Final Environmental Assessment

MODIFICATIONS TO THE SOUTHERN TRAINING AREA DOBBINS AIR RESERVE BASE, GEORGIA

United States Air Force Reserve Command

October 2020

ACRONYMS AND ABBREVIATIONS

°F	degree Fahrenheit
µg/m^3	micrograms per cubic meter
94 AW	94th Airlift Wing
94 MSG	94th Mission Support Group
94 MXS	94th Maintenance Squadron
189 AW	189th Airlift Wing
AAF	Army Air Field
ACM	asbestos-containing material
ADP	Area Development Plan
AFI	Air Force Instruction
AFMAN	Air Force Manual
AFRC	Air Force Reserve Command
AFRC	Air Force Reserve Command
AICUZ	Air Installation Compatible Use Zone
AR	Army Regulation
ARB	Air Reserve Base
AST	Aboveground Storage Tank
BMP	best management practice
CAA	Clean Air Act
CDNL	C-weighted Day-Night Average Sound Level
CE	Civil Engineering
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CWA	Clean Water Act
dB	decibel
dBC	C-weighted decibel
DDESB	Department of Defense Explosive Safety Board
DESR	Defense Explosives Safety Regulation
DNL	Day-Night Average Sound Level
DoD	Department of Defense
DODIC	Department of Defense Identification Code
EA	Environmental Assessment
ECS-TCC	Expeditionary Combat Support Training Certification Center
EO	Executive Order
EOD	Explosives Ordnance Disposal
ERP	Environmental Restoration Program
ESA	Endangered Species Act
ESQD	Explosive Safety Quantity Distance
FEMA	Federal Emergency Management Agency
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
ft	foot/feet
GHG	greenhouse gas
GWP	global warming potential
HAP	hazardous air pollutant
HQ	Headquarters
I-	Interstate
IL	Intraline
ILS	instrument landing system
IM	Intermagazine
lb	pound
LBP	lead-based paint
LID	low impact development
L_{pk}	Peak Noise Level
MBTA	Migratory Bird Treaty Act
MEC	munitions and explosives of concern
MMR	Military Munitions Rule
MOUT	Military Operations in Urban Terrain
MSA	Munitions Storage Area
MSAT	Mobile Source Air Toxics
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NRCS	Natural Resources Conservation Service
O_3	ozone
Pb	lead
PCB	polychlorinated biphenyl
PK15	Single Event Peak Sound Level Exceeded by 15 Percent of Events
PM	particulate matter
ppm	parts per million
PSD	Prevention of Significant Deterioration
QD	quantity-distance
RCRA	Resource Conservation and Recovery Act
ROI	region of influence
SF	square foot/feet
SHPO	State Historic Preservation Office(r)
SO_2	sulfur dioxide
SWPPP	Stormwater Pollution Prevention Plan
U.S.	United States
USACE	United States Army Corps of Engineers
USAF	United States Air Force
USC	United States Code
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
VOC	volatile organic compound

FINDING OF NO SIGNIFICANT IMPACT (FONSI)/ FINDING OF NO PRACTICABLE ALTERNATIVE (FONPA) ENVIRONMENTAL ASSESSMENT FOR MODIFICATIONS TO SOUTHERN TRAINING AREA, DOBBINS ARB, GEORGIA

Pursuant to the Council on Environmental Quality's (CEQ's) regulations for implementing procedural provisions of the National Environmental Policy Act (NEPA) (40 *Code of Federal Regulations* [CFR] 1500-1508), U.S. Air Force (USAF) regulations in 32 CFR Part 989, and Department of Defense Directive 6050.1, the U.S. Air Force Reserve Command has prepared an environmental assessment (EA) to identify potential effects associated with modifications to the Southern Training Area at Dobbins Air Reserve Base (ARB), Georgia. The attached EA is incorporated by reference into this Finding of No Significant Impact (FONSI)/Finding of No Practicable Alternative (FONPA).

PURPOSE OF AND NEED FOR THE PROPOSED ACTION

The purpose of the Proposed Action is to restructure the Southern Area in a manner that meets the needs of Dobbins ARB today and into the foreseeable future, ensure critical training is available to Explosive Ordnance Disposal (EOD) personnel, and ensure the safety of personnel assigned to the Munitions Storage Area (MSA) and others using the Base's Southern Area. To the extent practicable, Dobbins ARB needs to bring their MSA into compliance with Department of Defense Explosive Safety Board (DDESB) and Air Force Manual (AFMAN) 91-201, *Explosives Safety Standards,* that govern the location and separation of structures needed to protect MSA and non-MSA personnel from injury should a mishap occur. EOD personnel need training that is realistic in today's environment both at home and abroad while deployed in support of worldwide missions or when responding to threats in the local community. The ability for emergency disposal of unexploded explosive ordnance up to 5 lbs explosive net weight on-base is needed to reduce the requirement to transport explosives greater than 2.5 lbs net explosive weight to an off-site authorized disposal area.

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

Under the Proposed Action, modifications in the Southern Area of Dobbins ARB would occur in support of the MSA and EOD training. The Proposed Action would relocate the MSA administrative building outside of the controlled MSA area, add munitions storage capacity, establish a 5 lb EOD training range, establish a suspect vehicle holding and Multi-Cube munitions storage facility, and demolish the five abandoned structures in the Navy MSA. Access to the MSA and EOD Ranges would be restricted by extending existing fencing and adding two gates providing access. Wooded areas would be cleared to provide line of sight between the new MSA

administration building and suspect vehicle holding area/Multi-Cube facility. Ancillary construction would include road improvements, utilities, lighting, and water retention/detention ponds.

Three action alternatives were found to satisfy the most critical selection standards and meet the purpose and need for the action and were carried forward for detailed analysis. During the early stages of the Environmental Impact Analysis Process, Alternative 1 and Alternative 2 were found to have the potential for unmitigable significant impacts on the human environment as a result of noise impacts from the proposed location of the EOD training range. Dobbins ARB personnel worked diligently to find an alternative location for the proposed EOD training range that would minimize impacts and meet the purpose and need of this Proposed Action. Alternative 3 was born and became the Preferred Alternative discussed below.

Under the Preferred Alternative, the MSA administrative building would be relocated outside of the controlled MSA area, munitions storage capacity would be added, a 5 lb EOD Range would be established to the north of the MSA, a suspect vehicle holding and Multi-Cube munitions storage facility would be established south of the current MSA, and the five abandoned structures in the Navy MSA would be demolished. Access to the MSA and EOD Ranges would be restricted by extending existing fencing along Patrol Road to Poorhouse Road and adding two gates providing access. Two wooded areas would be cleared to provide line of sight, one between the new MSA administration building and suspect vehicle holding area/Multi-Cube facility, and one between the 5 lb EOD Range and the safe area. Ancillary construction would include road improvements, utilities, lighting, and water retention/detention ponds.

SUMMARY OF ANTICIPATED ENVIRONMENTAL IMPACTS ASSOCIATED WITH THE PROPOSED ACTION

Analyses performed in the EA addressed potential effects of Alternative 1, Alternative 2, and Alternative 3 (Preferred Alternative), and a No Action Alternative on safety, air quality, noise, land use, earth resources, water resources, biological resources, infrastructure, cultural resources, socioeconomics, environmental justice, and hazardous materials and waste. The analyses of Alternatives 1 and 2 indicated no significant effects to air quality, earth, water, biological, infrastructure, cultural, and socioeconomic resources and the potential for significant effects to noise, land use, and environmental justice and the protection of children. The potential for significant impacts to the human environment resulted from predicted noise exposure related to the relocation of the EOD Range. As a result, as part of the Environmental Impact Analysis Process, Alternative 3 was developed to relocate the proposed EOD Range north of the MSA and carried forward as the Preferred Alternative. The analysis found that implementing the Preferred Alternative would have no significant direct, indirect, or cumulative effects on the quality of the

natural or human environment with the implementation of appropriate management actions. To minimize noise impacts resulting from the use of 5 lb explosives at the Alternative 3 EOD Range, additional management actions would be applied. Actions include notifying the public through the base's social media when training with 5 lb explosives, ensuring inclusion of Lockheed Martin in the base's existing requirement to notify personnel in nearby facilities of the EOD schedule and, when practicable, training with high explosives when atmospheric conditions are good (e.g., clear skies with billowy cloud formations).

Consideration of effects described in the EA and a finding that they are not significant is a necessary and critical part of this FONSI as required by 40 CFR 1508.13.

Significance criteria are defined in 40 CFR 1508.27 to consider direct, indirect, and cumulative impacts and the context and intensity of impacts. The potential impacts of the proposed projects are analyzed in detail in the Affected Environment and Environmental Consequences sections of the EA for the resource areas described above. Mitigation measures described in the EA and incorporated into the proposed actions are generally required by laws, regulations, or USAF policies and are adopted by this decision.

CONCLUSIONS

Based on the findings of the EA, there would be no significant impact resulting from implementation of the Preferred Alternative or the No Action Alternative. This FONSI/FONPA has been prepared to accompany the EA, which concludes that preparation of an Environmental Impact Statement is not required for this Proposed Action.

INTERAGENCY COORDINATION AND PUBLIC INVOLVEMENT

NEPA, CEQ regulations, and the Environmental Impact Analysis Process at 32 CFR Part 989 require public review of the EA before approval of the FONSI and implementation of any Proposed Action. In March 2020 e-mail communication between 94 MSG/CEV, Air Force Life Cycle Management Center (AFLCMC) & Lockheed Martin Corporation (LMCO) was made as a part of the environmental assessment with the intent of identifying possible risk and concerns LMCO had with the proposed location of a potential 5.0 lbs. EOD range. As part of these communications, responses from both LMCO members and AFLCMC/SEW did not identify an occupational risk with assessed levels of increased noise on LMCO property. LMCO concurred that there were no concerns other than a potential for startling members. LMCO requested notification of larger explosive detonations to be passed four weeks in advance when able.

The Draft EA was made available for a 30-day federal, state, and local agency and public review and comment period through publication of a notice of availability in the August 8 and 9, 2020 editions of the *Atlanta Journal-Constitution,* and in the August 8 and 11 editions of the *Marietta*

Daily Journal. Copies of the Draft EA and Draft FONSI were distributed to various federal, state, and local agencies, and applicable federally recognized Native American tribes. Electronic copies were made available on the Dobbins ARB website at www.dobbins.afrc.af.mil/News/Article-Display/Article/2297344/environmental-assessment-for-modifications-to-the-southern-area-of-dobbins-to-p or by contacting the Dobbins ARB Public Affairs office. In consideration of the potential impact of the ongoing coronavirus (COVID-19) pandemic on the usual methods of access to information and ability to communicate, such as the mass closure of local public libraries and challenges with the sufficiency of an increasingly-overburdened internet, the Air Force encouraged members of the public and all interested stakeholders to contact Dobbins ARB Public Affairs office directly by e-mail or telephone to discuss and resolve issues involving access to the Draft EA and Proposed FONSI or the ability to comment. The public comment period for the EA closed on September 8, 2020. The base received one e-mail comment from the general public relating to noise impacts and one agency response from the State Historic Preservation Officer concurring with the Air Forces' finding of no effect on historic properties. In January 2021, 94 AW/SEW reached back to LMCO to confirm prior email traffic. The LMCO safety contacts confirmed that as long as the information from the March 2020 environmental assessment coordination had not changed there were no issues with the proposed location.

FINDING OF NO SIGNIFICANT IMPACT

After review of the EA for Modification to Southern Training Area prepared in accordance with the requirements of NEPA, the CEQ regulations, and the Environmental Impact Analysis Process (32 CFR 989, as amended), I have determined that implementation of the Preferred Alternative would not have a significant impact on the quality of the human or natural environment. An Environmental Impact Statement will not be prepared. The Preferred Alternative was found to meet Dobbins ARB's purpose and need. This decision has been made after taking into account all submitted information and considering a full range of practical alternatives that would meet project requirements and are within the legal authority of the USAF.

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19 Feb 21

CRAIG MCPIKE, Colonel, USAF
Commander

Date

FINDING OF NO PRACTICABLE ALTERNATIVE

Executive Order (EO) 11988, *Floodplain Management* (May 24, 1977), requires federal agencies to avoid to the maximum extent possible the short- and long-term adverse impacts associated with

the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. If it is found that there is no practicable alternative, the agency must minimize potential harm to the floodplain, and circulate a notice explaining why the action is to be located in the floodplain prior to taking action. Finally, new construction in a floodplain must apply accepted flood proofing and flood protection to include elevating structures above the base flood level rather than filling in land.

The Proposed Action would involve construction of a gate and a small portion of new chain link fencing extending into the 100-year floodplain of Poor House Creek. As noted in Section 2.0 of the attached EA, there is no practicable alternative because the project is constrained to its current location.

