Range (5,874 acres), and the Grassy Pond Recreational Annex (489 acres), which is located 25 miles southwest of the main base.

The proposed action and all of the alternatives would be contained entirely within the boundary of the installation. The proposed open burning facility is located centrally along the northern boundary of the installation, east of the Moody AFB Recycling Center. The area consists of approximately 2.5 acres bounded by unimproved installation

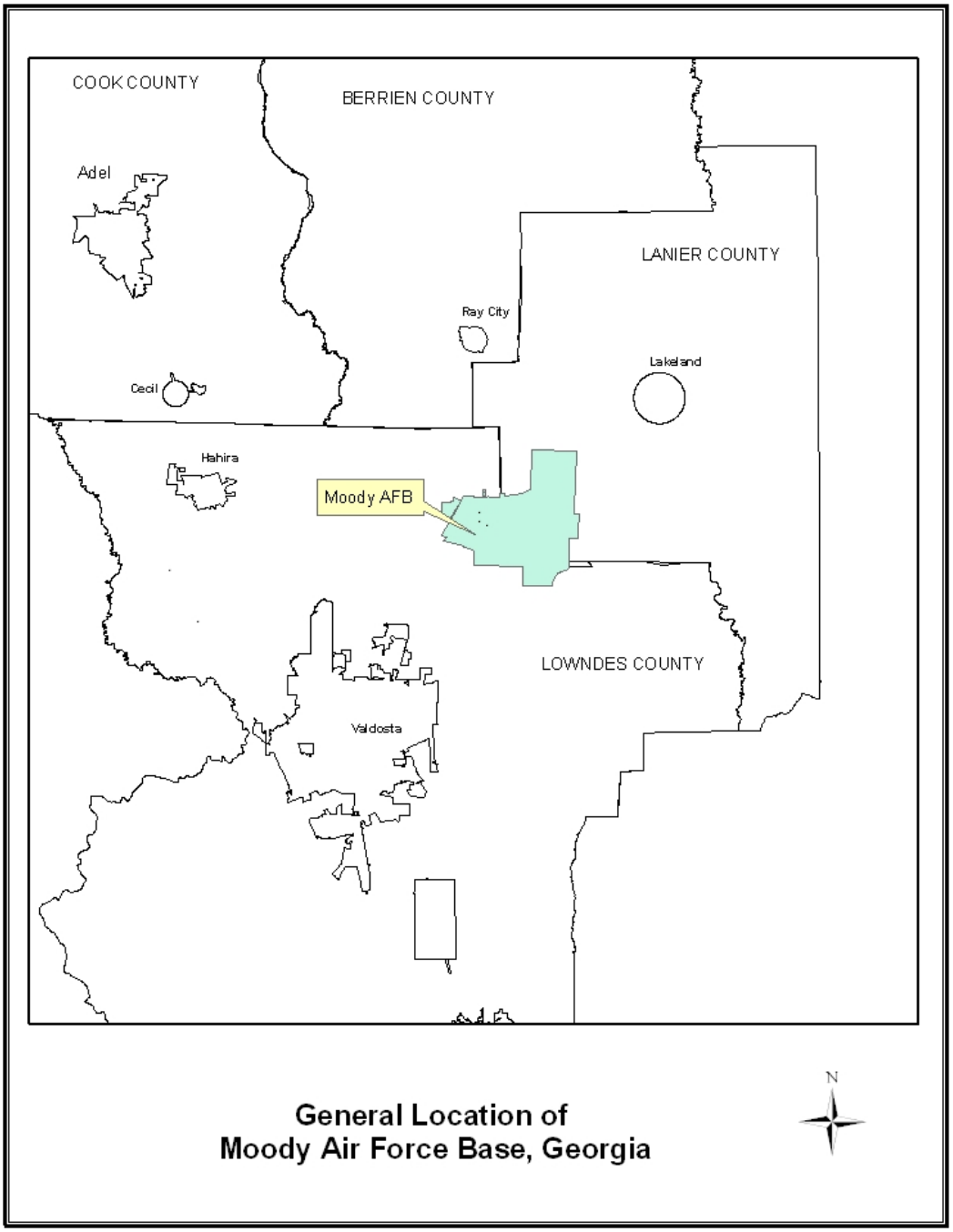

COOK COUNTY
BERRIEN COUNTY
Adel
LANIER COUNTY
Ray City
Lakeland
Cecil
Hahira
Moody AFB
LOWNDES COUNTY
Valdosta
N
General Location of
Moody Air Force Base, Georgia

Figure 1-1

roads to the south, west, and north, and by the Civil Engineer Squadron Field Training Exercise (FTX) site on the east. Currently, this area is comprised of mature loblolly forest with scattered hardwoods and was recently roller-drum chopped to reduce competing vegetation. Figure 1-2 shows the location of the proposed open burning facility.

1.3 Scope of the Environmental Review

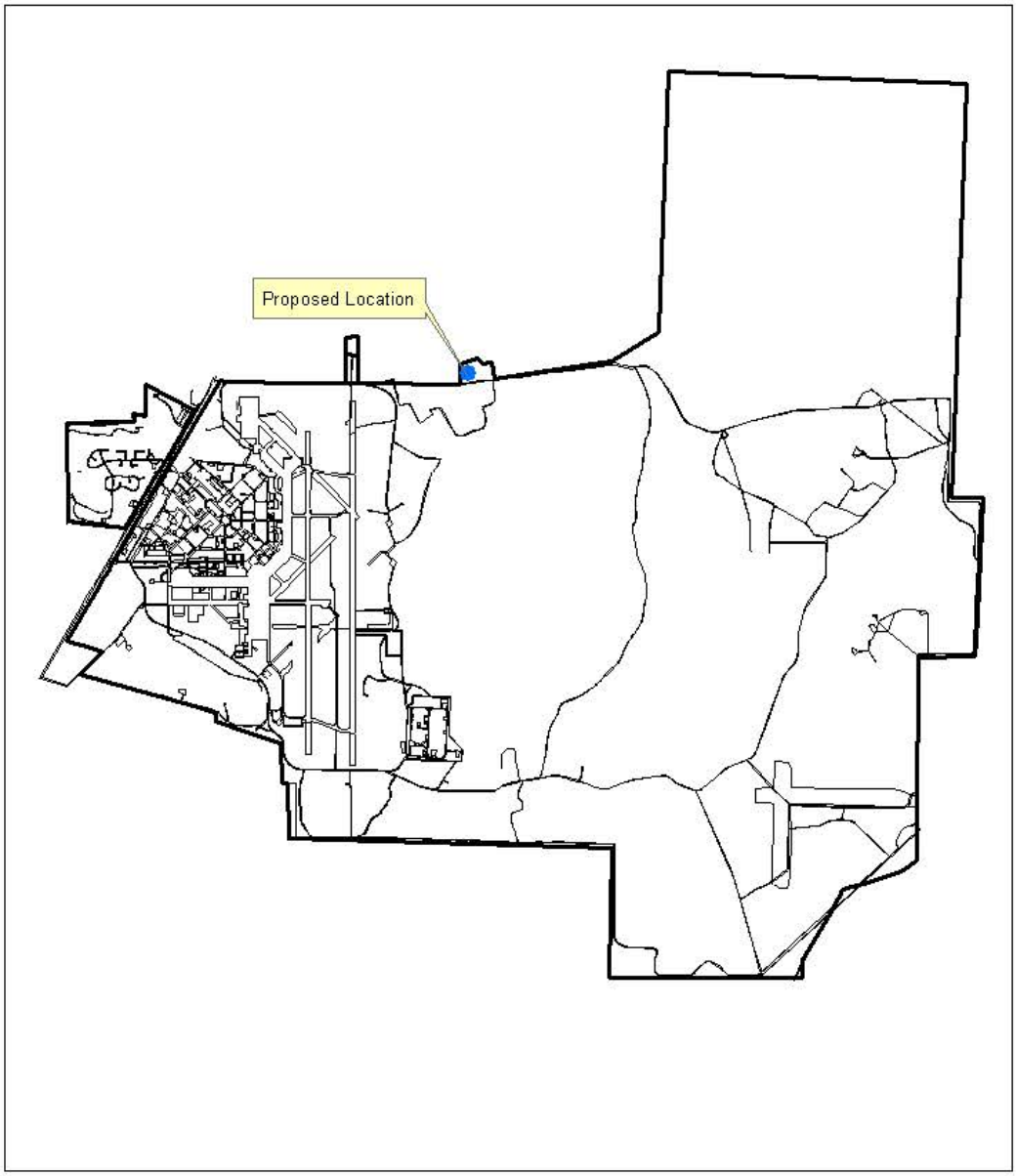
The proposed action and alternatives have the potential to affect certain environmental resources. These potentially affected resources in this area have been identified through previous communications with state and federal agencies, on-site surveys by installation staff, biological and cultural resources surveys, and reviews of past environmental documents. Specific environmental resources with the potential for environmental consequences from implementation of the proposed action or the alternatives include:

- Air Quality
- Cultural Resources
- Land Use
- Physical Resources
- Vegetation Resources
- Wildlife Resources (including rare, threatened, and endangered species)

Based upon an initial screening of potential environmental consequences by installation personnel, it was determined that the proposed action and alternatives were not likely to affect noise, wetlands and water resources, transportation and circulation, socioeconomics and environmental justice, airspace management or Air Traffic Control. Therefore, the environmental consequences of these resource areas were not analyzed in this document since the potential for impacts was considered to be negligible or nonexistent:

- *Noise.* Under the proposed action, temporary and minor increases in noise in the immediate vicinity of the project site would occur as grounds maintenance contractor vehicles operated sporadically and during normal business hours to access the compound and dump debris. However, this would represent a negligible impact relative to the ambient noise levels at Moody AFB, which are dominated by aircraft noise.

- *Wetlands and Water Resources.* Based on the 2007 jurisdictional wetland delineation for the main base of Moody AFB, there are no wetlands, surface water resources, or floodplains located on either the site of the proposed action or any of the alternatives. With the required implementation of erosion and sedimentation controls per the Georgia Erosion and Sedimentation Control Act, there would be no potential for impacts to wetlands or water resources.



Location of Proposed Action
Open Burning Facility
Moody AFB, GA

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Figure 1-2

- *Transportation and Circulation.* Implementation of the proposed action would result in minor changes to transportation and traffic circulation patterns on the installation as this area would become the central point for the grounds maintenance contractor to dump debris. However, because of the current tempo of construction and demolition activities related to the Base Realignment and Closure (BRAC) actions, any increase or change to traffic patterns on the installation as a result of the proposed action would be negligible and non-cumulative. Additionally, the slight increase in traffic in the immediate area of the compound would be off-set by the reduction in traffic in the more congested areas of the installation.

- *Socioeconomics and Environmental Justice*. Implementation of the proposed action would not affect socioeconomic resources and would fully comply with Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority and Low-income Populations*, and EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*. The proposed action would occur within the boundaries of Moody AFB; no change in personnel levels would occur; no impacts to schools, children, or minority populations would occur; and the scale of the proposed construction/demolition expenditures would not result in noticeable direct or indirect effects to the economy. As no permanent population centers, low-income communities, or minority communities exist near the proposed project site, no communities would be exposed to adverse socioeconomic or environmental justice impacts.

- *Airspace Management and Air Traffic Control.* The proposed action will have no effect on airspace management, air traffic control, or the operation of any aircraft within Moody AFB or the surrounding airfield environment. Prior experience with using an air curtain to burn debris in a pit has demonstrated that only minimal amounts of smoke will be released upon initial ignition and very little during full operation. This minimal amount of smoke has been shown to have no effect on aircraft operations on the installation.