There is no other construction proposed within the floodplain area and existing surface topography would be restored following the installation of the fence and gate. There are currently numerous large trees and existing fencing and a gate along the Southern Area's border that are located within the 100-year floodplain of Poor House Creek. The new fence and gate would be located outside of the main channel and would affect overbank flood flows similarly to the existing trees and fencing. Overall, the new fence and gate are not expected to result in changes to flooding upstream or downstream of the site. Therefore, there would be no significant impact to floodplains and the project would be in compliance with EO 11988.

Pursuant to EO 11988, *Floodplain Management*; AFI 32-7064*, Integrated Natural Resources Management,* and the authority delegated by Secretary of the Air Force Order 791.1, *Environment*, and taking the above information into account, I find that there are no practicable alternatives to location of the fence and gate, and that this project includes all practicable measures to minimize harm to the floodplain environment.

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16 Feb 2021

ROBERT J. STAIB, GS-15, DAF
Chief, Civil Engineer Division

Date

Attachment: Environmental Assessment, Modifications to the Southern Training Area, Dobbins Air Reserve Base, Georgia

FINAL
MODIFICATIONS TO SOUTHERN TRAINING AREA ENVIRONMENTAL ASSESSMENT, DOBBINS AIR RESERVE BASE, GEORGIA

TABLE OF CONTENTS

Section *Page*

ACRONYMS AND ABBREVIATIONS..... INSIDE FRONT COVER

FINDING OF NO SIGNIFICANT IMPACT/FINDING OF NO PRACTICABLE ALTERNATIVE (FONSI/FONPA)

EXECUTIVE SUMMARY ES-1

1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION 1-1

1.1 INTRODUCTION 1-1

1.2 BACKGROUND 1-1

1.3 REGULATORY COMPLIANCE 1-4

1.3.1 Interagency Coordination and Consultations 1-6

1.3.2 Government to Government Consultations 1-6

1.3.3 Other Agency Consultations 1-6

1.4 DECISION TO BE MADE 1-7

1.5 PURPOSE OF THE ACTION 1-7

1.6 NEED FOR THE ACTION 1-7

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES 2-1

2.1 PROPOSED ACTION 2-1

2.2 SELECTION STANDARDS 2-1

2.3 SCREENING OF ALTERNATIVES 2-2

2.4 DETAILED DESCRIPTION OF THE ALTERNATIVES CARRIED FORWARD FOR ANALYSIS 2-4

2.4.1 Alternative 1 2-4

2.4.1.1 Munitions Storage Area 2-4

2.4.1.2 Construct New EOD Range 2-8

2.4.2 Alternative 2 2-13

2.4.3 Alternative 3 (Preferred Alternative) 2-13

2.4.4 No Action Alternative 2-18

2.5 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER CONSIDERATION 2-18
2.5.1 Suspect Vehicle Holding Area on the Dead Runway 2-18
2.5.2 Keep EOD Range in Current Location 2-18
2.5.3 Complete Construction of a 5 lb EOD Range to the South of the MSA 2-19
3.0 AFFECTED ENVIRONMENT 3-1
3.1 SCOPE OF ANALYSIS 3-1
3.1.1 Resources Analyzed 3-1
3.1.2 Resources Eliminated from Detailed Analysis 3-1
3.2 SAFETY 3-1
3.2.1 Definition of the Resource 3-1
3.2.2 Existing Conditions 3-2
3.2.2.1 Ground Safety 3-2
3.2.2.2 Explosives Safety 3-3
3.3 AIR QUALITY 3-5
3.3.1 Definition of the Resource 3-5
3.3.2 Existing Conditions 3-6
3.3.2.1 Regulatory Setting 3-6
3.3.2.2 Climate and Meteorology 3-8
3.3.2.3 Regional and Local Air Pollution Sources 3-8
3.4 NOISE 3-9
3.4.1 Definition of the Resource 3-9
3.4.1.1 Noise Metrics 3-11
3.4.2 Existing Conditions 3-13
3.4.2.1 Aircraft Noise 3-13
3.4.2.2 Explosive Ordnance Disposal Range Noise 3-13
3.4.2.3 Construction and Other Noise Sources 3-14
3.5 LAND USE 3-16
3.5.1 Definition of the Resource 3-16
3.5.2 Existing Conditions 3-20
3.6 EARTH RESOURCES 3-22
3.6.1 Definition of the Resource 3-22
3.6.2 Existing Conditions 3-22

3.6.2.1 Geology 3-22
3.6.2.2 Soils 3-23
3.6.2.3 Topography 3-25
3.7 WATER RESOURCES 3-26
3.7.1 Definition of the Resource 3-26
3.7.2 Existing Conditions 3-27
3.7.2.1 Surface Water 3-27
3.7.2.2 Groundwater 3-27
3.7.2.3 Floodplain 3-28
3.7.2.4 Jurisdictional Wetlands and Waters of the U.S. 3-28
3.8 BIOLOGICAL RESOURCES 3-28
3.8.1 Definition of the Resource 3-28
3.8.2 Existing Conditions 3-29
3.8.2.1 Vegetation 3-29
3.8.2.2 Wildlife 3-29
3.8.2.3 Special Status Species 3-29
3.9 INFRASTRUCTURE 3-30
3.9.1 Definition of the Resource 3-30
3.9.2 Existing Conditions 3-31
3.9.2.1 Transportation 3-31
3.9.2.2 Utilities 3-31
3.10 CULTURAL RESOURCES 3-33
3.10.1 Definition of the Resource 3-33
3.10.2 Existing Conditions 3-34
3.10.2.1 Historic Context 3-34
3.10.2.2 Identified Cultural Resources 3-36
3.11 HAZARDOUS MATERIALS AND WASTE 3-37
3.11.1 Definition of the Resource 3-37
3.11.1.1 Defense Environmental Restoration Program 3-38
3.11.2 Regulatory Framework 3-40
3.11.3 Affected Environment 3-41
3.11.3.1 Hazardous Materials and Petroleum Products 3-41
3.11.3.2 Hazardous and Petroleum Wastes 3-42

3.11.3.3 Toxic Substances/Universal Wastes 3-43
3.11.3.4 Defense Environmental Restoration Program Sites 3-43
3.12 SOCIOECONOMICS 3-45
3.12.1 Definition of the Resource 3-45
3.12.2 Existing Conditions 3-45
3.12.2.1 Population 3-45
3.12.2.2 Housing 3-46
3.12.2.3 Income and Employment 3-46
3.13 ENVIRONMENTAL JUSTICE AND THE PROTECTION OF CHILDREN 3-47
3.13.1 Definition of the Resource 3-47
3.13.2 Existing Conditions 3-47
3.13.2.1 Minority and Low-Income Populations 3-47
3.13.2.2 Protection of Children and the Elderly 3-48
4.0 ENVIRONMENTAL CONSEQUENCES 4-1
4.1 SAFETY 4-1
4.1.1 Methodology 4-1
4.1.2 Impacts 4-1
4.1.2.1 Alternative 1 4-1
4.1.2.2 Alternative 2 4-3
4.1.2.3 Alternative 3 (Preferred Alternative) 4-3
4.1.2.4 No Action Alternative 4-4
4.2 AIR QUALITY 4-4
4.2.1 Methodology 4-4
4.2.2 Impacts 4-5
4.2.2.1 Alternative 1 4-5
4.2.2.2 Alternative 2 4-7
4.2.2.3 Alternative 3 (Preferred Alternative) 4-8
4.2.2.4 No Action Alternative 4-8
4.3 NOISE 4-8
4.3.1 Methodology 4-8
4.3.2 Impacts 4-8
4.3.2.1 Alternative 1 4-8
4.3.2.2 Alternative 2 4-12

4.3.2.3 Alternative 3 (Preferred Alternative) 4-13
4.3.2.4 No Action Alternative 4-15
4.4 LAND USE 4-16
4.4.1 Methodology 4-16
4.4.2 Impacts 4-16
4.4.2.1 Alternative 1 4-16
4.4.2.2 Alternative 2 4-18
4.4.2.3 Alternative 3 (Preferred Alternative) 4-18
4.4.2.4 No Action Alternative 4-19
4.5 EARTH RESOURCES 4-19
4.5.1 Methodology 4-19
4.5.2 Impacts 4-21
4.5.2.1 Alternative 1 4-21
4.5.2.2 Alternative 2 4-23
4.5.2.3 Alternative 3 (Preferred Alternative) 4-23
4.5.2.4 No Action Alternative 4-24
4.6 WATER RESOURCES 4-24
4.6.1 Methodology 4-24
4.6.2 Impacts 4-24
4.6.2.1 Alternative 1 4-24
4.6.2.2 Alternative 2 4-26
4.6.2.3 Alternative 3 (Preferred Alternative) 4-27
4.6.2.4 No Action Alternative 4-28
4.7 BIOLOGICAL RESOURCES 4-28
4.7.1 Methodology 4-28
4.7.2 Impacts 4-29
4.7.2.1 Alternative 1 4-29
4.7.2.2 Alternative 2 4-30
4.7.2.3 Alternative 3 (Preferred Alternative) 4-30
4.7.2.4 No Action Alternative 4-31
4.8 INFRASTRUCTURE 4-31
4.8.1 Methodology 4-31
4.8.2 Impacts 4-31

4.8.2.1 Alternative 1 4-31
4.8.2.2 Alternative 2 4-33
4.8.2.3 Alternative 3 (Preferred Alternative) 4-34
4.8.2.4 No Action Alternative 4-34
4.9 CULTURAL RESOURCES 4-34
4.9.1 Methodology 4-34
4.9.2 Impacts 4-34
4.9.2.1 Alternative 1 4-34
4.9.2.2 Alternative 2 4-36
4.9.2.3 Alternative 3 (Preferred Alternative) 4-37
4.9.2.4 No Action Alternative 4-38
4.10 HAZARDOUS MATERIALS AND WASTE 4-38
4.10.1 Methodology 4-38
4.10.2 Impacts 4-39
4.10.2.1 Alternative 1 4-39
4.10.2.2 Alternative 2 4-41
4.10.2.3 Alternative 3 (Preferred Alternative) 4-41
4.10.2.4 No Action Alternative 4-41
4.11 SOCIOECONOMICS 4-41
4.11.1 Methodology 4-41
4.11.2 Impacts 4-42
4.11.2.1 Alternative 1 4-42
4.11.2.2 Alternative 2 4-43
4.11.2.3 Alternative 3 (Preferred Alternative) 4-43
4.11.2.4 No Action Alternative 4-43
4.12 ENVIRONMENTAL JUSTICE AND THE PROTECTION OF CHILDREN 4-44
4.12.1 Methodology 4-44
4.12.2 Impacts 4-44
4.12.2.1 Alternative 1 4-44
4.12.2.2 Alternative 2 4-48
4.12.2.3 Alternative 3 (Preferred Alternative) 4-48
4.12.2.4 No Action Alternative 4-52

5.0 CUMULATIVE IMPACTS AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES 5-1
5.1 CUMULATIVE IMPACTS 5-1
5.1.1 Past, Present and Reasonably Foreseeable Actions in the ROI 5-1
5.1.2 Cumulative Impact Analysis 5-1
5.1.2.1 Safety 5-1
5.1.2.2 Air Quality 5-1
5.1.2.3 Noise 5-2
5.1.2.4 Land Use 5-2
5.1.2.5 Earth Resources 5-2
5.1.2.6 Water Resources 5-2
5.1.2.7 Biological Resources 5-3
5.1.2.8 Infrastructure 5-3
5.1.2.9 Cultural Resources 5-3
5.1.2.10 Hazardous Materials and Waste 5-4
5.1.2.11 Socioeconomics 5-4
5.1.2.12 Environmental Justice and the Protection of Children 5-4
5.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES 5-4
6.0 PERSONS AND AGENCIES CONTACTED 6-1
7.0 LIST OF PREPARERS 7-1
8.0 REFERENCES 8-1
APPENDIX A INTERAGENCY AND INTERGOVERNMENTAL CONSULTATIONS AND PUBLIC OUTREACH
APPENDIX B AIR CONFORMITY APPLICABILITY MODEL REPORTS

TABLES

Table ES-1. MSA Proposed Construction ES-2
Table ES-2. 5 lb EOD Training Area Proposed Construction for Alternative 1 ..... ES-3
Table ES-3. EOD Training Area Proposed Construction for Alternative 3 ..... ES-4
Table ES-4. Summary of Impacts ES-5
Table 2.3-1. Screening of the Alternatives 2-3
Table 2.4-1. MSA Proposed Construction 2-8
Table 2.4-2. 5 lb EOD Training Area Proposed Construction for Alternative 1 2-11
Table 2.4-3. Proposed Annual Expenditures 2-12
Table 2.4-4. EOD Training Area Proposed Construction for Alternative 3 2-13
Table 3.3-1. 2014 Criteria Pollutant Emissions for Cobb County, Georgia 3-9
Table 3.4-1. Comparison of Characteristics of Blast Noise and Transportation Noise 3-11
Table 3.4-2. Relation Between Annoyance, DNL and CDNL 3-12
Table 3.4-3. Noise Limits and Noise Zones 3-12
Table 3.4-4. Risk of Noise Complaints by Level 3-13
Table 3.4-5. Modeled Baseline Annual Ordnance Expenditures at Dobbins ARB EOD Range 3-14
Table 3.5-1. Land Use Compatibility for Artillery/Explosives. 3-17
Table 3.6-1. Soils Underlying the Proposed Project Site at Dobbins ARB 3-25
Table 3.8-1. Federal and State-Listed Species Found within Cobb County, GA 3-30
Table 3.12-1. Population, 2010 to 2018 3-45
Table 3.12-2. Housing Characteristics, 2017 3-46
Table 3.12-3. Employment and Income Statistics 3-46
Table 13.3-1. Share of the Population Composed of Minority, Low-Income, Under 18, and Elderly Populations 3-48
Table 4.2-1. Annual Construction Emissions Estimates for Dobbins ARB, Cobb County, Georgia 4-6
Table 4.3-1. Heavy Equipment Noise Levels at 50 feet 4-12
Table 4.4-1. Off-Base Acreage by Land Uses Affected by Noise Levels 62 dB CDNL and Greater under Baseline and Alternative 1 4-18

Table 4.4-2. Off-Base Acreage by Land Uses Affected by Noise Levels 62 dB CDNL and Greater under Baseline, Alternative 1, and Alternative 3 4-19

Table 4.12-1. Census Block Groups and Subject Populations Exposed to Cumulative Noise Levels of 70 or 62 dB CDNL Under Alternative 1 Conditions 4-45

Table 4.12-2. Census Block Groups and Subject Populations Exposed to Single Event Peak Sound Levels of 130 or 140 dB PK15 Under Alternative 1 Conditions 4-47

Table 4.12-3. Noise Exposure Levels of Census Block Groups and Subject Populations Under Alternative 3 Conditions 4-49

Table 5.1-1. Past, Present, and Reasonably Foreseeable Actions 5-1

FIGURES

Figure 1.1-1. General Vicinity of Dobbins ARB 1-2

Figure 1.1-2. General Base Layout 1-3

Figure 1.1-3. Existing Southern Area 1-5

Figure 2.4-1. Alternative 1 2-5

Figure 2.4-2. Alternative 1 and Alternative 3, Proposed MSA Area 2-6

Figure 2.4-3. Alternative 1, Proposed EOD Training Site 2-7

Figure 2.4-4. Alternative 2, Proposed MSA Area 2-14

Figure 2.4-5. Alternative 2, Proposed EOD Training Site 2-15

Figure 2.4-6. Alternative 3 2-16

Figure 2.4-7. Alternative 3, Proposed EOD Training Site 2-17

Figure 3.4-1. Frequency Characteristics of A- and C-Weighting 3-10

Figure 3.4-2. Baseline CDNL Noise Contours 3-15

Figure 3.5-1. Existing CDNL Noise Contours and Land Use within the Vicinity of Dobbins ARB 3-21

Figure 3.6-1. Soils Underlying the Southern Area of Dobbins ARB 3-24

Figure 3.11-1. Environmental Remediations Located within the Southern Area on Dobbins ARB 3-44

Figure 4.3-1. Proposed Alternative 1 CDNL Noise Contours 4-10

Figure 4.3-2. Proposed Alternative 3 CDNL Noise Contours 4-14

Figure 4.4-1. Proposed Alternative 1 CDNL Noise Contours and Land Use within the Vicinity of Dobbins ARB 4-17

Figure 4.4-2. Proposed Alternative 3 CDNL Noise Contours and Land Use within the Vicinity of Dobbins ARB 4-20

Figure 4.12-1. Cumulative Noise Impacts on Environmental Justice Communities in the ROI Under Alternative 1 4-46

Figure 4.12-2. Cumulative Noise Impacts on Environmental Justice Communities in the ROI Under Alternative 3 4-50

EXECUTIVE SUMMARY

This environmental assessment (EA) evaluates potential environmental impacts of proposed modifications to the Southern Area of Dobbins Air Reserve Base (ARB), Georgia, to support both the Air Force Reserve Command (AFRC), and the 94th Airlift Wing's (94 AW) training and operations. The Proposed Action would include construction of a new 5 pound (lb) Explosive Ordnance Disposal (EOD) range that includes a safe/non-explosive training area; Munitions Storage Area (MSA) administration building; 16-bay Multi-Cube munitions storage facility; five earthen magazine covered igloos; suspect vehicle holding area; and demolition of abandoned structures.

This EA has been prepared in accordance with the requirements of the National Environmental Policy Act (NEPA); the Council on Environmental Quality (CEQ) Regulations, and 32 Code of Federal Regulations (CFR) 989, Environmental Impact Analysis Process.

PURPOSE AND NEED

The Explosive Safety Quantity Distance (ESQD) arcs associated with the MSA, existing environmental constraints, and the MSA facilities vacated by the Navy over 10 years ago limit use of the areas available in the Southern Area of Dobbins ARB. The purpose of the Proposed Action is to restructure the Southern area in a manner that meets the needs of Dobbins ARB today and into the foreseeable future, ensure critical training is available to EOD personnel, and ensure the safety of personnel assigned to the MSA and others using the Base's Southern Area.

The need for the Proposed Action is to twofold:

(1) Dobbins ARB capacity for explosive ordnance disposal is currently limited to 2.5 lbs net explosive weight due to the size of the demolition pit and the inability to increase its size in its current location. This limited capacity requires transport of explosives exceeding 2.5 lbs to an off-site authorized disposal area, and limits opportunities for realistic training by Explosive Ordnance Disposal (EOD) personnel preparing for deployment or providing emergency services both on- and off-installation. EOD personnel need training that is realistic in today's environment both at home and abroad while deployed in support of worldwide missions or when responding to threats in the local community. The ability for emergency disposal of unexploded explosive ordnance up to 5 lbs explosive net weight on-base eliminates the need to transport explosives greater than 2.5 lbs net explosive weight to an off-site authorized disposal areas.

(2) Modifications to the MSA are needed to correct deficiencies in munitions storage, to remove numerous waivers related to the proximity of structures unrelated to the MSA, to remove mixed storage compatibility issues, and to remove explosives compensatory measures that restrict maintenance operations and require personnel to be vacated from the administrative area while maintenance operations are occurring. Providing additional munitions storage is needed to ensure Dobbins ARB has the capacity to store and maintain the munitions needed to support the AFRC

mission today and into the foreseeable future. To the extent practicable, Dobbins ARB needs to bring their MSA into compliance with Department of Defense Explosive Safety Board (DDESB) and Air Force Manual (AFMAN) 91-201, *Explosives Safety Standards,* that govern the location and separation of structures needed to protect MSA and non-MSA personnel from injury should a mishap occur.

PROPOSED ACTION AND ALTERNATIVES

Three action alternatives were found to satisfy the most critical selection standards and meet the purpose and need for the action. Alternative 1, Alternative 2, and Alternative 3, and a No Action Alternative, are carried forward for detailed analysis.

Alternative 1

As described in the following sections, under Alternative 1, several areas within the Southern Area of Dobbins ARB would be developed and fencing would be added to secure the newly developed areas. Under Alternative 1, a lighted suspect vehicle holding area and 16 bay Multi-Cube mixed munitions storage facility would be located south of the MSA and a new MSA administrative building and a munitions personnel parking lot would be constructed outside of the existing MSA. In addition, the MSA would be upgraded to include five additional earthen magazine covered igloos in the western portion of the current MSA area. Under Alternative 1, a new EOD range would also be constructed in the southeast corner of the Southern Area. The abandoned Navy MSA would be demolished and the land returned to its natural state. Proposed construction components are summarized in Tables ES-1 and ES-2.

Table ES-1. MSA Proposed Construction

Facility	*Size (SF)*	*New Impervious Surfaces*
Administrative building	9,671	9,671
Parking lot	12,600	12,600
Concrete Pad (Administrative building)	6,750	6,750
Sidewalks (295 ft x 4 ft)	1,180	1,180
16-bay Multi-Cube concrete pad	11,625	11,625
Concrete Pad for loading/unloading (2)	11,250 each	22,500
Storage Igloos (5)	2,450 each	12,250
Suspect vehicle holding area concrete pad	11,250	11,250
Line of Sight Clearings	50,500	0
Clear Area for Multi-Cube	42,450	0
Clear Area for suspect vehicle holding area	42,450	0
Road to suspect vehicle holding area	6,000	6,000
TOTAL	**229,226**	**93,826**

Legend: ft = foot/feet; SF = square feet.

Table ES-2. 5 lb EOD Training Area Proposed Construction for Alternative 1

Facility	*Size (SF)*	*New Impervious Surfaces (SF)*
Safe/Training Area		
Removal of Existing Fencing	1,336 "linear feet"	N/A
50-ft x 50-ft concrete pad for personnel shelter	2,500	2,500
25-ft x 25 ft concrete pad for inert munitions storage10-ft x 10-ft concrete pad for tool shed	100	100
One Blasting Cap Working Areas (10 ft x 10 ft)	100	100
Two 12-ft x 12-ft concrete pads fenced for mobile explosive storage magazines	144 (each)	288
70-ft x 70-ft Robot Training Area	4,900	0
Landmine Training Area, three Lanes (approximately 24 ft x 70 ft)	1,680	0
EOD Range		
Demolition Pit	400	0
Two 2-ft x 2-ft concrete pads	4 (each)	8
6-ft x 6-ft concrete pad for dumpster	36	36
Clear Area around Demolition Pit – Crusher Run	39,973	0
Line of Site	23,388	0
TOTAL	**73,369**	**3,032**

Legend: ft = foot/feet; EOD = Explosive Ordnance Disposal; SF = square foot/feet

Alternative 2

Under Alternative 2, all components of Alternative 1 would be the same with the exception of the fencing associated with the MSA area and the EOD training area, and the line of sight in the EOD training area. Under Alternative 2, approximately 6,500 linear feet (ft) of chain link fencing with barbed/razor wire would be installed to secure the new Multi-Cube munitions storage facility and suspect vehicle holding area. In addition, the EOD training area would be fenced and the line of sight area from the safe area to the demolition pit would not be cleared.

Alternative 3

Under Alternative 3, all new proposed features described under Alternative 1 would be the same except the location of the new EOD Range, which would be located north of the MSA Area instead of southwest (Table ES-3).

Table ES-3. EOD Training Area Proposed Construction for Alternative 3

Facility	*Size (SF)*	*New Impervious Surfaces (SF)*
Safe/Training Area		
50-ft x 50-ft concrete pad for personnel shelter	2,500	2,500
25-ft x 25 ft concrete pad for inert munitions storage10-ft x 10-ft concrete pad for tool shed	100	100
One Blasting Cap Working Areas (10 ft x 10 ft)	100	100
Two 12-ft x 12-ft concrete pads fenced for mobile explosive storage magazines	144 (each)	288
70-ft x 70-ft Robot Training Area	4,900	0
Landmine Training Area, three Lanes (approximately 24 ft x 70 ft)	1,680	0
EOD Range		
Demolition Pit	400	0
Two 2-ft x 2-ft concrete pads	4 (each)	8
6-ft x 6-ft concrete pad for dumpster	36	36
Clear Area around Demolition Pit – Crusher Run	5,230	0
Line of Site	37,150	0
TOTAL	**52,392**	**2,932**

Legend: ft = foot/feet; EOD = Explosive Ordnance Disposal; SF = square foot/feet

ENVIRONMENTAL CONSEQUENCES

Comparing and differentiating among alternatives comprises a fundamental premise of NEPA. For the alternatives identified for this Proposed Action, summaries and comparisons of consequences are presented in Table ES-4.