1.4 Applicable Regulatory Requirements

Based on the scope of the environmental review, it has been determined that the following laws and regulations apply to the proposed action and are considered in this environmental document:

- 32 Code of Federal Regulations 989, *The Environmental Impact Analysis Process* (EIAP)
- Air Force Instruction 32-7064, *Integrated Natural Resources Management*
- Clean Air Act (CAA)
- Clean Water Act (CWA)
- Georgia Erosion and Sedimentation Control Act (GESCA)
- National Environmental Policy Act (NEPA)
- National Historic Preservation Act (NHPA)

- Resource Conservation and Recovery Act (RCRA)
- Sikes Act

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 Minimum Selection Criteria

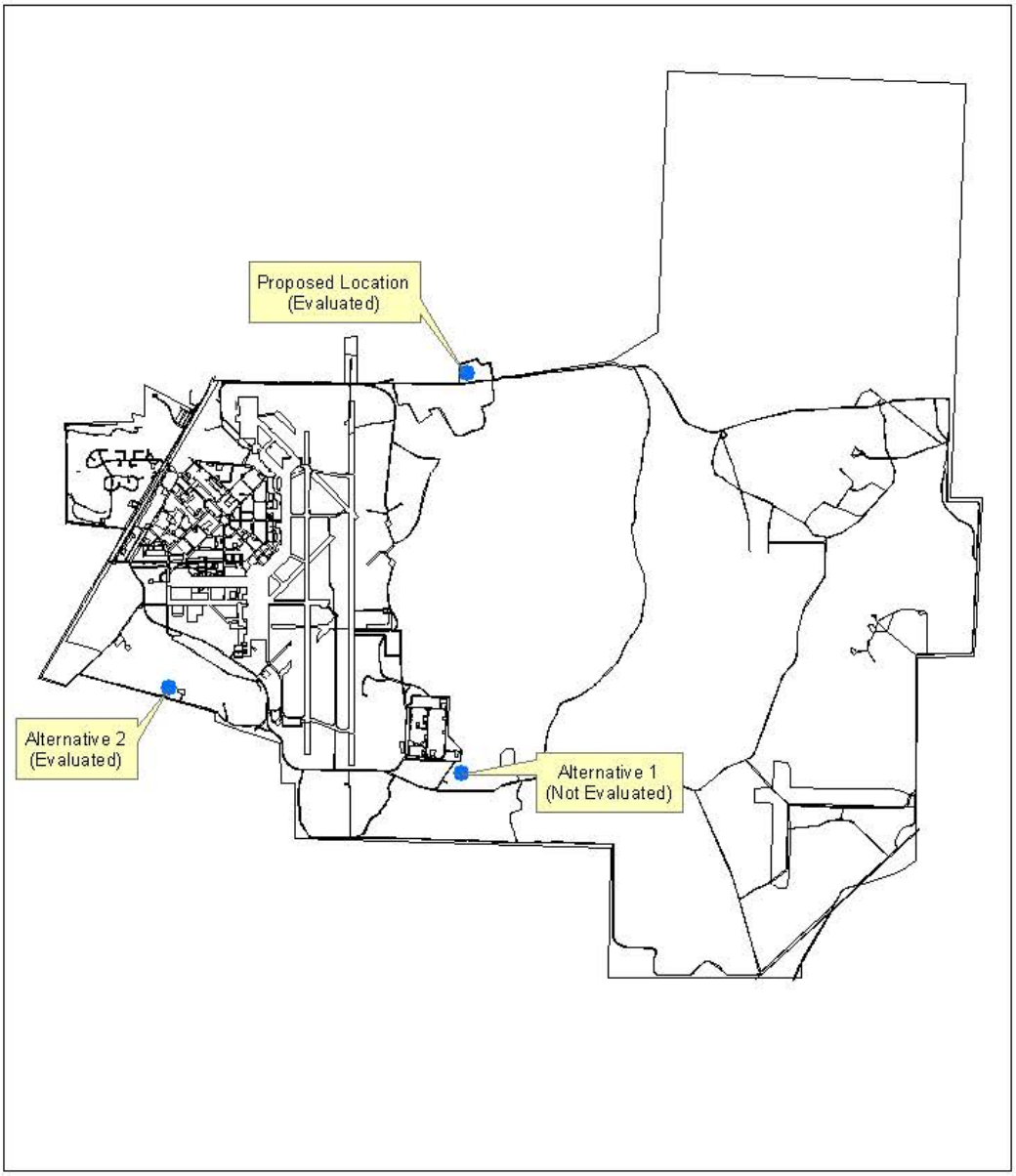
The Air Force considered several alternatives to the proposed action. In the initial screening of these alternatives, the Air Force took into consideration minimum selection criteria. Only those alternatives that met these criteria were considered suitable for detailed analysis. The selection criteria were conformance to existing laws, Air Combat Command, Department of the Air Force, and Department of Defense policy and regulations, compatibility with the Base Master Plan and the Moody AFB military mission. Specifically, the facility had to be geographically isolated from other facilities and had to be located in a remote area that was suitable for the storage, containment, and burning of vegetative debris.

2.2 Detailed Description of the Proposed Action

The proposed action and all of the alternatives would be contained entirely within the boundary of the installation. The proposed open burning facility is located centrally along the northern boundary of the installation in Lanier County, east of the Moody AFB Recycling Center. The area consists of 8 acres bounded by unimproved installation roads to the south, west, and north, and by the Civil Engineer Squadron (CES) Field Training Exercise (FTX) site to the east. Currently, this area is comprised of mature loblolly forest with scattered hardwoods and was recently roller-drum chopped to control competing vegetation. Figure 2-1 shows the location of the proposed open burning facility and alternatives.

To create the open burning facility, 2.5 acres (280 feet wide by 360 feet deep) within this 8-acre wooded site would be cleared of all vegetation, with merchantable trees being sold under a small lot timber sale as authorized by AFI 32-7064. Within the 2.5-acre cleared area, a six-foot high chain link fence would be erected, leaving a buffer of 10-15 feet of cleared space outside the fence as a permanent firebreak. The approximate dimensions of the fence would be 265 feet by 345 feet, with a locked gate centrally located in the east fence to allow controlled access by the Grounds Maintenance Contractor and Civil Engineer Squadron personnel. The northern half of the compound would be reserved for debris storage and piling. The temporary burn pit would be constructed in the southern half of the compound, and would be approximately 600 feet from the nearest occupied structure (privately owned residence north of the installation). Figure 2-2 shows the proposed layout of the open burning facility.

To burn accumulated debris, a temporary burn pit would be constructed quarterly within the fenced compound. This burn pit would be approximately 9-feet wide and 30-feet long, and 8-10 feet deep. The pit would be fitted with an air curtain incinerator during operation. The Rules for Air Quality Control, Chapter 391-3-1, promulgated by the Environmental Protection Division of the Georgia Department of Natural Resources, state that open burning pits with air curtain incinerators must be located at least 300 feet



Location of Proposed Action and Alternatives
Open Burning Facility
Moody AFB, GA

N

Figure 2-1

Proposed Layout
Open Burning Facility
Moody AFB, GA

N

Figure 2-2

from a public road or occupied structure. The burn pits constructed as part of this action would be located approximately 600 feet from the nearest occupied structure.

Initial ignition of the pit would occur no earlier than 10:00 am per the Rules for Air Quality Control, Chapter 391-3-1, and burning would be continued until all accumulated vegetative debris was consumed. Only wood waste consisting of trees, logs, large brush, stumps, leaves, and other vegetation relatively free of soil would be burned in the pit.

2.3 Alternatives to the Proposed Action

The five alternatives to the proposed action are: 1) to construct an open burning facility south of the Munitions Storage Area (MSA); 2) to construct an open burning facility north of Stone Road adjacent to the former mulching location; 3) disposal of vegetative debris in an off-base landfill; 4) construction and operation of a mulching facility for disposal of the vegetative debris; and, 5) the no action alternative.

2.3.1 Alternative 1 -- Siting South of the MSA

This alternative is similar in size and scope to the proposed action. However, the location of this alternative would be in a previously disturbed area south of the MSA (Figure 2-3). Historically, this site has been used for the temporary storage and disposal of vegetative debris from grounds maintenance activities, either through the direct burning of piled vegetation or the use of a burn pit fitted with an air curtain.

One of the minimum selection criteria for alternatives was that the open burning facility be geographically isolated from other facilities and located in an area that was suitable for the storage, containment, and burning of vegetative debris. This site is located immediately adjacent to the MSA, which must be protected from sparks, flames, and open burning because of the storage of munitions on the site. Additionally, Air Force Manual (AFMAN) 91-201 restricts access within the explosive clear zone around the MSA to mission essential personnel, which would exclude access to the site by contractor personnel. For these reasons, this alternative was not deemed a feasible alternative, and it is not further evaluated in this assessment.

2.3.2 Alternative 2 -- Siting North of Stone Road

This alternative is similar in size and scope to the proposed action. However, the location of this alternative would be north of Stone Road and immediately adjacent to the Moody AFB obstacle course and Base Recovery After Attack (BRAAT) strip (Figure 2-4). Historically, this site has been used for the temporary storage and disposal of vegetative debris from grounds maintenance activities, primarily through the use of a tub grinder to create mulch. On occasion, the direct burning of piled vegetation was conducted if weather conditions were acceptable and the forecast demonstrated that the resultant smoke would not impact the Moody AFB cantonment area to the north, the Moody AFB airfield to the east/north-east, or the flying mission. The environmental effects of this alternative will be further analyzed in this document.

Alternative 1 Layout
Open Burning Facility
Moody AFB, GA

N

Figure 2-3

Alternative 2 Layout
Open Burning Facility
Moody AFB, GA

N

Figure 2-4

2.3.3 Alternative 3 -- Disposal in an Off-base Landfill

Under this alternative, accumulated vegetative debris from grounds maintenance activities on the installation would be disposed of in an off-base landfill. The Pecan Row Landfill is located near Valdosta on a 97-acre site with an ultimate fill area of 40 acres. The landfill was constructed and became operational in 1992, and is currently operated by Veolia Environmental Services. This landfill is where the vast majority of municipal solid waste from Lowndes County communities is disposed. Moody AFB has an agreement with the landfill to dump solid waste, including vegetative debris, into the landfill for a rate of $155 for a 30-cubic-yard container and an additional tipping fee of $39 per ton of refuse.

Based on historic accumulations of vegetative debris from grounds maintenance activities at Moody AFB, the installation would produce about 2000 cubic yards of waste annually, with a corresponding weight of 600 tons based on guidelines produced by the State of California (www.ciwmb.ca.gov/leatraining/Resources/CDI/Tools/Calculations.htm). The annual cost to deposit grounds waste into the Pecan Row Landfill would be approximately $33,785 ($10,385 (67 containers @ $155/container) + $23,400 tipping fee (600 tons @ $39/ton)), not counting transportation or personnel costs. This figure is higher than allowed in the negotiated budget for the Grounds Maintenance Contract, and is therefore not a feasible alternative given the current or projected funding constraints. This alternative will be dropped from evaluation and will not receive further consideration in this document.

2.3.4 Alternative 4 -- Disposal through Tub Grinding and Mulching

Under this alternative, vegetative waste from grounds maintenance activities would be shredded in a tub grinder and stored for mulch, similar to past practices. However, previous experience with this method of vegetation disposal has shown that it is extremely expensive to operate, costing about $18,000 per year. Additionally, the quality of the mulch is too poor for commercial use, either by an off-base contractor or Moody AFB personnel, resulting in tons of stored mulch throughout the installation (a total of 120 tons were accumulated during the most recent tub grinder operation). The stored mulch would be considered aesthetically unpleasing, a fire hazard, and could hamper military training. Eventually, the mulch would have to be disposed of in the Pecan Row Landfill at a cost of approximately $6,850 (400 cubic yards of debris). Therefore, the total cost to operate a tub grinder and produce mulch at Moody AFB averages about $24,850 per year, including disposal costs.