Table ES-4. Summary of Impacts

Alternative 1	*Alternative 2*	*Alternative 3*	*No Action Alternative*
Safety			
Impacts to safety would not be significant. The revised ESQD the arcs for the MSA would remain primarily within the Base boundaries with the exception of a small section that would lie over Air Force Plant 6 property. The proposed EOD 5-lb training range demolition pit would be sited outside of the ESQD arcs for the MSA and in an area where the ESQD arc associated with the proposed demolition pit would remain within the Base's boundary. An updated Flight Operating Instruction 13-2, *Proficiency Range Operations*, would set the procedures to be used during explosive proficiency training at the new 5-lb range to minimize the risk of a mishap. Personnel at Dobbins ARB would continue to control, maintain, and store all explosives required for mission performance in accordance with Air Force explosive safety directives (AFMAN 91-201) and no adverse environmental consequences are anticipated with the relocation of the EOD Training Range.	Impacts would be similar to Alternative 1. Additional fencing around the EOD training area would add security.	Safety risks associated with Alternative 3 would be the same as under Alternative 1.	Implementation of the No Action Alternative would maintain existing conditions. Therefore, there would be no increase in safety risks from what they are under current conditions.
Air Quality			
Emissions associated with construction activities proposed at Dobbins ARB would not be significant. Both VOC and NO_x pollutant emissions are below the General Conformity *de minimis* thresholds and the remaining criteria pollutants are below the comparative indicator values. The small, intermittent training sessions would generate minimal, intermittent emissions from ordnance detonation.	Impacts would be similar to Alternative 1.	Impacts would be similar to Alternative 1.	Air quality would be expected to remain as described under affected environment. Therefore, there would be no impacts to air quality under the No Action Alternative.
Noise			
The 62 dB CDNL [lower boundary of Noise Zone II (62-70 dB] would extend off-Base by approximately 1,500 ft to the northwest over portions of Air Force Plant 6, approximately 1,500 ft south, and 700 ft west of the Base. The areas to the south would primarily comprise the golf course as well as some residences along Windy Hill Road where residential and other noise sensitive land uses are considered incompatible. Impacts from individual noise events have the potential	Impacts would be similar to Alternative 1.	The 62- dB CDNL (lower bound of Noise Zone II) would extend off-Base by approximately 1,500 ft to the west over portions of Air Force Plant 6 (Lockheed Martin) and industrial areas compatible with this noise zone. No residential or other sensitive noise receptors deemed incompatible would be affected. The PK15 140 dB noise	Noise associated with EOD operations and construction would be the same as discussed for the baseline conditions and would have no impact on the acoustic environment.

Table ES-4. Summary of Impacts

Alternative 1	*Alternative 2*	*Alternative 3*	*No Action Alternative*
to be significant due to the potential for peak noise levels from 15 percent of the individual high explosive events (PK15) to exceed 140 dBC approximately 0.6 mile from the detonation site and extending into residential and commercial areas southwest of Dobbins ARB and along Atlanta Road, and encompass the majority of the golf course and residential area along Windy Hill Road. Peak noise levels above 140 dB present the risk of physiological damage to unprotected human ears and structural damage claims. 130 dBC would extend approximately 1.1 miles from the detonation site reaching residential areas west of Atlanta Road, Campbell High School, three places of worship in Whitfield Park, and the residential area between Windy Hill Road and Dobbins ARB. Mitigations to reduce risk below significant under Alternative 1 would not be possible.		level would extend 0.6 mile from the detonation site and reach Air Force Plant 6 and a small portion of the industrial area owned by Lockheed Martin. Although the infrequency of use (28 events per year) of the largest explosive charge weight (5 lbs) would minimize risk, management actions such as ensuring inclusion of Lockheed Martin in the base's existing requirement to notify personnel in nearby facilities of the EOD schedule would be needed to reduce the level of impact below significant.	
Land Use			
Alternative 1 would result in an overall increase in off-Base area affected by noise levels greater than 62 CDNL by approximately 179 acres, 65 of which are on Air Force Plant 6 property. The residential area and golf courses would be incompatible. When combined with the PK15 noise levels addressed in the Noise section (4.3.2) that finds a potential risk to the hearing of individuals outdoors without hearing protection when a blast could occur, impacts to land use under Alternative 1 would be considered significant.	Impacts would be similar to Alternative 1.	Compared to Alternative 1, Alternative 3 would result in an overall decrease in off-Base area affected by noise levels greater than 62 dB CDNL by approximately 87 acres. There would be no residential land use within the 62 dB or greater CDNL contours. Therefore, impact to land use would not be significant.	Land Use would be expected to remain as described under affected environment. Therefore, there would be no impacts to land use under the No Action Alternative.
Earth Resources			
Impacts to earth resources would not be significant. Soil erosion-control, stormwater-control, and sediment-control measures would be implemented to minimize any impacts.	Impacts would be similar to Alternative 1.	Impacts would be similar to Alternative 1.	Earth resources would remain as they currently are. There would be no significant impacts to earth resources as a result of the No Action Alternative.

Table ES-4. Summary of Impacts

Alternative 1	*Alternative 2*	*Alternative 3*	*No Action Alternative*
Water Resources			
There would be no significant impacts to water resources. There would be no impacts to wetlands. A small portion of new chain link fencing would extend into the 100-year floodplain of Poorhouse Creek, where a gate would be constructed. Overall, the new fence and gate are not expected to result in changes to flooding upstream or downstream of the site. Therefore, there would be no significant impact to floodplains and the project would be in compliance with EO 11988.	Impacts would be similar to Alternative 1.	Impacts would be similar to Alternative 1.	Under the No Action Alternative, no changes to the Southern Area would occur and water resource conditions would remain the same as under the existing conditions. No impacts to water resources would be expected.
Biological Resources			
Impacts to biological resources would not be significant. There would be no impacts to federally- or state-listed species.	Impacts would be similar to Alternative 1.	Impacts would be similar to Alternative 1.	There would be no change to Biological Resources under this alternative. There would be no significant impacts to Biological Resources as a result of the No Action Alternative.
Infrastructure			
Impacts to infrastructure resulting from construction and operations would not be significant since any interruption of utility services or increased demand on infrastructure would be minor, temporary or infrequent. Existing roadway networks, potable water supply, and installation sanitary sewer, stormwater drainage, and electrical and natural gas systems are adequate to support any temporary or minor changes as a result of the Proposed Action.	Impacts would be similar to Alternative 1.	Impacts would be similar to Alternative 1.	There would be no change to the infrastructure under this alternative. There would be no significant impacts to infrastructure as a result of the No Action Alternative.
Cultural Resources			
There would be no significant impacts to cultural resources under Alternative 1. No NRHP-eligible archaeological or architectural resources have been identified. No traditional cultural resources have been identified at Dobbins ARB.	Impacts would be similar to Alternative 1.	Impacts would be similar to Alternative 1.	Cultural Resources would remain as they currently are. There would be no significant impacts to Cultural Resources as a result of the No Action Alternative.

Table ES-4. Summary of Impacts

Alternative 1	*Alternative 2*	*Alternative 3*	*No Action Alternative*
Hazardous Materials and Waste			
Impacts relative to hazardous materials and wastes would not be significant. Alternative 1 would not introduce new waste streams at Dobbins ARB. There would be no significant increase in the type or quantity of new hazardous materials used or stored at the installation in conjunction with Alternative 1.	Impacts would be similar to Alternative 1.	Impacts would be similar to Alternative 1.	Baseline conditions for hazardous materials, hazardous wastes, and toxic substances would remain unchanged. Therefore, no significant impacts would occur under the No Action Alternative.
Socioeconomics			
There would be no significant impacts to socioeconomics.	Impacts would be similar to Alternative 1.	Impacts would be similar to Alternative 1.	Population, housing, and employment and income would be expected to remain as described under affected environment. Therefore, there would be no socioeconomic impacts under the No Action Alternative.
Environmental Justice and the Protection of Children			
There would be significant disproportionate impacts to low-income and minority populations as well as elderly and children as a result of single event peak sound levels of 140 dB PK15 or higher.	Impacts would be similar to Alternative 1.	There would be no significant disproportionate impacts to low-income or minority as well as elderly and children.	Conditions for low-income and minority populations, children, and the elderly would be expected to remain as described under affected environment. Therefore, there would be no impacts to environmental justice communities or other sensitive populations under the No Action Alternative.

Legend: AFMAN = Air Force Manual; ARB = Air Reserve Base; CDNL = C-weighted Day-Night Average Sound Level; dB = decibel; EO = Executive Order; EOD = Explosive Ordnance Disposal; ESQD = Explosive Safety Quantity Distance; ft = foot/feet; lb = pound; NO_x = nitrogen oxides; PK15 = Single Event Peak Sound Level Exceeded by 15 Percent of Events; USAF = United States Air Force; VOC = volatile organic compound.

1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

This environmental assessment (EA) evaluates potential environmental impacts of proposed modifications to the Southern Area of Dobbins Air Reserve Base (ARB), Georgia, to support both the Air Force Reserve Command (AFRC), and the 94th Airlift Wing's (94 AW) training and operations. The Proposed Action would include construction of a new 5 pound (lb) Explosive Ordnance Disposal (EOD) range that includes a safe/non-explosive training area; Munitions Storage Area (MSA) administration building; 16-bay Multi-Cube munitions storage facility; five earthen magazine covered igloos; suspect vehicle holding area; and demolition of abandoned structures.

This EA has been prepared in accordance with the requirements of the National Environmental Policy Act (NEPA); the Council on Environmental Quality (CEQ) Regulations, and 32 Code of Federal Regulations (CFR) 989, Environmental Impact Analysis Process.

1.2 BACKGROUND

Dobbins ARB is home to the AFRC's 94 AW and headquarters to the 22d Air Force. As a multi-service Reserve training base, the 94 AW is host to several tenant units including the Georgia Army National Guard, Georgia Air National Guard, United States (U.S.) Army Reserve, Navy Reserves, and Marine Corps Reserve.

Dobbins ARB is located on 1,663 acres of land in Cobb County, Georgia, approximately 20 miles northwest of Atlanta, Georgia in the City of Marietta (Figure 1.1-1). Cobb Parkway (Highway 41), which borders Dobbins ARB on the eastern boundary, provides the primary access route to the base. Lockheed Martin and Air Force Materiel Command's Air Force Plant 6 (operated by Lockheed Martin) are co-located with the base. The Southern Area of Dobbins is primarily forested with an existing MSA, 2.5 lb EOD range, small arms range, civil engineering training area, and U.S. Army Reserve Center. Figure 1.1-2 shows the general layout of the Dobbins ARB campus.

- The 94 AW's primary mission is to deploy C-130 aircraft in support of national command objectives. They have eight assigned C-130H *Hercules* aircraft and are responsible for providing highly trained airmen to conduct a wide range of U.S. military and humanitarian operations. As part of AFRC's global reach capability, the Wing's responsibilities range from supplying humanitarian airlift relief to victims of disasters, to airdropping supplies and troops into the heart of contingency operations in hostile areas. To accomplish their mission, training is provided for aircraft pilots and maintainers as well as other ground support personnel, including personnel responsible for disposal of explosive ordnance.