The use of a tub grinder by Moody AFB was not supported by ACC during the last preparation of the Grounds Maintenance Contract, and funding for the operation and maintenance of the tub grinder was withdrawn from budget. As a result, Moody AFB would not be able to fund and operate/maintain a tub grinding operation on the installation. Because of the high cost, the lack of available funds, and the inability to dispose of the mulch from tub grinding operations without resorting to off-base disposal

in the Pecan Row Landfill, this alternative is deemed unfeasible and will not be evaluated in this document.

2.3.5 Alternative 5 -- No Action Alternative

Under this alternative, an open burning facility for the disposal of vegetative debris from grounds maintenance activities would not be constructed. Sites for the dumping of vegetation would have to be located throughout the forested areas of Moody AFB, and piles would have to be burned periodically to reduce wildfire risk and to re-open the sites for future dumping. Because of the safety footprints associated with the operation of the Grand Bay Weapons Range, the Combat Arms Training Range, and the various explosives storage and handling facilities, too few unencumbered areas are available for the storage and disposal of vegetation. It is likely that grounds maintenance activities might have to be periodically curtailed until approved dumping locations are cleared and re-opened for use. Per 32 CFR 989, the environmental effects of this alternative will be further analyzed in this document.

3.0 AFFECTED ENVIRONMENT AND CONSEQUENCES

3.1 INTRODUCTION

The physical and biological components of the proposed project area and the alternative sites are described below under each applicable section. Additional information on the biological and cultural resources on Moody AFB is available in the Moody AFB Integrated Natural Resources Management Plan, the Moody AFB Natural Heritage Inventory Final Report, and the Moody AFB Integrated Cultural Resources Management Plan. These documents are available for review in the Environmental Flight.

Neither the proposed action or any of the analyzed alternatives would have adverse effects to areas of critical environmental concern, coastal zones, wilderness areas, wild or scenic rivers, hazardous waste sites, archeological remains, historic sites, or Native American religious concerns since none of these resources are located within the proposed project construction limits.

3.2 Air Quality

Air quality is defined as the ambient air concentrations of specific pollutants determined by the U.S. Environmental Protection Agency (EPA) to be of concern to the health and welfare of the general public. These seven "criteria" pollutants include ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter less than 2.5 and 10 microns in diameter ($PM_{2.5}$ and PM_{10}), and lead. To regulate the amounts of these criteria pollutants in the ambient air, the EPA established National Ambient Air Quality Standards (NAAQS) for each of the pollutants. The NAAQS define the maximum concentrations of the criteria pollutants that are considered safe, with an additional margin of safety, to protect human health and welfare. Table 3-1 shows the current NAAQS for the United States.

Depending on the type of pollutant, these maximum concentrations may not be exceeded at any time, or may not be exceeded more than once per year. For this air quality analysis, the Region of Influence (ROI) is defined as Lowndes and Lanier counties.

Criteria Pollutants

Criteria pollutant emissions affecting air quality in a given region can be characterized as being from stationary, area, or mobile sources. Stationary sources of emissions, also known as point sources, can be identified by name and location and are typified by emissions from smokestacks. Area sources are point sources whose emissions are too small to track individually, such as a home or small office building or a diffuse stationary source, such as wildfires or agricultural tilling. Mobile sources are any kind of vehicle or equipment with a gasoline or diesel engine, an airplane, or a ship. On-road and non-road are two types of mobile sources. On-road consists of vehicles such as cars, light trucks, heavy trucks, buses, engines, and motorcycles. Non-road sources are aircraft, locomotives, diesel and gasoline boats and ships, personal watercraft, lawn and garden

Table 3-1. National Ambient Air Quality Standards

Pollutant	*Primary Standards*	*Averaging Times*	*Secondary Standards*
Carbon Monoxide	9 ppm (10 mg/m^3)	8-hour [1]	None
	35 ppm (40 mg/ m^3)	1-hour [1]	None
Lead	1.5 µg/m^3	Quarterly Average	Same as Primary
Nitrogen Dioxide	0.053 ppm (100 µg/m^3)	Annual (Arithmetic Mean)	Same as Primary
Particulate Matter (PM_{10})	Revoked [2]	Annual [2] (Arithmetic Mean)	Revoked [2]
	150 µg/m^3	24-hour [3]	Same as Primary
Particulate Matter ($PM_{2.5}$)	15.0 µg/m^3	Annual [4] (Arithmetic Mean)	Same as Primary
	35 µg/m^3	24-hour [5]	Same as Primary
Ozone	0.08 ppm	8-hour [6]	Same as Primary
	0.12 ppm	1-hour [7] (Applies only in limited areas)	Same as Primary
Sulfur Dioxide	0.03 ppm	Annual (Arithmetic Mean)	(see below)
	0.14 ppm	24-hour [1]	(see below)
	(see above)	3-hour [1]	0.5 ppm (1300 µg/m^3)

Source: EPA 2008a

Notes: [1] Not to be exceeded more than once per year.

[2] Due to a lack of evidence linking health problems to long-term exposure to coarse particle pollution, the agency revoked the annual PM_{10} standard in 2006 (effective December 17, 2006).

[3] Not to be exceeded more than once per year on average over 3 years.

[4] To attain this standard, the 3-year average of the weighted annual mean $PM_{2.5}$ concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m^3.

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

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

[7] (a) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is $\leq$ 1, as determined by appendix H.

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

equipment, agricultural and construction equipment, and recreational vehicles. Air quality within a region is a function of the type and amount of pollutants emitted, size and topography of the air basin, and prevailing meteorological conditions.

Ozone. The majority of ground-level ozone (more commonly known as "smog") is formed as a result of complex photochemical reactions in the atmosphere between volatile organic compounds (VOCs), nitrogen oxides (NOx), and oxygen. VOCs and NOx are considered precursors to the formation of ozone, a highly reactive gas that can damage lung tissue and affect respiratory function. While ozone in the lower atmosphere is considered a damaging air pollutant, ozone in the upper atmosphere is beneficial, as it protects the earth from harmful ultraviolet radiation. However, atmospheric processes preclude ground level ozone from reaching the upper atmosphere.

Carbon Monoxide. CO is a colorless, odorless, poisonous gas produced by the incomplete combustion of fossil fuels. Elevated levels of CO can result in harmful health effects, especially for those who are susceptible to cardiovascular disease. Side effects from exposure to elevated levels of CO include impairment to manual dexterity, learning abilities, performance of complex tasks, and visual perception.

Nitrogen Dioxide. NO2 is a brownish, highly reactive gas produced primarily as a result of the burning of fossil fuels. NO2 can also lead to the formation of ozone in the lower atmosphere. NO2 can cause respiratory ailments, especially in the young and elderly, and can lead to degradations in the health of aquatic and terrestrial ecosystems.

Sulfur Dioxide. SO2 is emitted primarily from the combustion of coal and oil by steel mills, pulp and paper mills, and from non-ferrous smelters. High concentrations of SO2 can aggravate existing respiratory and cardiovascular diseases in asthmatics and others who suffer from emphysema or bronchitis. SO2 also contributes to acid rain, which can in turn lead to the acidification of lakes and streams.

Particulate Matter. PM2.5 are referred to as fine particles and are believed to pose significant health risks as they can lodge deeply into the lungs. Studies have linked increased exposure to PM2.5 to respiratory and cardiovascular disease as well as premature death. Sources of PM2.5 include combustion activities such as motor vehicles, power plants, and wood burning. PM10 are referred to as coarse particles. PM10 are typically comprised of dust, ash, soot, smoke, or liquid droplets emitted into the air. Fires, unpaved roads, construction activities, and natural sources (wind and volcanic eruptions) can contribute to increased PM10 concentrations. PM10 particles can be inhaled into the respiratory system, leading to the possible aggravation of lung diseases. Sources of PM10 include crushing or grinding operations and dust from paved or unpaved roads.

Lead. Typically, lead emissions are associated with large stationary industrial sources (e.g., smoke stacks). Other sources of lead may include pipes, fuel, and paint, although the use of lead in these materials has declined dramatically in recent decades. Lead can be inhaled directly or ingested indirectly by consuming lead-contaminated food, water, or

dust. Fetuses and children are most susceptible to lead poisoning, which can result in heart disease and nervous system damage.

Clean Air Act (CAA) Amendments

Through the CAA Amendments of 1990, the EPA has required each state to prepare a State Implementation Plan (SIP), which describes how each state will achieve compliance with the NAAQS. The SIP is a compilation of goals, strategies, schedules, and enforcement actions that will help lead a state into compliance with the NAAQS. Areas not in compliance with the NAAQS can be declared nonattainment areas by the EPA, or the appropriate state or local agency. Areas in compliance with the NAAQS are defined as being in attainment. Where insufficient air quality monitoring data exist to determine attainment status for an area, the region is designated unclassified. The criteria for nonattainment status varies by pollutant: 1) an area is in nonattainment for ozone if the NAAQS have been exceeded more than three discontinuous times in 3 years; and 2) an area is in nonattainment for any other pollutant if the NAAQS have been exceeded more than once per year.

The CAA Section 176(c), General Conformity, established certain statutory requirements for federal agencies with proposed activities to demonstrate conformity with the SIP for attainment of the NAAQS. In 1993, the EPA issued the final rules for determining air quality conformity. Under these rules, certain actions are exempted from conformity determinations, while others are presumed to be in conformity if total project emissions are below *de minimis* levels established under 40 CFR Section 93.153. Total project emissions include both direct and indirect emissions that can be controlled by a federal agency. Any new project that may lead to nonconformance or contribute to a violation of the NAAQS requires a conformity analysis before initiating the action. The Air Force has published its own guidance, the Air Force Conformity Guide (Air Force 2003), to implement the conformity requirement. The general conformity requirements apply only to non-attainment and maintenance areas.

3.2.1 Existing Conditions

Moody AFB is located in the Southwest (SW) Georgia Air Quality Control Region (AQCR). As defined in 40 CFR 81.238, the SW Georgia AQCR encompasses Lowndes County and Lanier County, Georgia. Moody AFB baseline emissions for criteria pollutants are presented in Table 3-2. The SW Georgia AQCR emissions were obtained from the EPA's 2002 National Emissions Inventory, which are presented in Table 3-3. The SW Georgia AQCR data include emissions data from point sources, area sources, and mobile sources. The SW Georgia AQCR is in attainment of the NAAQS for all six criteria pollutants (EPA 2007) and is therefore not subject to the general conformity requirements of the CAA. Air quality issues in the AQCR fall under the jurisdiction of the Georgia Department of Natural Resources (GDNR). At Moody AFB, mobile sources such as aircraft and motor vehicle operations represent the largest sources of air pollutant emissions.

Table 3-2. Moody AFB Baseline Air Quality Emissions

Source Category	*Emissions (tons/year)*					
	CO	*NO_x*	*SO_x*	*VOC*	*PM_{10}*	*HAPs*
Aircraft and AGE	420.77	636.75	48.25	106.30	72.24	--
Stationary Sources	85.4	86.8	7.04	32.3	10.5	3.11
Personal Vehicle Use	122	12.1	<0.1	18.2	0.5	--
Vehicle Operations	75.5	64.4	<0.1	11.6	4.8	--
Total	703.67	800.05	55.49	168.4	88.04	3.11

Table 3-3. Baseline Emissions Inventory for SW Georgia AQCR

Source Category	*Emissions (tons/year)*				
	CO	*NO_x*	*SO_2*	*VOC*	*PM_{10}*
Area Source	12,900	2,707	4,624	20,224	177,541
Non-Road Source	47,935	8,402	753	6,412	739
On-Road	240,709	28,333	1,037	20,493	713
Point Source	7,312	7,803	14,719	4,556	4,189
Total	308,587	47,224	21,133	51,685	183,185

3.3.2 Environmental Consequences

Air emissions resulting from the proposed action were evaluated in accordance with federal, state, and local air pollution standards and regulations. According to the EPA, air quality impacts from a proposed activity or action would be significant if they:

- increase ambient air pollution concentrations above any NAAQS;
- contribute to an existing violation of any NAAQS;
- interfere with or delay timely attainment of NAAQS; or
- impair visibility within any federally mandated Class I area.