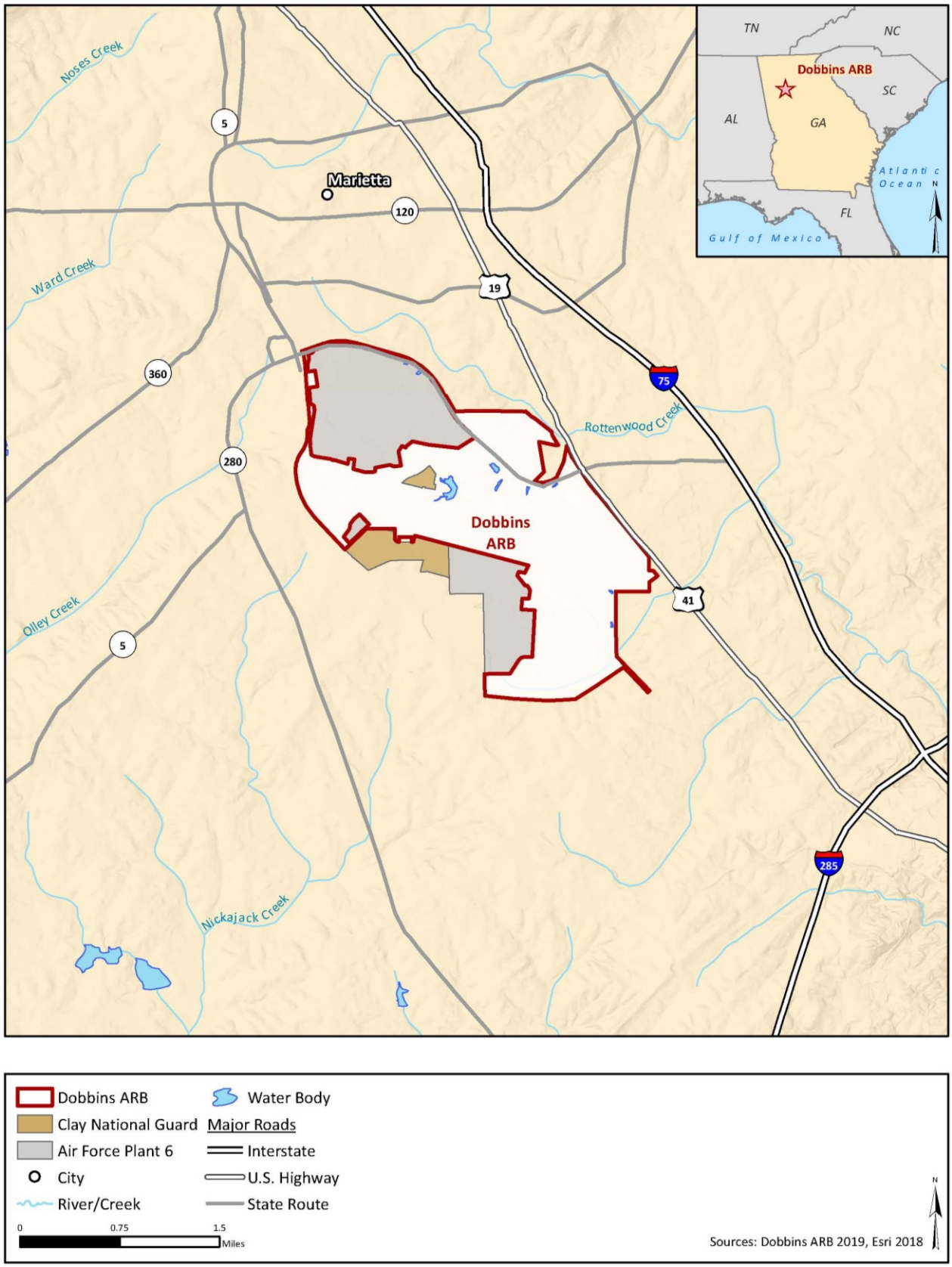


Figure 1.1-1. General Vicinity of Dobbins ARB

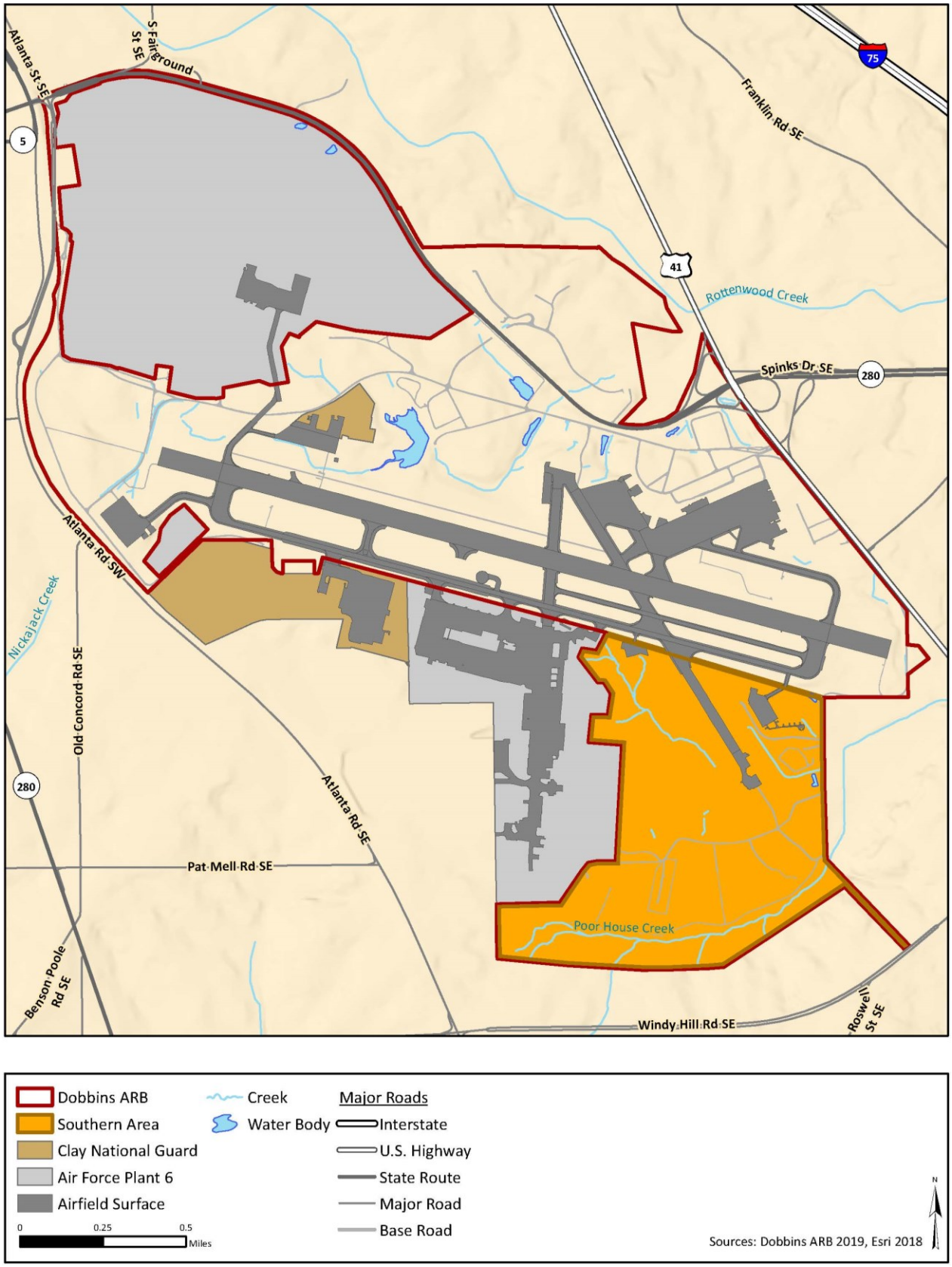


Figure 1.1-2. General Base Layout

- The 22d Air Force's mission is to provide combat-ready forces through citizen airman that are trained and ready to answer our nations call. The 22d Air Force's 622d Regional Support Group is also located at Dobbins ARB and includes AFRC's 622d Civil Engineering Group's Expeditionary Combat Support Training Certification Center (ECS-TCC). As part of their mission, the ECS-TCC provides EOD training and certification for civilian airmen assigned to Air Force Reserve units throughout the U.S.

The Southern Area of Dobbins is considered the training area for functions not related to aircraft and aircraft maintenance and is the location of the 94th Airlift Wing's (94 AW) MSA, where all ordnance is stored. The Southern Area consists of approximately 470 acres of primarily forested land. It is bordered on the north by the airfield, west by Air Force Material Command's Air Force Plant 6 operated by Lockheed Martin, and east by an apartment complex and private industry, and south by two Golf Courses, Fox Creek and Legacy Golf Links. The South Area includes the U.S. Army Reserve Center; ECS-TCC, which is located at the dead runway training area; a small arms range and 2.5 lb EOD range located near the eastern border; a MSA located near the center of the area; and Air Force Plant 6's armored magazine located on the west side (Figure 1.1-3). The abandoned U.S. Navy's MSA is located just south of the Dobbin's MSA.

In 2018, Dobbins ARB completed an Area Development Plan (ADP) for the Southern Area. The plan considered existing development constraints resulting from environmentally sensitive areas and the Explosive Safety Quantity Distance (ESQD) arcs. ESQD arcs are required by the Department of Defense Explosives Safety Board (DDESB) for locations where munitions are stored or handled, such as the MSA, EOD ranges, and suspicious vehicle holding location. The goal of the ADP was to maximize training opportunities in the Southern Area and reduce the area covered by the ESQD arcs to open up additional areas for development and training. Although the Plan was never implemented, this Proposed Action partially fulfills the goals of the ADP.

1.3 REGULATORY COMPLIANCE

A variety of laws, regulations, and Executive Orders (EOs) apply to federal actions and form the basis of the analysis presented in this EA. NEPA of 1969 (42 United States Code [USC] 4321-4347), requires federal agencies to consider potential environmental consequences of proposed actions and enhance the environment through well-informed federal decisions. The CEQ was established under NEPA to implement and oversee federal policy in this process. In accordance with the NEPA of 1969, CEQ *Regulations for Implementing the Procedural Provisions of NEPA* (40 CFR Parts 1500-1508), and 32 CFR Part 989 *et seq*., *Environmental Impact Analysis Process*, the AFRC in coordination with the 94 AW is preparing this EA and will consider the potential consequences to the human and natural environment that may result from implementation of changes to the Southern Area associated with this Proposed Action.

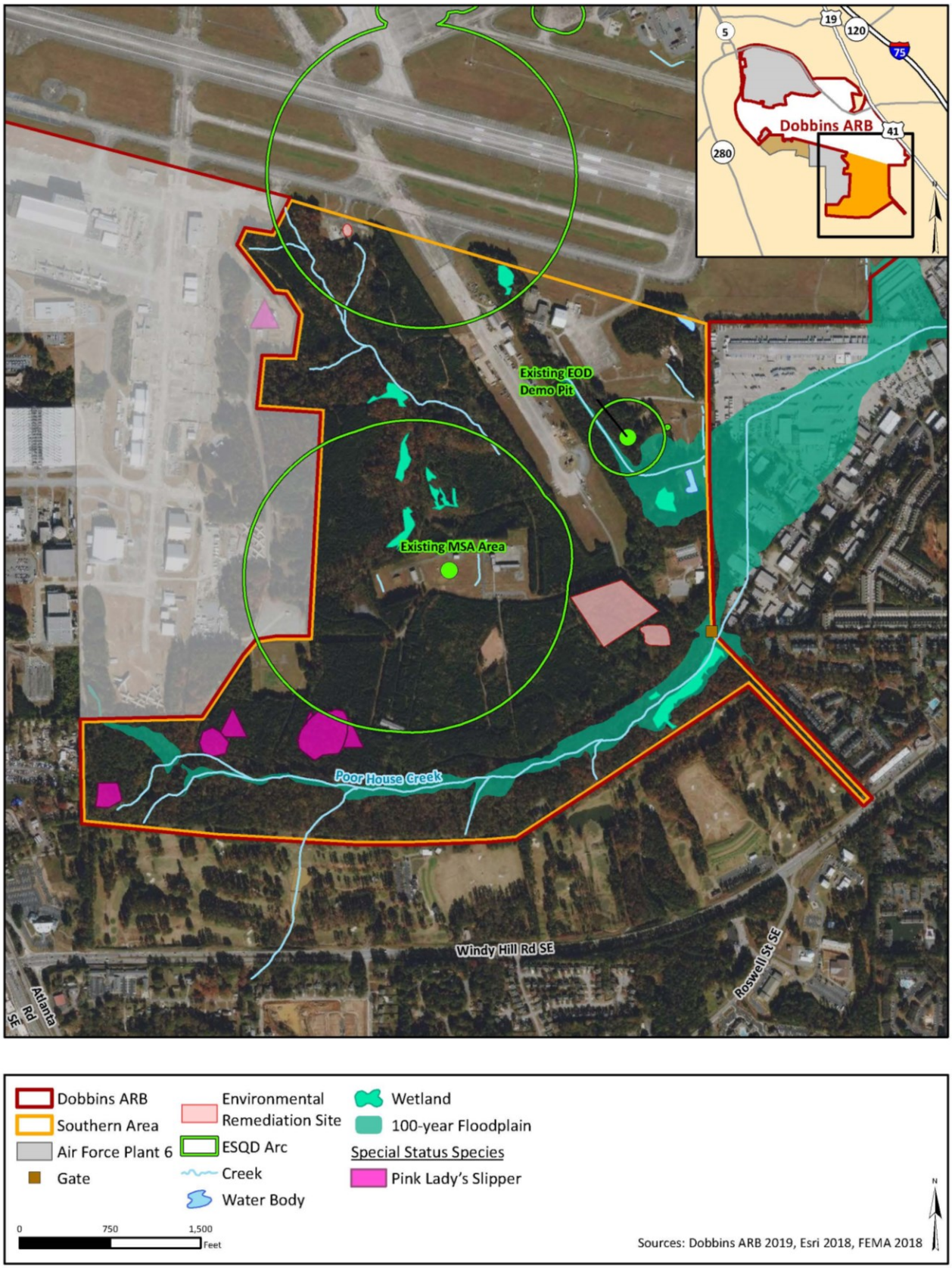


Figure 1.1-3. Existing Southern Area

1.3.1 INTERAGENCY COORDINATION AND CONSULTATIONS

Scoping is an early and open process for developing the breadth of issues to be addressed in the EA and for identifying significant concerns related to a Proposed Action. Per the requirements of the Intergovernmental Cooperation Act of 1968 (42 USC 4231(a)) and EO 12372, *Intergovernmental Review of Federal Programs*, federal, state, and local agencies with jurisdiction that could be affected by the Proposed Action were notified during the development of this EA. Appendix A contains the list of agencies consulted during this analysis and copies of correspondence.

1.3.2 GOVERNMENT TO GOVERNMENT CONSULTATIONS

EO 13175, *Consultation and Coordination with Indian Tribal Governments* directs federal agencies to coordinate and consult with Native American tribal governments whose interests might be directly and substantially affected by activities on federally administered lands. Consistent with that EO, Department of Defense (DoD) Instruction 4710.02, *Interactions with Federally-Recognized Tribes*, and Air Force Instruction (AFI) 90-2002, *Air Force Interaction with Federally-recognized Tribes*, federally-recognized tribes that are historically affiliated with the Dobbins ARB geographic region will be invited to consult on all proposed undertakings that have a potential to affect properties of cultural, historical, or religious significance to the tribes. The tribal consultation process is distinct from NEPA consultation or the interagency coordination process, and it requires separate notification of all relevant tribes. Tribal consultation has been initiated as a part of this NEPA process and in compliance with Section 106 of the NHPA. The timelines for tribal consultation are also distinct from those of other consultations. The Dobbins ARB point-of-contact for Native American tribes is the Installation Commander. The Native American tribal governments that will be coordinated or consulted with regarding these actions are listed in Appendix A.

1.3.3 OTHER AGENCY CONSULTATIONS

Per the requirements of Section 106 of the National Historic Preservation Act (NHPA) and implementing regulations (36 CFR 800), and Section 7 of the Endangered Species Act (ESA) and implementing regulations (including the Migratory Bird Treaty Act [MBTA]), findings of effect and request for concurrence were transmitted to the Georgia State Historic Preservation Office (SHPO) and the U.S. Fish and Wildlife Service (USFWS). All agency correspondence is included in Appendix A. Consultation with the Georgia SHPO has been initiated as a part of this NEPA process and in compliance with Section 106 of the NHPA.

Because the Proposed Action area coincides with wetlands and/or 100-year floodplains, it is subject to the requirements and objectives of EO 11990, *Protection of Wetlands* and EO 11988, *Floodplain Management.* The U.S. Air Force (USAF) published an early notice that the Proposed Action would occur in the 100-year floodplain/wetland in the *Marietta Journal* and *Atlanta Journal Constitution* on January 24 and January 26, 2020.

1.4 DECISION TO BE MADE

The EA evaluates whether the Proposed Action would result in significant impacts on the human environment and identifies any practicable alternatives to construction in the 100-year floodplains/wetlands. If significant impacts are identified, Dobbins ARB would undertake mitigation to reduce impacts to below the level of significance, undertake the preparation of an Environmental Impact Statement addressing the Proposed Action, or abandon the Proposed Action. Headquarters (HQ) AFRC will make the determination on the Finding of No Significant Impact (FONSI) and Finding of No Practicable Alternative (FONPA) to construction in the 100-year floodplain/wetlands.

1.5 PURPOSE OF THE ACTION

The Southern Area of Dobbins ARB contains the largest undeveloped tract of land available for expansion. The ESQD arcs associated with the MSA, existing environmental constraints, and the MSA facilities vacated by the Navy over 10 years ago limit use of the areas available in the Southern Area. The purpose of the Proposed Action is to restructure the Southern Area in a manner that maximizes usable space and meets the needs of Dobbins ARB today and into the foreseeable future while ensuring critical training areas are available to Dobbins ARB personnel, and ensuring the safety of personnel assigned to the MSA and others using the Base's Southern Area.

1.6 NEED FOR THE ACTION

Restructuring the Southern Area is needed to eliminate existing waivers related to explosives storage and operations and enhance use of the area while expanding training opportunities for airmen and soldiers assigned to or training at Dobbins ARB.

Specifically, modifications to the MSA are needed to correct deficiencies in munitions storage, remove numerous waivers related to the proximity of structures unrelated to the MSA, remove mixed storage compatibility issues, and remove explosives compensatory measures that restrict maintenance operations and require personnel to be vacated from the administrative area while maintenance operations are occurring. Providing additional munitions storage is needed to ensure Dobbins ARB has the capacity to store and maintain the munitions needed to support the AFRC mission today and into the foreseeable future. To the extent practicable, Dobbins ARB needs to bring their MSA into compliance with DDESB and AFMAN 91-201, *Explosives Safety Standards,* that govern the location and separation of structures needed to protect MSA and non-MSA personnel from injury should a mishap occur.

The 94th EOD Flight are required to remain proficient in the use and handling of explosive ordnance in fulfillment of their duties that include protecting personnel, resources, and the environment from the effects of hazardous explosives. Such proficiency is accomplished through continuous training. In addition, the 622d ECS-TCC needs an upgraded range to provide EOD training and certification for EOD personnel assigned to Air Force Reserve units throughout the

U.S. Dobbins ARB capacity for EOD is currently limited to 2.5 lbs net explosive weight due to the size of the demolition pit and the inability to increase its size in its current location due to ESQD requirements. This limited capacity requires transport of explosives exceeding 2.5 lbs to an off-site authorized disposal area, and limits opportunities for realistic training by EOD personnel preparing for deployment or providing emergency services both on and off-installation. EOD personnel need training that is realistic in today's environment both at home and abroad while deployed in support of worldwide missions or when responding to threats in the local community. The ability for emergency disposal of unexploded explosive ordnance up to 5 lbs explosive net weight on-base eliminates the need to transport explosives greater than 2.5 lbs net explosive weight to an off-site authorized disposal area, wasting valuable time and resources. The range needs to be relocated in an area where the ESQD arcs remain within the base boundary and do not impact other functions. A co-located safe/training area for EOD personnel needs to be created to support non-explosive training.

Construction contractors without proper permits for base entry are sent to a holding area until permits are obtained. There is currently no dedicated suspect vehicle holding area and Security Forces personnel escort vehicles to the MSA parking area. A new suspect vehicle holding area is needed in an area where the vehicle can be secured and, when in use, the ESQD arcs do not interrupt other activities.

The Navy vacated their MSA located in the Southern Area over 10 years ago and the vacated structures need to be removed to make the land available for potential reuse by other units.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION

The 94 AW is proposing to restructure the Southern Area of the base in a manner that is compatible with the existing MSA and minimizes impacts in the 100-year floodplains, wetlands, and Pink lady's slipper (*Cypripedium acaule*) habitat.

Under the Proposed Action, a new EOD training range, including a demolition pit and safe/training area, would be constructed in the Southern Area. The EOD training range would be certified for detonation of a maximum of 5 lbs net explosive weight for EOD proficiency training and EOD certification. A new MSA administrative building and associated personnel parking would be constructed to the east of the existing MSA area and outside of the intermagazine (IM) separation arcs. In addition, earthen magazine covered igloos, a suspect vehicle holding area, and a Multi-Cube munitions storage facility would be constructed within or near the existing MSA. Structures in the abandoned U.S. Navy MSA would be demolished and the area returned to its natural state for potential future use. Details for each of the alternatives can be found in Section 2.4.

2.2 SELECTION STANDARDS

Identification and analysis of alternatives is one of the core elements of the environmental process under NEPA and the USAF's implementing regulations. The USAF may expressly eliminate alternatives from detailed analysis based on reasonable selection standards (32 CFR 989.8(c)). Consequently, the 94 AW systematically evaluated design plans to identify potential design alternatives for the proposed Southern Area development. Specifically, the selection standards for identifying a suitable design plan included the following:

- Minimize impact to current Base mission activities.
- ESQD arcs do not extend off the Base.
- Conserves and protects natural resources (AFI 32-7001, *Environmental Management*).
- Minimizes impacts to wetlands, 100-year floodplain (EO 11990, *Protection of Wetlands*; and EO 11988, *Floodplain Management*).
- Complies with Defense Explosives Safety Regulation 6055.09, *Defense Explosives Safety Regulation*, and Air Force Manual 91-201, *Explosives Safety Standards.*
- Minimizes disturbance to neighbors to the extent practicable.
- Maximizes opportunities for use of the Southern Area by locating facilities and training that require ESQD arcs away from other training activities (small arms range, dead runway). In accordance with 32 CFR 989.8(c), designs that failed to meet the majority of the selection standards listed above were removed from further consideration.

2.3 SCREENING OF ALTERNATIVES

The following alternatives were identified as potentially meeting the purpose and need for the Proposed Action. Each alternative contains ancillary construction, such as tree clearing, road improvements and utilities.

- Alternative 1 – This alternative would relocate the MSA administrative building outside of the controlled MSA area, add munitions storage capacity, establish a 5 lb EOD range in the southwest corner of the Southern Area, establish a suspect vehicle holding and Multi-Cube munitions storage facility south of the current MSA, and demolish the five abandoned structures in the Navy MSA. Access to the MSA and EOD Ranges would be restricted by extending existing fencing along Patrol Road to Poorhouse Road and adding two gates providing access. Two wooded areas would be cleared to provide line of sight, one between the new MSA administration building and suspect vehicle holding area/Multi-Cube facility, and one between the 5 lb EOD range and the safe area. Ancillary construction would include road improvements, utilities, lighting, and water retention/detention ponds.
- Alternative 2, Alternate Fencing – Under Alternative 2, all components of Alternative 1 would be implemented except for the fencing south of the MSA area. Under Alternative 2, approximately 6,500 linear feet (ft) of chain link fencing with barbed/razor wire would be installed to secure the new administration building, Multi-Cube munitions storage facility, and suspect vehicle holding area. In addition, approximately 2,500 linear ft of chain link fence would be added to enclose the EOD range and the line of sight area from the safe area to the demolition pit would not be cleared.
- Alternative 3 (Preferred Alternative) – Under Alternative 3, all components of Alternative 1 would be implemented except for the location of the 5 lb EOD Range. Alternative 3 would locate all components of the 5 lb EOD range north of the MSA.
- Alternative 4, Suspect Vehicle Holding Area on Dead Runway – Under Alternative 3, all components of Alternative 1 would be implemented except the location of the suspect vehicle holding area. This alternative includes placing the suspect vehicle holding area on the dead runway north of the MSA.
- Alternative 5, Upgrade the current 2.5 lb EOD Range – This alternative would update the existing 2.5 lb EOD range to support 5 lb explosives. All other components of Alternative 1 would occur.
- Alternative 6 – Complete construction of a 5 lb EOD range to the south of the MSA. The range would be located 270 yards south of the existing MSA administration building. The suspect vehicle holding area would not be relocated.

Table 2.3-1 provides an overview of the potential alternatives that were considered that would meet the purpose and need and weighed against the selection standards described under Section 2.2.

Table 2.3-1. Screening of the Alternatives

Alternative Descriptions	SELECTION STANDARDS							
	Minimize Impact to Current Mission	***ESQD Arcs on-base[1]***	***Avoids Impacts to Impacts Wetlands***	***Avoids Impacts to 100-year Floodplains***	***Conserves and protects natural resources***	***Complies with DDESB[1]***	***Maximizes Use of the Southern Area***	***Minimizes Disturbance to Neighbor***
Alternative 1-Locate 5 lb EOD Range in Southwest Corner of the Southern Area, Construct new MSA Admin Building, and Locate Suspect Vehicle Holding Area South of the MSA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Alternative 2 – Alternate Fencing for Alternative 1	Yes	Yes	Yes	No	Yes	Yes	Yes	No
Alternative 3 – All components of Alternative 1, except locate 5 lb EOD Range North of MSA (Preferred Alternative)	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Alternative 4 – All components of Alternative 1, except locate Suspect Vehicle Holding Area on Dead Runway	No	Yes	Yes	Yes	Yes	Yes	No	No
Alternative 5 – All components of Alternative 1 except upgrade the current 2.5 lb EOD Range	No	No	Yes	Yes	Yes	No	No	No
Alternative 6 –All components of Alternative 1, except construction of a 5 lb EOD Range to the south of the MSA	Yes	Yes	Yes	Yes	Yes	No	No	Yes

Legend: DDESB = Department of Defense Explosive Safety Board; EOD = Explosive Ordnance Disposal; ESQD = Explosive Safety Quantity Distance; lb = pound; MSA = Munitions Storage Area

Notes: 1. Critical Selection Standards

2.4 DETAILED DESCRIPTION OF THE ALTERNATIVES CARRIED FORWARD FOR ANALYSIS

NEPA and CEQ regulations mandate the consideration of reasonable alternatives to the Proposed Action. "Reasonable alternatives" are those that also could be utilized to meet the purpose of and need for the Proposed Action. The NEPA process is intended to support flexible, informed decision-making; the analysis provided by this EA and feedback from the public and other agencies will inform decisions made about whether, when, and how to execute the Proposed Action. Among the alternatives evaluated is a No Action Alternative. The No Action Alternative will substantively analyze the consequences of not undertaking the Proposed Action, not simply conclude no impact, and will serve to establish a comparative baseline for analysis.

Three action alternatives were found to satisfy the most critical selection standards and meet the purpose and need for the action. Alternative 1, Alternative 2, and Alternative 3, and a No Action Alternative, are carried forward for detailed analysis.

2.4.1 ALTERNATIVE 1

As described in the following sections, under Alternative 1, several areas within the Southern Area of Dobbins ARB would be developed and fencing would be added to secure the newly developed areas. The abandoned Navy MSA would be demolished and the land returned to its natural state. Proposed construction components are shown in Figures 2.4-1 through 2.4-3 and summarized in Tables 2.4-1 and 2.4-2.

2.4.1.1 Munitions Storage Area

Construct Suspect Vehicle Holding Area and 16-Bay Multi-Cube Munitions Storage Facility

Under Alternative 1, a lighted suspect vehicle holding area and 16 bay Multi-Cube mixed munitions storage facility would be located south of the MSA (Figure 2.4-2). An existing earthen road leading to these facilities from the MSA would be improved using asphalt or similar material to minimize deterioration from heavy equipment accessing the area. Under the Proposed Action, the Multi-Cube area would be developed by constructing a 155- x 75-ft concrete pad and installing a Multi-Cube munitions storage facility on top. Two 150-ft x 75-ft concrete pads would be constructed adjacent to the Multi-Cube for a lighted vehicle staging and loading area. The suspect vehicle holding area would consist of one 155- x 75-ft concrete pad.