If emissions exceed a significance threshold described above, further analysis of the emissions and their consequences would be performed. From a regional point of view, significance would be whether the emissions resulting from the implementation would exceed 10% of the total regional emissions and/or whether the action exceeds the Prevention of Significant Deterioration limits of 250 tons per year.

3.2.2.1 Proposed Action: Construction Along North-Central Boundary

The proposed action would result in a slight increase in emissions from construction and clearing equipment during the initial construction of the open burning facility. However, vehicle emissions generated by proposed construction activities would be temporary and short-term; no long-term increases in vehicle emissions would occur. Emissions associated with construction-related vehicles and equipment would be negligible, as many vehicles would be driven to and kept at the affected site until construction was complete, which would take no more than two weeks. The emissions resulting from implementation of this action would not exceed 10% of the total regional emissions.

Therefore, no significant impacts to air quality would occur as a result of construction-related vehicle emissions associated with the Proposed Action.

The proposed action would also involve the periodic dumping of vegetative debris from grounds maintenance activities on the installation. This would result in contractor vehicles increasing operations on Eisemann Highway as they drove to and from the open burning facility. However, there would be no overall increase in vehicle usage since the contractors are currently operating at Moody AFB. Per the Georgia DNR Air Quality Control Rule, Chapter 391-3-1, emissions from air curtains are considered negligible and are not to be considered additive for the purposes of calculating air emissions from stationary sources of emissions. No air permits would be required to conduct open burning of vegetative debris on Moody AFB with an air curtain. Therefore, there would not be any overall increase in emissions from the operation of the facility, and no significant impacts to air quality would occur if the proposed action were implemented.

3.2.2.2 Alternative 2: Siting North of Stone Road

The environmental effects of this alternative would be similar in size and scope to the proposed action. The only difference would be that operations would occur along Stone Road, south of the Moody AFB cantonment area. However, there would be no overall increase in vehicle usage since the contractors are currently operating at Moody AFB. Therefore, there would not be any overall increase in emissions from the operation of the facility, and no significant impacts to air quality would occur if this alternative were implemented.

3.2.2.3 Alternative 5: No Action Alternative

Under this alternative, an open burning facility would not be constructed. Therefore, there would be no increase in emissions, temporary or permanent, and no significant impacts to air quality as a result of implementation of this action.

3.3 Cultural Resources

Cultural resources consist of prehistoric and historic districts, sites, structures, artifacts, and any other physical evidence of human activity considered relevant to a culture or community for scientific, traditional, religious, or other reasons. They include archeological resources (both prehistoric and historic), historic architectural resources, and American Indian sacred sites and traditional cultural properties. Historic properties are defined by 36 CFR 60.4 as significant archeological, architectural, or traditional resources that are defined as either eligible or ineligible for listing in the National Register of Historic Places (NHPA). Under the National Historic Preservation Act (NHPA), federal agencies are required to consider the effects of their undertakings on historic properties listed or eligible for listing in the National Register. NHPA obligations for a federal agency are independent from NEPA/EIAP and must be complied with even when an environmental document is not required. The Native American Graves and Repatriation Act (NAGPRA) of 1990 protects Native American burials sites

and controls the removal of human remains, funerary objects, sacred objects, and items of cultural patrimony on federal and tribal lands.

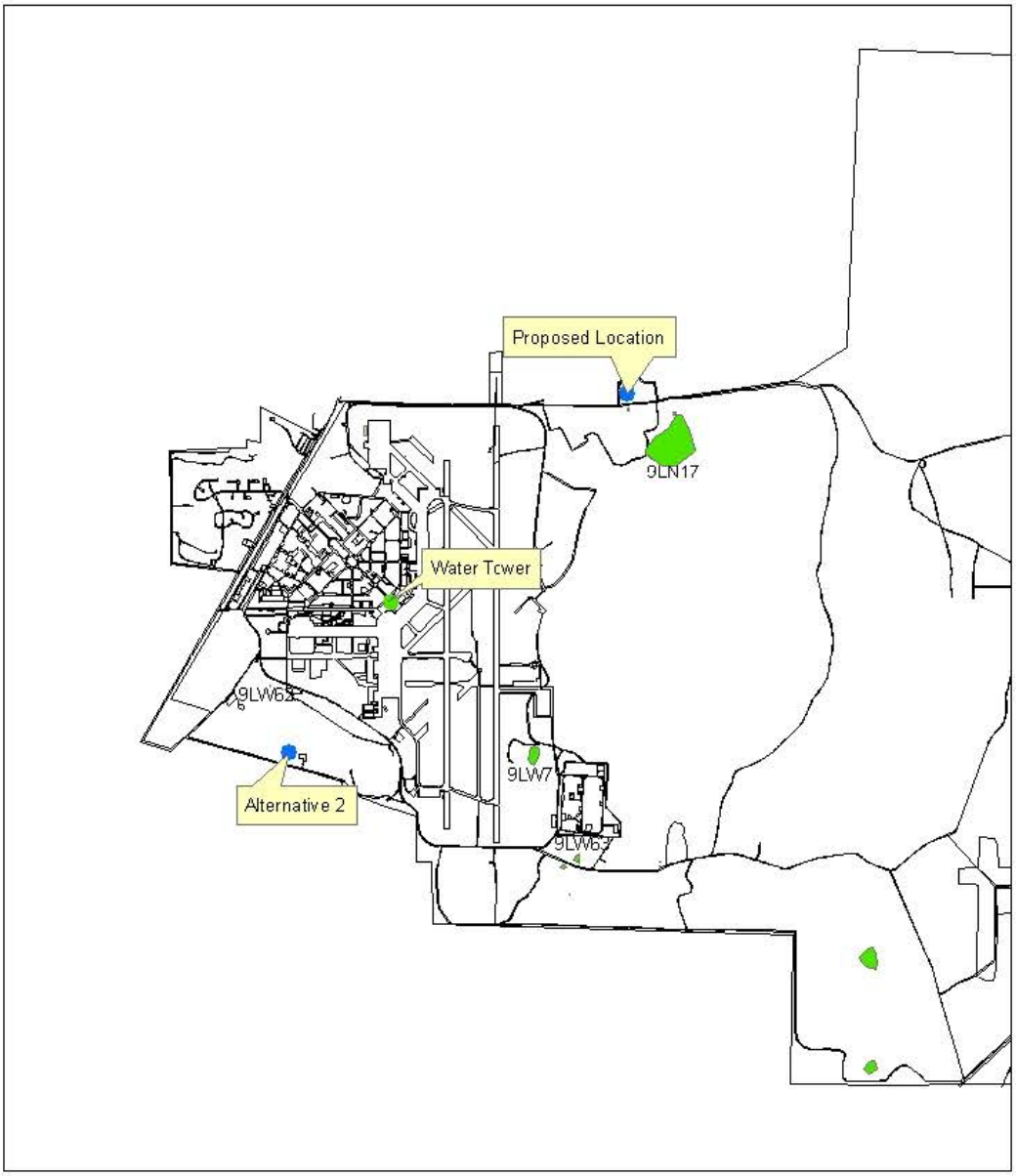
3.3.1 Existing Conditions

Lying within the Tifton upland region of the Georgia Coastal Plain, Moody AFB has a varied cultural sequence. Inhabitants of the Georgia Coastal Plain are thought to have thrived from the Pre-Paleo-Indian (>11,000 years before present (BP)) through Paleo-Indian (11,000-9,000 BP) periods, the Archaic Period (9,800-2,500 BP), the Woodland Period (2,500 BP - 1000 AD), and the Mississippian Period (1000-1540 AD). Historic sites range from Mississippian times through the Cold War Era, with an Early European presence also represented on the Georgia Coastal Plain. Most of the known archeological sites in this region are from the Woodland and Mississippian Periods. However, relatively little archeology has been conducted in Lowndes and Lanier counties.

A Phase I Archeological Survey of Moody AFB was accomplished in 1995. As a result of this original survey and additional Phase II surveys, the Air Force identified numerous archeological sites on the installation, including one site (9LW71/9LW70) recommended as eligible for listing in the National Register and three sites (9LW52, 9LW63, and 9LW67) as potentially eligible for listing on the National Register (Figure 3-1). As a result of additional surveys that extended the known boundaries of the sites, 9LW71 and 9LW70 were consolidated into one site. This is a multi-component site with late Paleo-Indian, Early Archaic, and Woodland artifacts. Site 9LW67 is a multi-component site with historic and Woodland artifacts and is less than 50 percent disturbed. Site 9LW63 is a prehistoric site of unknown origin and remains undisturbed. Site 9LW52 is a large prehistoric artifact scatter believed to be less than 50 percent disturbed and is in a silvicultural area. One historic building, the Water Tower (Building 618), was determined to be potentially eligible for listing on the National Register. The water tower was built in 1941 and is a 200,000 gallon capacity steel water tower with an elevated tank. The water tower is considered significant because of its relation to World War II mobilization and training activities at the local level and because it is one of the few remaining recognizable structures that has existed on the installation since the installation's creation in 1941. There are no known Traditional Cultural Resources and/or Sacred Sites as defined under NAGPRA identified on Moody AFB.

3.3.2 Environmental Consequences

Analysis of potential impacts to cultural resources includes impacts that may occur by physically damaging or destroying all or part of a resource, altering the surrounding environment that contributes to the resource's significance, or neglecting the resource to the extent that it deteriorates or is destroyed. Archeological sites are fragile and nonrenewable resources that may suffer varying degrees of impact from natural and human-created effects. A site's scientific value is closely tied to its context or deposition history. Therefore, any action that disturbs the soil or surface vegetation can damage or destroy that context and expose artifacts to looters. Historic structures can be damaged directly by damaging the structure itself or indirectly by affecting the visual impact to the



Proximity of Cultural Resources to Evaluated Sites
(Proposed Location and Alternative 2)
Open Burning Facility -- Moody AFB, GA

Figure 3-1

historic structure and its surrounding area. Impacts are assessed by identifying the types and locations of proposed activities as well as their proximity to known cultural resources.

3.3.2.1 Proposed Action: Construction Along North-Central Boundary

Based on current information on cultural resources at Moody AFB, no potential impacts to archeological resources or historic structures are expected from the proposed action. The proposed action would result in the ground disturbance of about 2.5 acres of previously undisturbed land located 1,275 feet northwest from Archeological Site 9LN17 and 165 feet north of Archeological Site 9LN15 (Figure 3-2). However, both of these sites are considered not eligible for listing under the National Historic Preservation Act based on archeological surveys conducted on the installation. Another site, 24-IF-1, is located within the proposed project area, but was considered an incidental find and not a definable site.

Construction personnel would be instructed to stop work and notify the base archeologist if artifacts are discovered during ground disturbance activities on the site. To ensure compliance with Section 106 of the NHPA, the State Historic Preservation Officer (SHPO) will be consulted prior to implementation of any actions on this site, and any recommendations from the SHPO would be applied to minimize impacts to cultural resources. As a result, there should be no significant impacts to cultural resources as a result of implementation of the proposed action.

3.3.2.2 Alternative 2: Siting North of Stone Road

Under this alternative, the open burning facility would be constructed north of Stone Road and immediately adjacent to the Moody AFB obstacle course and Base Recovery After Attack (BRAAT) strip (Figure 2-4). Historically, this site has been used for the temporary storage and disposal of vegetative debris from grounds maintenance activities, primarily through the use of a tub grinder to create mulch. This alternative would result in the ground disturbance of about 2.5 acres of previously disturbed land located 1,950 feet southeast of Archeological Site 9LW62 (Figure 3-3). However, this site was considered not eligible for listing under the National Historic Preservation Act based on archeological surveys conducted on the installation. No other archeological resources are known from this area. Therefore, there would be no impacts to archeological resources as a result of implementation of this alternative.