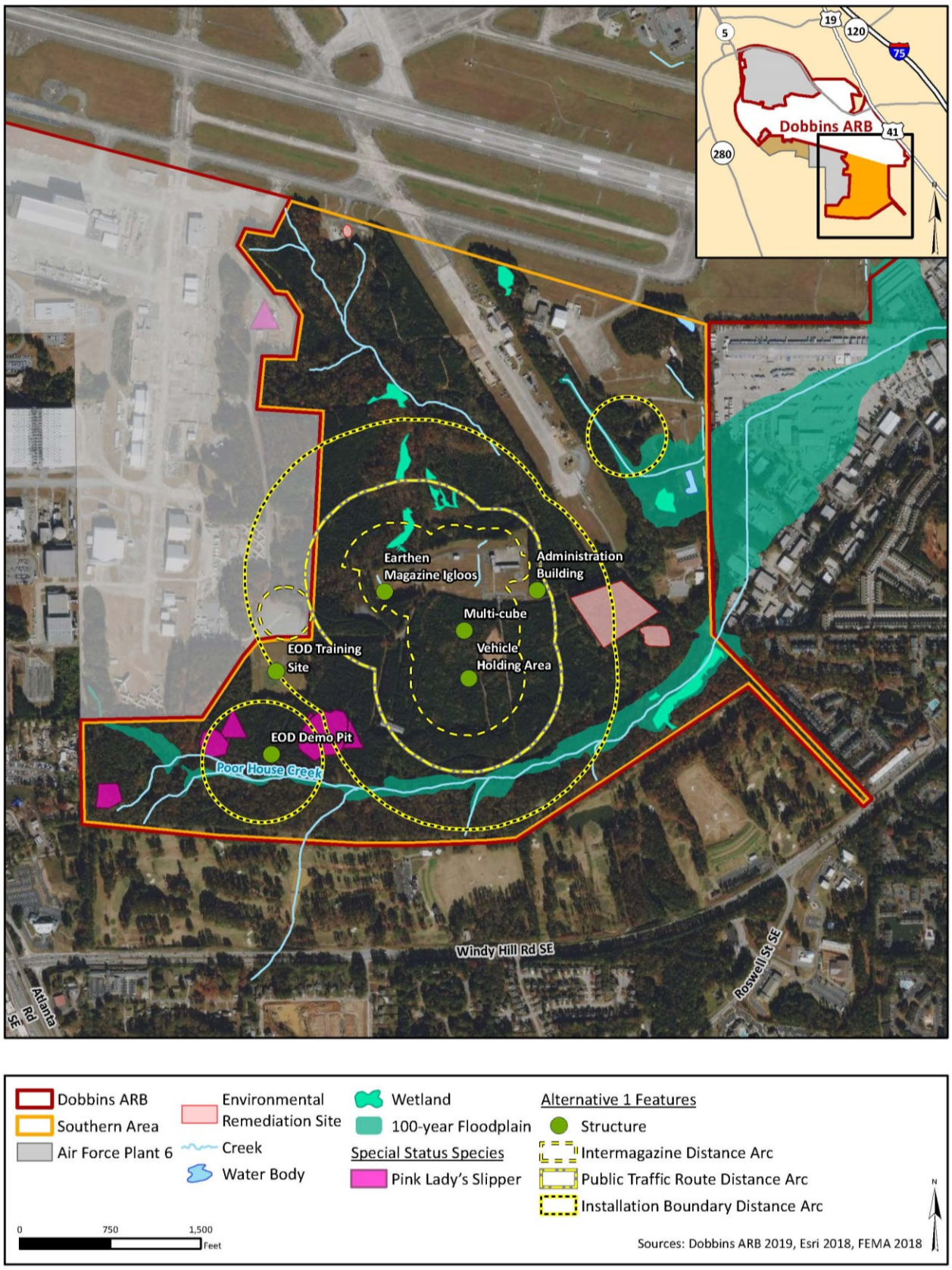


Figure 2.4-1. Alternative 1

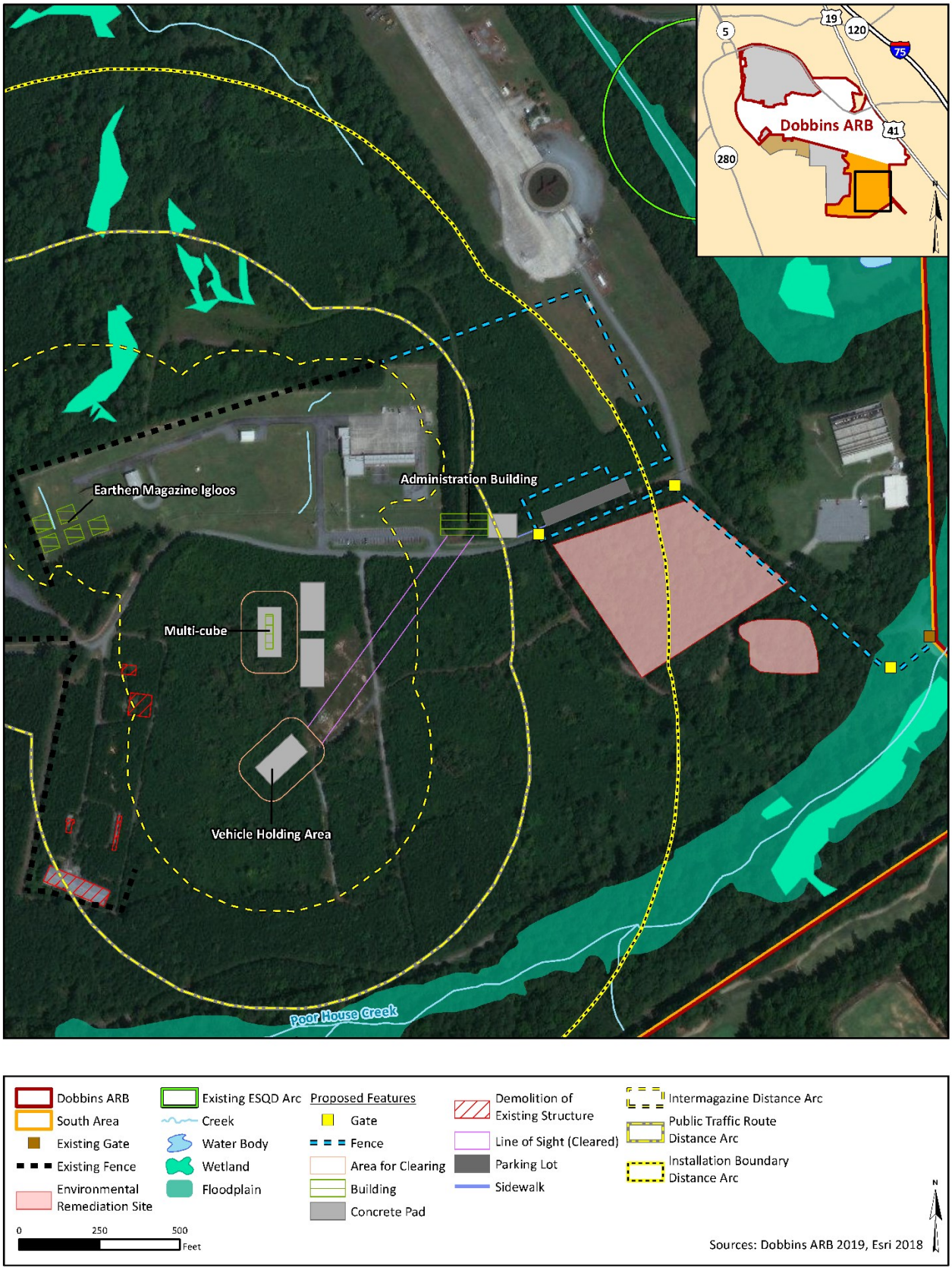


Figure 2.4-2. Alternative 1 and Alternative 3, Proposed MSA Area

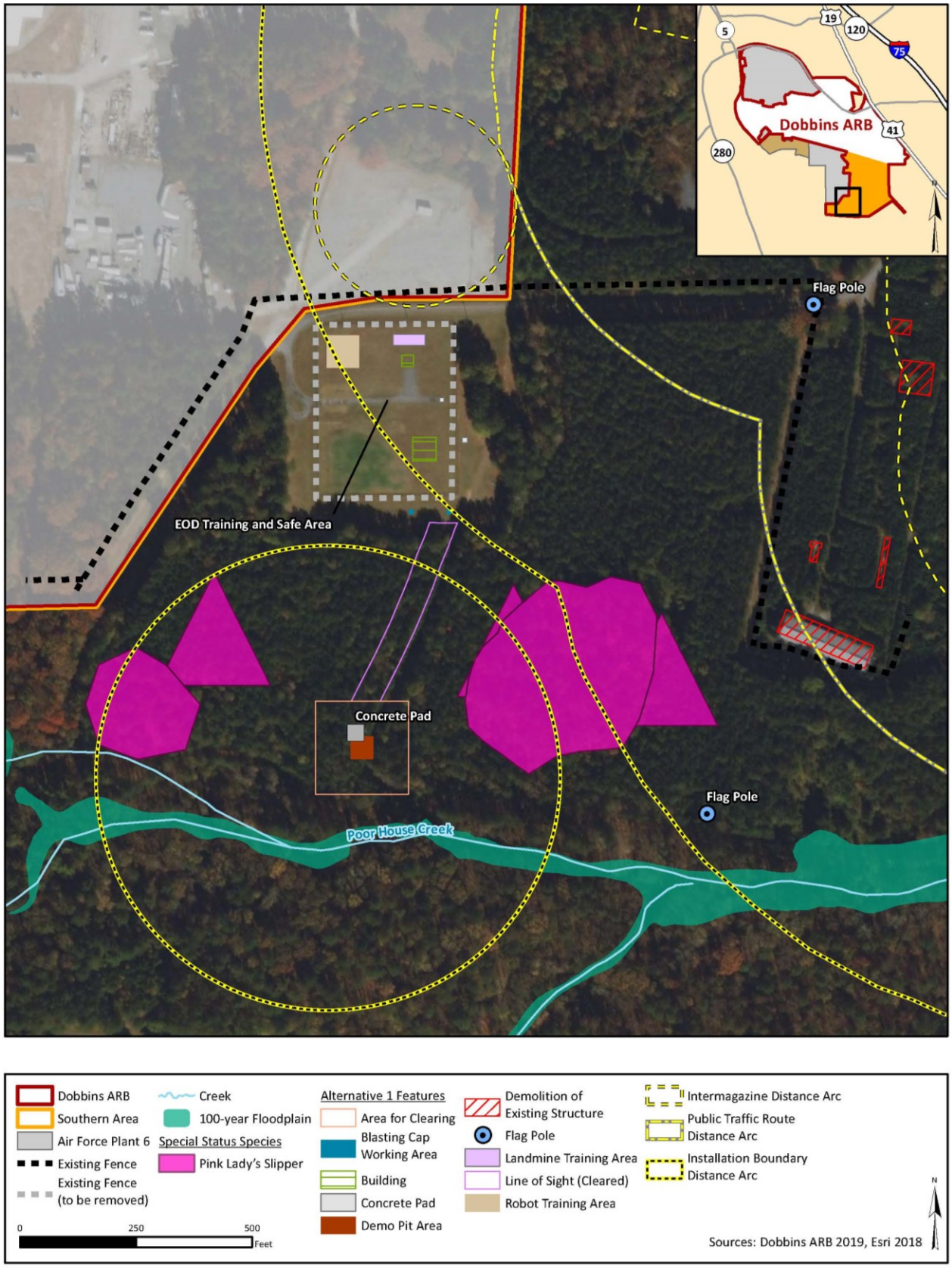


Figure 2.4-3. Alternative 1, Proposed EOD Training Site

Fifty (50) ft of land around the vehicle holding area and 50 ft of land around the Multi-Cube would be cleared to establish the clear zone required for munitions storage facilities. In addition, approximately 50,500 square feet (1.2 acres) between the MSA and suspect vehicle holding area would be cleared to ensure personnel in the MSA administration building have an unobstructed view and clear line of sight to the Multi-Cube and suspect vehicle holding area.

Construct MSA Administrative Building and Upgrade MSA

Under the Proposed Action, an approximately 9,671 square foot (SF) new MSA administrative building and a 280-ft x 45-ft munitions personnel parking lot would be constructed outside of the existing MSA. A concrete sidewalk would be added between the parking lot and the administration building. In addition, the MSA would be upgraded to include five additional earthen magazine covered igloos in the western portion of the current MSA area.