The water tower is located 4,988 feet from the proposed siting location for this alternative (Figure 3-3). Therefore, the actions proposed for implementation under this alternative would not have a direct or indirect effect on the water tower. Therefore, there should not be any significant impacts to historical buildings or structures as a result of implementation of this alternative.

Proximity of Cultural Resources to Proposed Location
Open Burning Facility
Moody AFB, GA

N

Figure 3-2

Proximity of Cultural Resources to Alternative 2
Open Burning Facility
Moody AFB, GA

N

Figure 3-3

In summary, there should be no significant impacts to any cultural resources as a result of implementation of this alternative at Moody AFB. Prior to implementation of this action, the SHPO would be consulted in accordance with the NHPA.

3.3.2.3 Alternative 5: No Action Alternative

Under this alternative, a new open burning facility would not be constructed. As a result, there should not be any significant impacts to cultural resources as a result of the continued implementation of this alternative.

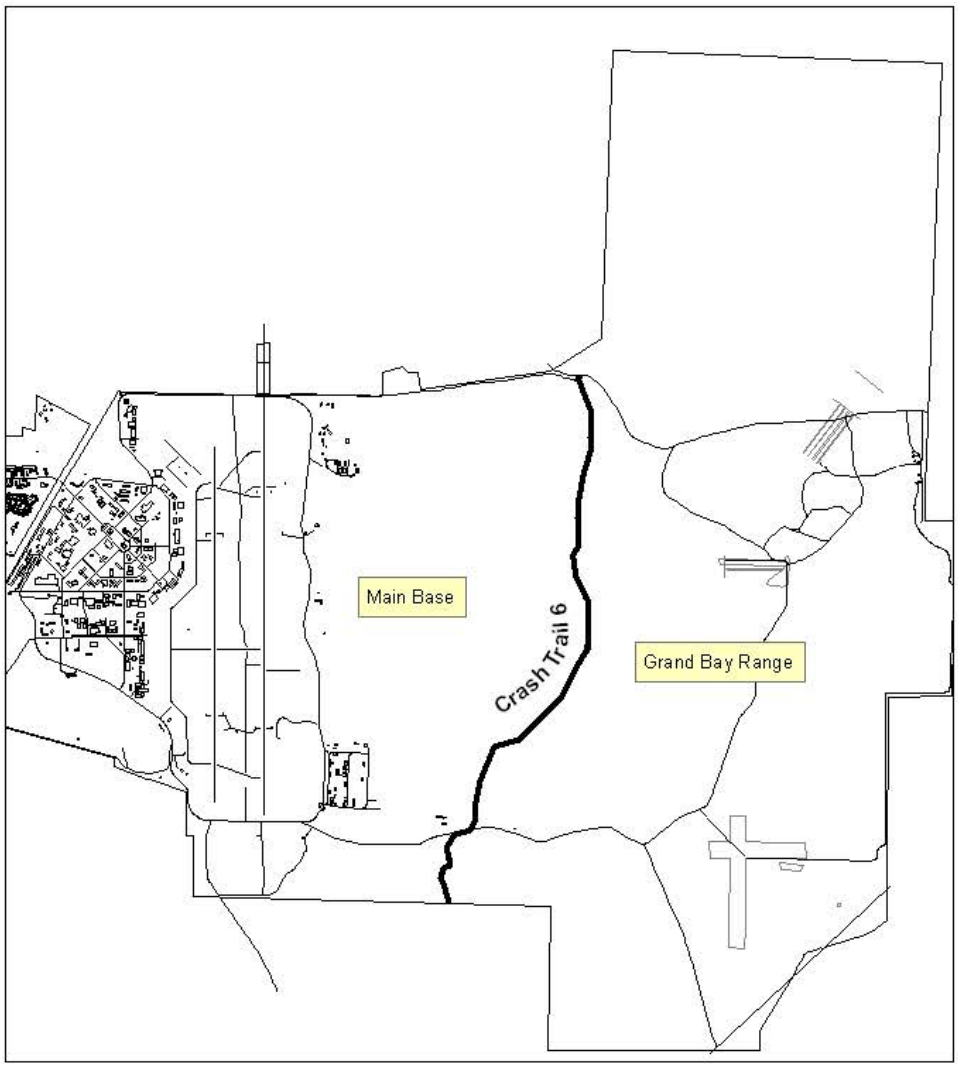
3.4 LAND USE

Land use generally refers to human modification of land, often for residential or economic purposes. It also refers to the use of land for preservation or protection of natural resources such as wildlife habitat, vegetation, or unique features. Human land uses include residential, commercial, industrial, agricultural, and recreational. Unique natural features are often designated as national or state parks, forests, wilderness areas, or wildlife refuges. Attributes of land use include general land use and ownership, land management plans, and special use areas. Land ownership is a categorization of land according to type of owner. The major land ownership categories include federal, state, Native American, and private. Federal lands are further described by the managing agency, which may include the USFWS, U.S. Forest Service, Bureau of Land Management, or the DoD. Land uses are frequently regulated by management plans, policies, ordinances, and regulations that determine the types of activities that are allowed or that protect specially designated or environmentally sensitive uses. Special use land management areas (SULMAs) (e.g., wilderness areas) are identified by federal and state agencies as being worthy of more rigorous management.

3.4.1 Existing Conditions

Moody AFB occupies 11,457 acres of federally owned land in Lowndes and Lanier Counties in south-central Georgia. The installation is divided into the main base (5,094 acres) and the Grand Bay Range (5,874 acres) (Figure 3-4). The majority of installation activities occurring on the base are concentrated in five main areas: Moody AFB airfield (main base), security forces and RQS training areas (main base), Grand Bay Weapons Range (Grand Bay Range), Bemiss Field (Grand Bay Range), and the EOD Range (Grand Bay Range). The Moody AFB airfield consists of two parallel runways oriented north to south. All aircraft operations at Moody AFB originate and terminate at this location.

Georgia State Highway 125 (Bemiss Road) divides the main base into two functional units, with the family housing area, golf course, trailer area, and wastewater treatment plant facility located to the west and the main portion of the installation to the east. The eastern portion includes the administrative, base support, aircraft operations, and maintenance areas, as well as the airfield with its two 8,000-foot parallel north/south



Moody AFB Layout
Moody Air Force Base, Georgia (ACC)

Figure 3-4

runways. Predominant land use immediately adjacent to the main base includes agriculture and rural residential.

A new, privatized base housing area is being constructed adjacent to the southwest boundary of the installation. The Magnolia Grove Housing Project will consist of 395 units in the western portion of a 703-acre area of privately owned property that is currently farmland and undeveloped land. The housing area will be fenced, and vehicle access to and from the base will be possible only via Stone Road.

Improved grounds on the main base, consisting of all covered areas (under buildings, sidewalks, and so on) as well as land around base buildings, the family housing area, and the trailer park, encompass approximately 887 acres. Semi-improved grounds, including the airfield, the ±100-acre golf course/driving range complex, recreational ball fields, and the grounds in the vicinity of Mission Lake, account for approximately 1,092 acres. The remaining 3,518 acres (64 percent) of the main base are classified as unimproved grounds and consist of commercial forest land and the 30-acre Mission Lake.

Land use on the main base is divided into 12 existing land use categories. Additional information for each of the land use categories can be found in the Moody AFB General Plan (Air Force 2004b). The land use categories, facility types, and approximate acreages are as follows:

1. Airfield—266 acres
    - Arm/disarm pads
    - Parking/maintenance aprons
    - Paved overruns
    - Runways
    - Taxiways

2. Aircraft Operations and Maintenance—834 acres
    - Aerospace ground equipment
    - Aircraft maintenance hangars
    - Air passenger and freight terminals
    - Avionics maintenance facility
    - Control Tower
    - Flying squadron operations
    - Fire Department

3. Administrative—65 acres
    - Communications centers
    - Education center
    - Family services and support centers
    - Security Police operations
    - Various headquarters facilities

4. Industrial—265 acres
    - Base Civil Engineering shops
    - Munitions storage
    - Petroleum, oil, and lubricants facilities
    - Wastewater treatment facility
    - Supply facilities
    - Utilities
    - Vehicle operation and maintenance

5. Community (Commercial)—42 acres
    - Army and Air Force Exchange System and Defense Commissary Agency
    - Indoor recreation facilities
    - Officer and enlisted dining facilities
    - Skills Development Centers

6. Community (Service)—23 acres
    - Chapel and religious education facilities
    - Child Development Center
    - Library
    - Post Office

7. Medical—19 acres
    - Installation hospital
    - Dental clinic
    - Medical storage facilities
    - Veterinary facility

8. Housing (Accompanied)
    - Military family housing

9. Housing (Unaccompanied)
    - Bachelor Quarters
    - Visiting Officer Quarters
    - Visiting Enlisted Quarters

10. Outdoor Recreation—575 acres
    - Baseball, softball, football, and soccer fields
    - Golf course
    - Outdoor swimming pools
    - Playgrounds
    - Tennis and basketball courts
    - Various other Morale, Welfare and Recreation Services support facilities
    - Grassy Pond Recreation Annex, Mission Lake, Quiet Pines Lake

11. Water—367 acres
    - Moody AFB (Mission Lake, Quiet Pines Lake, Shiner Pond)
    - Grassy Pond Recreation Annex (Grassy Pond, Lot Pond)

12. Open Space/Forested—8,923 acres
    - Moody AFB
    - Grand Bay

3.4.2 Environmental Consequences

3.4.2.1 Proposed Action: Construction Along North-Central Boundary

The proposed action would include the construction and use of an open burning facility in a pine forest along the north-central boundary of the installation. This area is currently designated as both open space/forested and unimproved lands that are managed as part of the natural infrastructure to support the military mission of the installation.

The proposed action would not result in a land use change and the area would continue to be classified as open space/forested. None of the proposed disturbances associated with the proposed action would be considered permanent and irreversible. The fence surrounding the 2.5-acre site could be removed and the site converted back to forest conditions or other installation uses within a matter of days. As a result, there would be no significant impacts to land use as a result of implementation of this alternative.

3.4.2.2 Alternative 2: Siting North of Stone Road

The impacts of this alternative on land use would be similar in size and scope to the proposed action. This alternative is sited within a previously disturbed area classified as open/space forested and unimproved lands and that has been recently planted with longleaf pines. Similar to the proposed action, there would be no land use changes as a result of implementation of this alternative, and there would be no significant impacts to land use.

3.4.2.3 Alternative 5: No Action Alternative

Under the No Action Alternative, there would no changes from the current situation at the installation. There would be no impacts or changes to land use. Therefore, there would be no significant impacts to land use as a result of implementation of this alternative.

3.5 PHYSICAL RESOURCES

Physical resources are defined as the geology, topography, and soils of a given area. The geology of an area includes bedrock materials, mineral deposits, and fossil remains. Topography refers to terrain, dominant landforms, and other visible features. Soils are

unconsolidated materials on or near the surface and are defined by classifications and associations. A soil classification is a broad term for the general type of soil found in a larger area (e.g., hydric, alluvial, or clay soils), while soil associations are site-specific and are based on the particular soil type or complex found at that location.

Control of erosion and sedimentation is managed under state and federal regulations. The state of Georgia requires agencies that disturb at least 1.0 acres of land to obtain a permit under the Georgia Erosion and Sedimentation Control Act (GESCA). While the Georgia Soil and Water Conservation Commission is the state agency that has primary responsibility for this act, authority to review projects and issue permits has been delegated to the county level, where appropriate, to facilitate individual county and city level planning efforts and goals.

As authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating sources that discharge pollutants into waters of the United States. There are two types of sources: point sources and non-point sources. Point sources are discrete conveyances such as pipes or man-made ditches that have well-defined outfalls. Non-point sources are non-discrete areas that contribute to storm water runoff, such as open fields or most construction sites. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. Additionally, NPDES permits are required for land disturbance activities, including construction and/or demolition actions, that disturb at least 1.0 acres of land. While the USEPA is the federal agency responsible for enforcement of this program, authority to review projects and issue permits has been delegated to the Georgia EPD.

Prime farmland soils are protected under the Farmland Protection Policy Act, which is administered by the Natural Resources Conservation Service (NRCS). This law was promulgated to reduce the substantial decrease in the amount of open farmland in the United States. Specifically, federal agencies are directed to prevent the unnecessary and irreversible conversion of farmland to nonagricultural uses. If prime farmland soils are impacted by proposed federal actions, a prime farmland evaluation (USDA Form 1006) must be completed and the federal agency must consult with the NRCS.

3.5.1 Existing Conditions

Geologically, Moody AFB is located in the Tifton Upland District, East Gulf Coastal Plain Section, Coastal Plain Province, Atlantic Plain Major Division physiographic province. The predominant landform on about 80% of this area consists of moderately dissected, irregular plains of marine origin formed by deposition of continental sediments on to the submerged shallow continental shelf, which was later exposed when the sea receded from this area. The most important stratigraphic unit is the Suwannee Limestone, which contains the upper portions of the Floridan Aquifer. This layer ranges

in thickness from approximately 200 to 250 feet and is usually less than 200 feet below ground surface.

The Tifton Upland District is characterized by flat to sloping plateaus separated by shallow river valleys, broad wetland depressions, and karst topography. Elevations in the Tifton Upland District range from 480 feet in the north to 150 feet in the southeast indicating the regional slope. The northwestern and northern boundary of this area is the base of the Pelham Escarpment, which rises as much as 200 feet above the Dougherty Plain. The eastern boundary follows eastern drainage divide of the Alapaha River.

Specifically, Moody AFB is located on the level plateau between the Withlacoochee River to the west and the Alapaha River to the east. Land surface elevations on Moody AFB vary from its lowest point on the eastern portion at 190 feet MSL to about 240 feet MSL near the center of the base. Slopes range from 0 to 5 percent on the installation.

Surface soils in the Tifton Upland District are characterized by sandy clay interbedded with fine sand to coarse-grained sand and sandy limestone. General characteristics of this region include well-drained soils and slopes ranging from 0 to 12 percent. The upland soils were formed from deep sedimentary sands and clays, with lower alluvial soils formed from eroded uplands. The two most dominant soil associations at Moody AFB include the Tifton-Pelham-Fuquay and the Dasher associations. The majority of the cantonment area (located immediately east of Georgia State Highway 125) consists of the Tifton-Pelham-Fuquay association containing soils with a sandy surface layer and a loamy subsoil. The Dasher association covers the majority of the Grand Bay Range, and consists of soils in marshes, swamps, and drainage ways.

Descriptions of the predominant soil associations at Moody AFB include the following:

3.5.1.1 Tifton-Pelham-Fuquay. This association consists of nearly level and gently sloping soils on ridge tops, hillsides, and in drainage ways that dissect the ridges. The ridges are typically less than one mile wide, and the drainage ways range from about 50 to 250 feet wide. This association makes up about 36 percent of the soils in Lowndes County, where the proposed training sites on Moody AFB are located. Tifton soils make up about 49 percent of the association, Pelham soils about 16 percent, the Fuquay soils about 8 percent, and the minor soils about 27 percent. Tifton and Fuquay soils are generally located along the ridges, and Pelham soils are in drainage ways and intermittently ponded depressions. Tifton soils are well drained and nearly level or very gently sloping. Typically, the surface layer is brown loamy sand about 8 inches thick. The subsoil is sandy-clay loam and extends to a depth of 60 inches or more. Pelham soils are poorly drained and nearly level. Typically, the surface layer is black loamy sand about 8 inches thick. The subsurface layer is gray loamy sand about 17 inches think. The subsoil extends to a depth of 65 inches or more. Fuquay soils are well drained and nearly level or very gently sloping. Typically, the surface layer is dark grayish-brown loamy sand about 7 inches think. The subsurface layer is light yellowish-brown loamy sand about 14 inches thick. The subsoil is dominantly sandy-clay loam and extends to a depth of 60 inches or more. Minor soils in this association are the well-drained Dothan,

Nankin, and Sunsweet soils and the moderately well-drained Stilson soils. Dothan, Nankin, and Sunsweet soils are on ridges and hillsides, as are Tifton and Fuquay soils, and the more sloping Sunsweet soils are on short hillsides. Stilson soils occur on low uplands.

Most of the cultivated land in Lowndes County is on Tifton and Fuquay soils. Corn, tobacco, soybeans, cotton and peanuts are the major agricultural crops. Also, some areas are used for some permanent pasture. The main concern of management is control of erosion on the gently sloping soils. Pelham soils are used mainly for producing timber, but some areas are in pasture. This association generally has slight limitations for most non-farm uses, but because of wetness and flooding, Pelham soils are severely limited for crop production.

3.5.1.2 Dasher. These soils are characteristic of swampy areas and level, very poorly drained organic soils in flooded areas.

Clarendon soils are defined as moderately well drained loamy sands. This soil is nearly level, with slopes of less than 2%. The topsoil is about eight inches thick and is comprised of dark gray loamy sand. The subsoil extends to about 65" and is a sandy clay loam. This soil is low in natural fertility and organic matter and is strongly acidic with moderate permeability. Clarendon soils are classified as prime farmland soils by the Natural Resources Conservation Service (NRCS).

The two Tifton soils are both well drained loamy sands with slight slopes averaging between 2 and 5%. The Tifton urban complex soils are generally more level as a result of significant mechanical shaping. The topsoil is about eight inches deep and consists of a brown loamy sand. The subsoil extends to a depth of more than 60 inches, and is a sandy clay. These soils are moderate in fertility and low in organic matter, and have moderate permeability.

Olustee sand is a poorly drained, nearly level soil comprised primarily of sand. The topsoil consists of a very dark gray sand about seven inches thick. It is underlain by a weakly cemented, very dark grayish brown sand that extends to a depth of about 12 inches. The subsoil is about 65 inches deep, and is comprised of a gray sandy clay loam mottled with brown. This soil is low in fertility and organic matter and has moderate permeability.

Pelham loamy sands are poorly drained, nearly level soils. The topsoil is about eight inches thick and consists of a black loamy sand. The subsoil is a gray loamy sand with mottling that extends to a depth of 65 inches. This soil is low in natural fertility and has moderate amounts of organic matter. This soil has a low potential for most nonfarm uses because of flooding and wetness. Pelham loamy sands are classified as hydric soils in Georgia by the NRCS.

3.5.2 Environmental Consequences

3.5.2.1 Proposed Action: Construction Along North-Central Boundary

The soil type underlying this area is Tifton Loamy Sand (TfA). This soil is deep and well-drained and is nearly level, with slopes of between 0 and 2%. The soil is moderate in natural fertility and low in organic matter content. It is very strongly acidic throughout. This soil is highly suitable for agricultural purposes and has high potential for slash pine and loblolly pine production and nonfarm uses, including construction of facilities.

The Proposed Action would result in a limited impact to soils and other physical resources as only about 2.5 acres of soils would be disturbed under this action. Construction of the open burning facility would not result in significant changes to topography since the burn pits would be excavated and refilled quarterly. The soils underlying this area are classified as prime farmland soils by the Natural Resources Conservation Service, but there would be no conversion or permanent impacts to these resources as a result of implementation of the Proposed Action.

Soils would be disturbed during construction activities, including the digging of the pit, but given the flat topography of the proposed construction site, storm water runoff and overland flow velocities from rainfall events on disturbed ground would be slow and mitigated by surrounding vegetative growth. There should be no significant erosion or sedimentation impacts. In accordance with the NPDES Stormwater Phase II regulations and the Georgia Erosion and Sedimentation Control Act, an erosion and sedimentation control plan would be developed and implemented on the site. This plan would include silt fences and a 50-foot vegetative barrier to minimize soil erosion and sedimentation. Permits to comply with these regulations would be sought from the Georgia Environmental Protection Division and the Lanier County Commission.

In summary, the temporary disturbance of soils would result in a slight chance of erosion and sedimentation, but this is not considered significant because of the erosion and sedimentation control measures that would be implemented. The proposed action would not result in any permanent or irreversible impacts to prime and unique farmlands in the area. Therefore, there should be no significant impact to physical resources as a result of implementation of this alternative.

3.5.2.2 Alternative 2: Siting North of Stone Road

The soil type underlying this area is Stilson Loamy Sand (Se). This soil is deep and moderately well-drained and is nearly level, with slopes of between 0 and 2%. The soil is low in natural fertility and low in organic matter content. It is very strongly acidic throughout. This soil has medium potential for row crops and for slash pine or loblolly pine production. It has moderate concerns for shallow excavations and slight concerns for the construction of facilities without basements because of its perched water table and proximity to wetland areas. It is likely that the excavation of the burn pit as part of this

action could be problematic because of the high water table, and may require a shallower excavation with built-up sides to reach the desired depth of the pit.

This alternative would result in a limited impact to soils and other physical resources as only about 2.5 acres of soils would be disturbed under this action. Construction of the open burning facility would not result in significant changes to topography since the burn pits would be excavated and refilled quarterly. The soils underlying this area are not classified as prime farmland soils by the Natural Resources Conservation Service, so there would be no conversion or permanent impacts to these resources as a result of implementation of the Proposed Action.

Soils would be disturbed during construction activities, including the digging of the pit, but given the flat topography of the proposed construction site, storm water runoff and overland flow velocities from rainfall events on disturbed ground would be slow and mitigated by surrounding vegetative growth. There should be no significant erosion or sedimentation impacts. In accordance with the NPDES Stormwater Phase II regulations and the Georgia Erosion and Sedimentation Control Act, an erosion and sedimentation control plan would be developed and implemented on the site. This plan would include silt fences and a 50-foot vegetative barrier to minimize soil erosion and sedimentation. Permits to comply with these regulations would be sought from the Georgia Environmental Protection Division and the Lanier County Commission.

In summary, the temporary disturbance of soils would result in a slight chance of erosion and sedimentation, but this is not considered significant because of the erosion and sedimentation control measures that would be implemented. The proposed action would not result in any permanent or irreversible impacts to prime and unique farmlands. Therefore, there should be no significant impact to physical resources as a result of implementation of this alternative.

3.5.2.3 Alternative 5: No Action Alternative

Under this alternative, there would be no soil disturbances or changes to storm water runoff or land use. Therefore, there would be no impact on physical resources as a result of implementation of this alternative.

3.6 VEGETATION RESOURCES

This section focuses on vegetation types or species that are important to the function of the ecosystem or are protected under federal or state law. For this EA, the term *vegetation* is defined as all existing terrestrial plant communities, including threatened, endangered, or sensitive plant species. Rare, threatened, and endangered (RTE) species are included in this definition. The affected environment for vegetation includes only those areas potentially subject to ground or vegetative disturbance.

3.6.1 Existing Conditions

Moody AFB lies within the Outer Coastal Plain Forest (OCPF) province of the U.S. lowland ecoregion. The OCPF is dominated by temperate rainforest, also called temperate evergreen forest and laurel forest. It differs from the equatorial and tropical rainforest by having fewer species of trees and hence, large populations of individual species. Trees are not as tall as in the low latitude rainforest, leaves usually are smaller and more leathery, and the leaf canopy is less dense.

The trees commonly found in the southeastern United States are 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. Lianas and epiphytes are abundant. An example of conspicuous epiphyte accumulation at low elevations is the Spanish "moss" (*Tillandsia usneoides*) that festoons the oaks, bald cypress (*Taxodium distichum*), and other trees of the eastern Gulf Coast. Forests of longleaf, loblolly, and slash pine dominate large areas of sandy upland xerophytic habitat as a subclimax forest, maintained by frequent fires. Vast areas of gum-bay swamps and scrub-shrub wetlands exist throughout the area. Bald cypress and pond cypress (*Taxodium ascendens*) are dominant trees in swamps and cypress domes throughout the region.

The majority of the pine forests found in the southeastern U.S. represent second-growth forests established after a disturbance event, such as a catastrophic wildfire or deforestation activity (natural or anthropogenic). Under natural conditions, lightning-caused summer fires were an important component in maintaining pine-dominated ecosystems in the coastal plain area. These fires not only burned through pine stands in upland and flatwoods areas, but would also burn wetlands and hammocks during periods of extreme drought. These periodic fires maintained the pine subclimax forest by controlling hardwood competition, encouraged the growth of herbaceous vegetation, and maintained open water areas within the wetlands by removing layers of peat and sphagnum moss.

Located in the lower coastal plain physiographic region within the OCPF, Moody AFB possesses a diversity of habitats. Both areas are dominated by pines and lowland hardwoods and support a wide array of plant and wildlife species typical of these systems.

Habitats featured at Moody AFB include upland pine forest, pine flatwoods, gum-bay-shrub swamps, upland hardwood hammocks, and freshwater ponds. Unimproved areas of Moody AFB feature several distinct natural communities or ecosystems. These communities range from xeric to hydric, with transitions and dynamic interactions between the different areas. Natural communities on Moody AFB include upland pine forests, pine flatwoods, and extensive areas comprised of various wetland communities. The primary key ecological feature of Moody AFB is the vast area contained in wetlands. Wetlands cover approximately 5,500 acres (46.4%) on the installation, with the vast majority of this acreage being concentrated in the Grand Bay/Banks Lake ecosystem

complex. The Carolina bays are typically vegetated with a scrub-shrub cover type; wetter areas transition into a black gum-cypress swamp association with pockets of open water. The black gum-cypress swamp association is primarily vegetated with an overstory of black gum and cypress, but contains significant numbers of red maples (*Acer rubrum*) and sweetbays (*Magnolia virginiana*). The understory vegetation is moderately dense and consists of heaths, redbay (*Persea palustris*), wax myrtle (*Myrica cerifera*), cinnamon fern (*Osmunda cinnamomea*), chain fern (*Woodwardia virginica*), and greenbrier (*Smilax spp*). In the transition areas from wetlands to uplands, pond pine (*Pinus serotina*), slash pine, and dense thickets of evergreen shrubs and palmetto become more predominant as the soils transition from hydric to mesic. Eventually, the upland areas are comprised predominantly of a pine forest type, established either through natural community succession or through artificial regeneration (i.e., pine plantations).

Surveys were undertaken in 1993-94 to classify natural ecosystems and to identify the presence of protected species on the installation. This survey did not identify any plant species that were listed as threatened or endangered by either the U.S. Fish and Wildlife Service or the Georgia DNR. Two plant species, the green-fly orchid (*Epidendrum conopseum*) and the hooded pitcher plant (*Sarracenia minor*), were characterized by the Georgia DNR as "unusual," meaning that they deserved special consideration because of the potential for commercial exploitation. Three other plant species, blue maidencane (*Amphicarpum muehlenbergianum*), climbing heath (*Pieris phillyreifolia*), and needle palm (*Rhapidophyllum hystrix*), are considered rare or uncommon by the state Natural Heritage Program, but are not officially listed as such by the state of Georgia.

3.6.2 Environmental Consequences

3.6.2.1 Proposed Action: Construction Along North-Central Boundary

The proposed construction site is located underneath a 44-year old loblolly pine forest interspersed with numerous hardwoods. The trees in this area are widely spaced as a result of past forest management actions, with a total basal area (BA) of 70 square foot per acre. The pines in this area average 15.5 inches diameter at breast height (dbh), which is measured at 4.5 feet above the ground, and are around 85 feet in height. There are a few scattered water and live oaks in the area, but these are generally smaller, averaging about 8 inches dbh and 60 feet in height. The midstory is basically absent because of recent chopping of the midstory and understory to improve forest stand conditions. The understory is currently very sparse, with less than 10% coverage, although in the absence of disturbance (e.g. chopping or fire), it responds with complete coverage within 2-3 years. Understory plant species currently located on the site include poison ivy (*Toxicodendron radicans*), Virginia creeper (*Parthenocissus quinquefolia*), American beautyberry (*Callicarpa americana*), and wild grapes (*Vitis* sp.). None of the rare or unusual plant species discovered during the 1993-94 surveys occur on this site.

In order to construct the open burning facility, 2.5 acres on this site would have to be cleared of overstory vegetation through a small lot timber sale. Slash from the clearing activities would be stored on-site for future burning. Under this action, less than 50 trees

would be removed, with the majority of these being poor quality loblolly pines. Given the location of this site within a six acre planted pine forest, the removal of about 2.5 acres of poor quality trees from this site would not be considered a significant environmental impact. The trees that would be removed are common to this region and are well-represented in other areas on the installation. As noted above, there are no listed, rare, or unusual species located on this site, so the proposed activities under this alternative would not result in any impacts to these species. Therefore, there would be no significant impacts as a result of implementation of this alternative.

3.6.1.2 Alternative 2: Siting North of Stone Road

Vegetation in this area primarily consists of recently planted longleaf pine seedlings with scattered herbaceous plants and grasses. There are no overstory or midstory trees, and no other woody vegetation other than the longleaf pine seedlings. None of the rare or unusual plant species discovered during the 1993-94 surveys occur on this site.

Because of the current vegetative state of this area, very little vegetation would be affected by the clearing of 2.5 acres for the construction of an open burning facility. Approximately 1,250 longleaf pine seedlings and associated herbaceous plants and grasses would be removed from the site within the larger 2-year-old, 10-acre longleaf plantation. However, the loss of these trees would be considered minor in the context of the larger longleaf pine restoration project currently occurring on the installation, with approximately 100 acres of longleaf pine plantations being created within the past three years. Therefore, since there are no rare or unusual plant species on the site and the removal of the longleaf pine seedlings would not be considered significant, there would be no significant impacts on vegetation resources as a result of implementation of this alternative.

3.6.2.3 Alternative 5: No Action Alternative

Under this alternative, the construction of an open burning facility would not occur. Slash from grounds maintenance activities would continue to be randomly distributed throughout the installation in forested areas adjacent to installation roads and trails. The piling of vegetation could result in a decline in native vegetation around these areas, as the pile physically covered and shaded out native vegetation. Additionally, these piles could increase fire intensity during wildland fire events, potentially causing harm to surrounding native vegetation. However, given the random distribution of these piles on the installation, any declines in native vegetation or increases in wildland fire intensity would be minimal and would not be significant because of current land management practices designed to enhance the quality and quantity of native vegetation on the installation. Therefore, there would be no significant impacts to these resources as a result of implementation of this alternative.

3.7 Wildlife Resources

3.7.1 Existing Conditions

This section focuses on wildlife species that are important to the function of the ecosystem or are protected under federal or state law. For this EA, the term *wildlife* includes all vertebrate animals within the proposed project area, consisting of fish, amphibians, reptiles, bird, and mammals. Rare, threatened, and endangered (RTE) animal species are included in this definition. The affected environment for wildlife includes only those areas potentially subject to ground or vegetative disturbance or where proposed actions have the potential to affect these species.

General surveys for rare, threatened, and endangered (RTE) species, including eastern indigo snakes, gopher tortoises, wood storks, bald eagles, and striped newts were conducted in 1993-94 by The Nature Conservancy and in 1995 by Geo-Marine. Surveys specifically for the federally threatened eastern indigo snake and the federally threatened flatwoods salamander were conducted in 2002 and 2003-2004, respectively. During the planning and environmental analysis process, installation personnel conduct additional, site-specific surveys for known RTE species that are likely to occur in the area.

3.7.1.1 Proposed Action: Construction Along North-Central Boundary

As noted in 3.6.2.1, this site is located underneath a 44-year old loblolly pine forest interspersed with numerous hardwoods. Animal species identified during biological surveys in this area include those species commonly found in similar habitats in south Georgia. Specifically, the following animals either occur or are likely to occur in this forest, although on a transient basis because of the isolation of this stand and its proximity to a residential dwelling and a military training area:

> Mammals: Opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), gray fox (*Urocyon cinereoargenteus*), gray squirrel (*Sciurus carolinensis*), fox squirrel (*S. niger*), eastern cottontail rabbit (*Sylvilagus floridanus*), white-tailed deer (*Odocoileus virginianus*), and various small rodents.
>
> Birds: Northern bobwhite quail (*Colinus virginianus*), red-shouldered hawk (*Buteo lineatus*), yellow-billed cuckoo (*Coccyzus americanus*), ruby-throated hummingbird (*Archilochus colubris*), woodpeckers (downy (*Picoides pubescens*), red-bellied (*Melanerpes carolinus*), flicker (*Colaptes aurates*)), American crow (*Corvus brachyrhychos*), Carolina chickadee (*Parus carolinensis*), tufted titmouse (*Parus bicolor*), brown-headed nuthatch (*Sitta pusilla*), Carolina wren (*Thryothonis ludovicianus*), blue-gray gnatcatcher (*Polioptila caerulea*), ruby-crowned kinglet (*Regulus calendula*), white-eyed (*Vireo griseus)* and red-eyed (*Vireo olivaceus*) vireos, northern parula (*Parula americana*), common grackle (*Quiscalus quiscula*), summer tanager (*Piranga rubra*), Eastern towhee (*Pipilo erythrophthalmus*), and white-throated sparrow (*Zonotrichia albicollis*).

Reptiles and Amphibians: Eastern box turtle (*Terrapene carolina carolina*), gopher tortoise (*Gopherus polyphemus*), 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 holbrooki)* and other similar lizards, frogs, and toads.

Based on surveys conducted by biological researchers and installation personnel over the past 20 years, the only known RTE species located near this site is the gopher tortoise. While there are no burrows within the proposed 2.5 acre site for the open burning facility, there are 4 burrows located near the site (Figure 3-5). Despite the presence of gopher tortoises, this site is not deemed suitable habitat for indigo snakes because of its isolation from other suitable foraging and denning areas. Additionally, this site is not deemed suitable habitat for flatwoods salamanders because of the lack of suitable ephemeral wetlands or other water resources required for flatwoods salamander reproduction.

3.7.1.2 Alternative 2: Siting North of Stone Road

As indicated in 3.6.2.2, the proposed construction site for this alternative is currently part of a 2-year old longleaf pine plantation with very low vegetative biodiversity. Wildlife surveys conducted in this area following the planting of the longleaf pines resulted in the identification of species commonly associated with early successional habitat in south Georgia. Bird species recorded as commonly occurring on the site include Carolina chickadees, white-eyed vireos, Carolina wrens, and American crows. Specific surveys for mammals, reptiles, and amphibians has not been conducted on this site since the creation of the plantation, but trapping in similar areas on the installation indicate that common rodent species, such as eastern cotton rats and house mice are likely to occur on the site in the more heavily vegetated areas. Very few reptiles or amphibians would be expected because of the lack of suitable habitat, including isolated wetlands.

There are no known RTE species located on this site based on surveys conducted by biological researches and installation personnel over the past 20 years. While this site is not deemed suitable habitat for gopher tortoises or indigo snakes because of soil characteristics, there are a few isolated gopher tortoise burrows located immediately north of this area in more suitable soils.

3.7.1.3 Alternative 5: No Action Alternative

Since there is not a site associated with this alternative, there are no wildlife resources associated with this alternative.

3.7.2 Environmental Consequences

The construction of new facilities has the potential to affect wildlife species both directly and indirectly. Wildlife can be impacted directly through injury, harassment, or disturbance which causes a disruption in normal activities, such as foraging or

Proximity of Gopher Tortoise Burrows
to Proposed Location
Open Burning Facility
Moody AFB, GA

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Figure 3-5

reproduction. These direct impacts can negatively affect species by increasing energetic demands as a result of fleeing from the human presence or being forced to forage outside of normal areas. Additionally, reproductive success could be hampered if the construction activities prevent wildlife species from caring for young or completing other required reproductive activities.

Indirect effects include the alteration of the habitat or other physical parameters which have an effect on short-term or long-term survival and reproductive success. Examples of indirect effects that may result from construction activities include habitat destruction or alteration during the construction process.

3.7.2.1 Proposed Action: Construction Along North-Central Boundary

Construction activities associated with the proposed action could produce long-term minor impacts to wildlife species as a result of disturbance on the site by construction equipment or increases in noise or human presence. While biological surveys did not note the presence of nests, dens, or other permanent animal inhabitations on the site, it is likely that some species, especially migratory songbirds, squirrels, and other rodents use the proposed construction location for these purposes, and these sites would be destroyed during construction of the facility. Smaller, less mobile species and those seeking refuge in burrows (e.g., rodents) could inadvertently be killed during construction activities. Additionally, the proposed action would result in the destruction of about 2.5 acres of wildlife habitat. However, these impacts are not considered significant because this habitat type is well-represented in the southeastern United States, and the species likely to be displaced or killed are common, abundant species in the area. Additionally, wildlife utilizing this site likely do so on a transient basis because of its isolation from larger habitat sites and its proximity to a residential dwelling and a military training area.

Additional short-term minor impacts to wildlife, including the displacement of wildlife from otherwise suitable habitat in the immediate vicinity of the project area, could possible occur. While construction is actively occurring on this site, wildlife species would likely alter normal foraging and reproductive activities immediately adjacent to this site because of an increase in noise from construction equipment and an increase in human presence. However, these impacts are considered temporary, and re-establishment of normal foraging and reproductive activities by wildlife species near the proposed open burning facility would occur either after habituation or following cessation of construction activities. All of the wildlife species noted on this site are common and abundant species that are known to co-exist with humans in other semi-disturbed and developed areas.

Biological surveys conducted over the last 20 years have indicated that there are no RTE species located on this site. Therefore, the proposed action has no potential to affect RTE species.

Overall, there would be no short-term or long-term significant impacts to wildlife resources as a result of implementation of the proposed action. Any population changes or losses in wildlife habitat as a result of this action would not be considered significant in the long-term or when considered on a landscape level.

3.7.2.2 Alternative 2: Siting North of Stone Road

Impacts to wildlife resources as a result of implementation of this alternative would be similar in size and scope to those addressed under the proposed action in 3.7.2.1 above. However, overall impacts would be lessened because of the lower biodiversity on this site and the overall absence of significant numbers of wildlife species within this pine plantation.

In the absence of construction or other disturbance, this site would eventually develop into a mature pine forest similar in composition to the proposed action location. It is assumed that wildlife species similar to those described in 3.7.1.1 would occur on the site at this time (approximately 40-60 years in the future). Regardless, the loss of 2.5 acres of a future mature pine forest with its associated wildlife species would not be considered significant because this habitat type is well-represented in the southeastern United States and on Moody AFB, and the species likely to be displaced or killed are common, abundant species in the area.

Therefore, there would be no significant impacts on wildlife resources as a result of implementation of this alternative.

3.7.2.3 Alternative 5: No Action Alternative

Under this alternative, the construction of an open burning facility would not occur. Slash from grounds maintenance activities would continue to be distributed throughout the installation if forested areas, potentially resulting in small population increases for rodents and small animals that could utilize these areas for denning or nesting. However, given the cyclic population dynamics of these species and their common abundance in the south Georgia environment, there would be no significant increases in population levels as a result of implementing this action. Therefore, there would be no impacts to these resources.

3.8 Cumulative Effects

3.8.1 Definition of Cumulative Effects

The Council on Environmental Quality (CEQ) implementing guidelines for NEPA require that both the direct and the cumulative effects of an action be evaluated and published. Cumulative effects (impacts) are the incremental impacts of an action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. In other words, an environmental assessment must determine if non-significant direct effects caused by implementation of

the proposed action or any of the alternatives would become significant if considered in concert with other actions occurring within the area of interest, defined both geographically and temporally. Actions overlapping with or in close proximity to the proposed action would be expected to have more potential for an incremental impact than those more geographically separated. Similarly, actions that coincide, even partially, in time would tend to offer a higher potential for cumulative effects.

To identify cumulative effects, the analysis needs to address two fundamental questions:

1. Does a relationship exist such that affected resource areas of the proposed action or alternatives might interact with the affected resource areas of past, present, or reasonably foreseeable actions?

2. If such a relationship exists, then does an assessment reveal any potentially significant impacts not identified when the proposed action is considered alone?

3.8.2 Scope of Cumulative Effects Analysis

The scope of the cumulative effects analysis involves both the geographic extent of the effects and the time frame in which the effects could be expected to occur, as well as a description of what resources could potentially be cumulatively affected. Of all the issues and concerns presented and analyzed in this document, the only resources with the potential to be affected cumulatively was determined to be vegetation and wildlife resources.

When addressing cumulative impacts to vegetation and wildlife resources, the geographic extent for the cumulative effects analysis are the proposed construction sites in which the proposed action and alternatives have the potential to impact, primarily concentrating on past, present, and reasonably foreseeable actions on and within the boundaries of Moody AFB.

The time frame for cumulative effects analysis would center on the timing of the proposed action and would continue into the foreseeable future; additionally, actions with the potential to impact vegetation and wildlife resources that were implemented within the past four years would be included for analysis.

3.8.3 Past, Present, and Reasonably Foreseeable Actions

Numerous other activities, conducted by private and local, state, and federal government agencies, have been conducted on Moody AFB during the past two years, and more actions are expected to continue into the future. For the purposes of analysis, only those actions with the potential to directly affect vegetation and wildlife resources would be addressed.

Past and Present Actions Relevant to the Proposed Action

- *Field Training Activities, 820 SFG, Moody AFB.* In 2000, the 820th Security Forces Group was bedded down at Moody AFB. Included in this action was the use of various wooded areas through main base and Grand Bay Range as field training sites. Field training occurs year-round on the installation, and includes land navigation, force-on-force training, station training, air base defense training, driver's proficiency training, and weapons qualification and proficiency training. Up to 250 personnel from the 820 SFG participate in field training activities on Moody AFB at a given time; however, because of deployment, the number of persons currently being trained is generally much lower.

- *Base Closure and Realignment Actions for 2006, Moody AFB.* Following recommendations from the Base Realignment and Closure Commission (BRAC), Moody AFB distributed its training aircraft (T-38C and T-6A aircraft) to other Air Education and Training Command locations to consolidate training. Moody AFB received 48 A/OA-10 aircraft in their place. These aircraft are based out of Moody AFB and would utilize Grand Bay Range for part of their training requirement.

- *Civil Engineer Contingency Training, Moody AFB, GA.* In 2007, the Civil Engineer Squadron developed and implemented contingency training within the boundaries of Moody AFB. In addition to conducting military training activities within the forested areas of the installation, this action included the clearing and development of a Field Training Exercise/Bivouac (FTX) site along the north-central boundary of the installation. The development of this site included the removal of all existing vegetation from the area and the construction of concrete slabs for tent foundations. A total of 7.13 acres of habitat adjacent to the proposed construction site for the open burning facility was removed to facilitate this action.

Reasonably Foreseeable Actions Relevant to the Proposed Action

- *Common Battlefield Airmen Training (CBAT), Moody AFB.* Moody AFB is being considered as a potential location for the beddown of the CBAT mission, which would include a 200-acre cantonment area to be built on the selected installation. Students in the CBAT would receive training in small unit tactics, force-on-force training, convoy training, and land navigation in addition to small arms proficiency. If this mission is bedded down at Moody AFB, all training except for small arms proficiency, would be conducted at off-base locations. An Environmental Impact Statement (EIS) is currently in-progress to address the environmental effects of this proposed action.

3.8.4 Cumulative Effects Analysis

The development of the Civil Engineer FTX site and the proposed development of the CBAT cantonment area adjacent to the FTX site were determined to have long-term minor effects on vegetation and wildlife resources at Moody AFB as approximately 200

acres of upland forest and wildlife habitat, including habitat for the federally threatened indigo snake, would be removed. Both of these areas are adjacent to the proposed construction site for the open burning facility. None of the other identified past, present, or reasonably foreseeable future actions have been determined to cause significant effects to vegetation or wildlife resources on the installation.

The beddown of the A/OA-10 aircraft at Moody AFB included 40 construction, renovation, or infrastructure improvement projects scheduled to occur from 2006 through 2010. These projects resulted in similar impacts to landscaped vegetation and urban wildlife habitat as those identified in this environmental assessment. The construction and use of an open burning facility would not occur near these construction areas and there would not be any significant impact when considered cumulatively with other actions.

When the impacts of these past, present, and reasonably foreseeable future actions are considered cumulatively with the expected environmental impacts of the proposed action and Alternative 2, Siting North of Stone Road, there are no expected significant cumulative impacts, primarily because of the small size of the proposed open burning facility (approximately 2.5 acres of total disturbance) and the fact that all disturbance associated with this action is reversible and the site could be restored within a matter of weeks to its present condition. Vegetation and wildlife populations impacted by these other past, present, and reasonably foreseeable future actions on the main base of Moody AFB are generally separate and disjunct from the proposed site for the open burning facility. Although adjacent to the proposed CBAT area and the CES FTX site, monitoring by installation staff has demonstrated that the gopher tortoises and other animals on this site are not part of the larger gopher tortoise population contained within the proposed CBAT area. Additionally, wildlife and vegetation impacts on the site are restricted to common native species that are well-represented throughout the installation.

Therefore, there should not be any significant cumulative effects when the proposed action or the evaluated alternatives are considered in relation with any of these other actions.

Table 3-4 -- Predicted effects of each of the alternatives

Issues & Concerns	Proposed Action	Alternative 2: Construction on Crash Trail 2	Alternative 5: No Action Alternative
Air Quality	No significant effect.	No significant effect.	No significant effect.
Cultural Resources	No significant effect. Consultation with SHPO Required.	No significant effect. Consultation with SHPO Required.	No significant effect.
Land Use	No significant effect.	No significant effect.	No significant effect.
Physical Resources	No significant effect.	No significant effect.	No significant effect.
Vegetation Resources	About 2.5 acres of common south Georgia vegetation would be removed. No significant effect.	About 2.5 acres of common south Georgia vegetation would be removed. No significant effect.	Slight potential for decrease in native vegetation. No significant effect.
Wildlife Resources	About 2.5 acres of wildlife habitat would be removed. Long-term minor displacement and potential killing of some less mobile wildlife species. No significant effect.	About 2.5 acres of wildlife habitat would be removed. Long-term minor displacement and potential killing of some less mobile wildlife species. No significant effect.	Slight potential for small animal population increases near slash piles. No significant effect.
Cumulative Effects	No anticipated significant cumulative effects.	No anticipated significant cumulative effects.	No anticipated significant cumulative effects.

4.0 PERMITS AND REQUIRED CONSULTATIONS AND APPROVALS

4.1 National Historic Preservation Act. In accordance with Section 106 of the National Historic Preservation Act, if either the proposed action or the alternative to site this facility north of Stone Road was to be implemented, the State Historic Preservation Office would have to be consulted prior to any ground disturbance.

4.2 NPDES Storm Water Phase II and Georgia Erosion and Sedimentation Control Act. In accordance with these regulations, an erosion and sedimentation control plan would have to be developed for the construction of the open burning facility and would have to address the implementation of best management practices to minimize soil erosion and sedimentation. A Notice of Intent would have to be filed with the Georgia EPD under the storm water regulations, and a Lanier County Land Disturbing Permit would have to be obtained prior to implementation of any ground disturbance on the site.

4.3 Public Notification and Review

In accordance with 32 CFR 989 and 23 WG/JA directives, the following organizations were afforded the opportunity to review and comment on an earlier draft of this document along with the general public:

-- Lanier County Commissioners
-- Georgia State Historic Preservation Office
-- Georgia State Clearinghouse