Table 2.4-1. MSA Proposed Construction

Facility	*Size (SF)*	*New Impervious Surfaces*
Administrative building	9,671	9,671
Parking lot	12,600	12,600
Concrete Pad (Administrative building)	6,750	6,750
Sidewalks (295 ft x 4 ft)	1,180	1,180
16-bay Multi-Cube concrete pad	11,625	11,625
Concrete Pad for loading/unloading (2)	11,250 each	22,500
Storage Igloos (5)	2,450 each	12,250
Suspect vehicle holding area concrete pad	11,250	11,250
Line of Sight Clearings	50,500	0
Clear Area for Multi-Cube	42,450	0
Clear Area for suspect vehicle holding area	42,450	0
Road to suspect vehicle holding area	6,000	6,000
TOTAL	229,226	93,826

Legend: ft = foot/feet; SF = square feet

2.4.1.2 Construct New EOD Range

Under the Proposed Action, a new EOD range would be constructed in the southeast corner of the Southern Area as shown in Figure 2.4-3. The range would be constructed in accordance with the criteria defined in Air Force Manual 91-201, *Explosives Safety Standards*, for the types and weights of the proposed explosives (up to 5 lb explosive weight) to support EOD training. The new range would allow detonation of ordnance up to a 5 lb explosive weight. The range would include a demolition pit and a safe area that would also be used to support non-explosive training. As shown in Figure 2.4-3, the safe/training area would be located in a previously developed area that contains a mock village used for Military Operations in Urban Terrain (MOUT) training. The following facilities would be constructed/removed for the safe/training area:

- The existing chain link fencing would be removed.

- A 50-ft x 50-ft concrete pad (6-inch thickness) would be built with a pole barn style structure constructed on it. Power, communications, and water would be run to structure. This would be the primary location of personnel during operations.
- A 10-ft x 10-ft concrete pad (6-inch thickness) would be built with an enclosed tool shed constructed on it.
- One 10-ft x 10-ft blasting cap working area would be constructed by removing 2-ft depth of soil and replacing it with sand. Three sides of the area would be surrounded by 3-ft "T" barricades.
- A 25-ft x 25-ft concrete pad (6-inch thickness) would be built with a pole barn style structure constructed on it for storage of large (inert) munitions items.
- Two 12-ft x 12-ft concrete pads (6-inch thickness) would be built with a mobile explosive storage magazine placed on each pad. Each magazine would require electrical and communications infrastructure ran to it to support lights and alarms. The two magazines would have a chain link fence with barbed wire erected around the perimeter of the two pads.
- A 70-ft x 70-ft robot training area would be constructed by removing 6 inches of soil replacing it with crusher run. The perimeter would be delineated with 8-inch x 8-inch railroad ties. Within this area, obstacles to include various wooden platforms with stairs and ramps would be constructed.

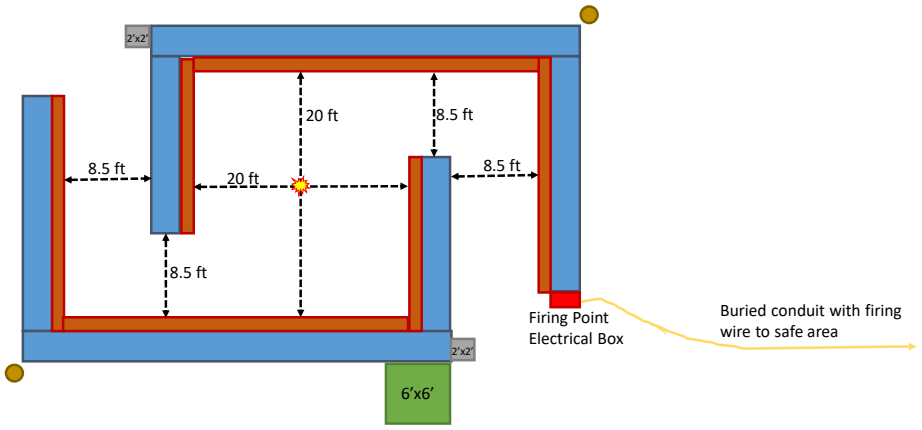
EOD Landmine Training Lanes:

- An area (approximately 24 x 70 ft) would be boxed off by new, pressure treated, metal free telephone poles. A rectangular area inside the poles would be segregated into three distinct landmine training lanes. Telephone poles would be used to separate the three lanes.
- Lane 1 would be sand filled. Five (5) ft of soil would be removed from the lane. A geo-textile fabric would be placed in the bottom. Six (6) inches of gravel would be placed on top of the fabric. A French drain (weeping) line would be placed into the gravel to allow for drainage. Another layer of fabric would be placed on top of the gravel and 4 ft of sand would be added.
- Lane 2 would be rock filled. Two (2) ft of soil would be removed from the lane. A geo-textile fabric would be placed in the bottom. Six (6) inches of gravel would be placed on top of the fabric. A French drain (weeping) line would be placed into the gravel to allow for drainage. Another layer of fabric would be placed on top of the gravel. Lane would be backfilled with 1.5 ft of egg rock and #57 mix.
- Lane 3 would be left as standard top soil. Three (3) ft of dirt would be removed and replaced with 3 ft of clean fill dirt.

The demolition pit would be located approximately 500 ft south of the safe/training area. Improvements to the forestry road between the safe area and demolition pit would provide access

to the site. As required, a 200- x 200-ft area cleared of all vegetation would be graded to a 1 percent elevation change (drop) per 100 ft toward Poor House Creek to allow for water drainage. The detonation pit would be surrounded by an 8-ft-tall x 2.5-ft-wide concrete barricade designed to stop the blast and any secondary fragmentation that may occur. Signage would be installed every 300 ft around the perimeter of the EOD range. To ensure the area is clear (e.g., no humans/animals present) prior to a detonation, a 66-ft-wide area between the detonation pit and the safe area would be cleared to ensure line of sight can be obtained. This area would be maintained as open grass. A flag pole would be located at the entrance of the Southern Area to post the "hot range" warning flag, and the entrance to the range would be secured by barricades, gates or guards at the entrance.

Detonation Point Design (Not to Scale)



The demolition pit would have 3 ft of dirt excavated from the site and backfilled with 3 ft of play sand. Interior walls would be 6-ft x 6-ft with pressure treated timbers held in place by "I" beams. The beams would be placed into the ground to a depth of 6 ft. Eight (8) ft of beam would be exposed for timbers to slide in to. Exterior walls would be 2.5 ft wide and 8 ft tall. There would be 2 ft below grade set on footer. Walls would have exterior corrugated steel sheeting and the interior of wall would be backfilled with sand. Walls would be capped to prevent rain water from filling the wall. Two telephone poles would be placed on opposite exterior sides of the demolition pit. Poles would be buried to a depth of 6 ft for installation of lighting and a camera. At either entrance, a 2- x 2-ft concrete pad (4-inch thickness) would be placed to store blasting caps. Near one entrance to the demolition pit, a 6- x 6-ft concrete pad (4-inch thickness) would be placed for a trash dumpster. The entire area around the demolition pit out 50 ft would have a 6-inch layer of

crusher run leveled to allow for non-combustible material. This would also allow for vehicle access. Landscape fabric would be laid below crusher run. Area beyond that would be low maintenance, fescue/rye type grass. A trench would be dug from the demolition pit to the safe area and 16 American Wire Gauge wire encased in conduit and communications wire would be placed in the trench and backfilled. A drainage tunnel would need to be installed to create a vehicle access path over the drainage ditch along the west edge of the road.

Table 2.4-2 lists the construction requirements for the safe/training area and 5 lb EOD range.

Table 2.4-2. 5 lb EOD Training Area Proposed Construction for Alternative 1

Facility	*Size (SF)*	*New Impervious Surfaces (SF)*
Safe/Training Area		
Removal of Existing Fencing	1,336 "linear feet"	N/A
50-ft x 50-ft concrete pad for personnel shelter	2,500	2,500
25-ft x 25 ft concrete pad for inert munitions storage10-ft x 10-ft concrete pad for tool shed	100	100
One Blasting Cap Working Areas (10 ft x 10 ft)	100	100
Two 12-ft x 12-ft concrete pads fenced for mobile explosive storage magazines	144 (each)	288
70-ft x 70-ft Robot Training Area	4,900	0
Landmine Training Area, three Lanes (approximately 24 ft x 70 ft)	1,680	0
EOD Range		
Demolition Pit	400	0
Two 2-ft x 2-ft concrete pads	4 (each)	8
6-ft x 6-ft concrete pad for dumpster	36	36
Clear Area around Demolition Pit – Crusher Run	39,973	0
Line of Site	23,388	0
TOTAL	73,369	3,032

Legend: ft = foot/feet; EOD = Explosive Ordnance Disposal; SF = square foot/feet

Operations

Under the Proposed Action, the proposed new 5 lb EOD range would be used up to 50 days each year for approximately 4 hours per day. On average, seven detonations would occur during a training session. There would no training after 10:00 p.m. or before 7:00 a.m. Table 2.4-3 lists the proposed annual expenditures and their net explosive weight. In addition, under the Proposed Action, the existing 2.5 lb EOD range will not be closed; however, any future use would be minimal, if at all.

Table 2.4-3. Proposed Annual Expenditures

Ordnance Type [DODIC]	*Weight of Charge (Pounds)*	*94 CES/CED Annual Expenditure*	*622 ECS-TCC Annual Expenditure*	*Total Annual Expenditure*
Demolition charge, C-4 M112 [M023]	5	23	54	77
Demolition charge, TNT [M031]	0.5	0	54	54
Demolition charge, TNT [M032]	5	1	0	1
Dynamite [M591]	5	2	0	2
Demolition charge, Semtex [MN82]	5	2	108	110
Blasting Cap Non-Electric [M131]	.0056	40	108	148
Blasting Cap Electric [M130]	.0056	20	108	128
Blasting Cap with 500 Shock Tube [MN88]	.0056	0	162	162
C-12 Deta-Sleet [M980]	5	4	38	42
FLSC [MM54]	4.62	1	0	1
NW88	.0083	16	0	16
Cartridge, 0.50 caliber, blank, electric impulse [M174]	.04	14	0	14
Ultra Velocity Slug Round, MK 274, 12 ga [AA62]	.02	4	108	112
Avon Round, Mk 275, 12 ga [AA63]	.008	8	108	116
Popper Round, Mk 276, 12 ga [AA64]	.003	4	108	112
AA66	.02	5	0	5
Cartridge, Mk 277, enhanced blank [DWEC]	.01	5	108	113
Cartridge, Mk 279, steel slug [DWED]	.01	8	108	116
Cartridge, Mk280, aluminum slug [DWEE]	.01	0	108	108
Cartridge, .50 caliber, ball [A555]		0	6,480	6,480
Cartridge, 7.62, linked [A143]		0	16,200	16,200
Multipurpose demolition firing device, M142 [ML03]		0	54	54
Detonating Cord [M456]		0	2,700 ft	2,700 ft
Blasting Fuse M700 [M670]		0	1,080	1,080

Table 2.4-3. Proposed Annual Expenditures

Ordnance Type [DODIC]	*Weight of Charge (Pounds)*	*94 CES/CED Annual Expenditure*	*622 ECS-TCC Annual Expenditure*	*Total Annual Expenditure*
Shock tube [YY34]		1000 ft	54,000 ft	55,000 ft

Legend: DODIC = Department of Defense Identification Code; ft = foot/feet; ga = gauge

2.4.2 ALTERNATIVE 2

Under Alternative 2, all components of Alternative 1 would be the same with the exception of the fencing associated with the MSA area and the EOD training area, and the line of sight in the EOD training area. Under Alternative 2, approximately 6,500 linear ft of chain link fencing with barbed/razor wire would be installed to secure the new Multi-Cube munitions storage facility and suspect vehicle holding area. In addition, the EOD training area would be fenced and the line of sight area from the safe area to the demolition pit would not be cleared (Figures 2.4-4 and 2.4-5).

2.4.3 ALTERNATIVE 3 (PREFERRED ALTERNATIVE)

Under Alternative 3, all new proposed features described under Alternative 1 would be the same except the location of the new EOD Range, which would be located north of the MSA Area instead of southwest (Figures 2.4-6 and 2.4-7 and Table 2.4-4).

Table 2.4-4. EOD Training Area Proposed Construction for Alternative 3

Facility	*Size (SF)*	*New Impervious Surfaces (SF)*
Safe/Training Area		
50-ft x 50-ft concrete pad for personnel shelter	2,500	2,500
25-ft x 25 ft concrete pad for inert munitions storage10-ft x 10-ft concrete pad for tool shed	100	100
One Blasting Cap Working Areas (10 ft x 10 ft)	100	100
Two 12-ft x 12-ft concrete pads fenced for mobile explosive storage magazines	144 (each)	288
70-ft x 70-ft Robot Training Area	4,900	0
Landmine Training Area, three Lanes (approximately 24 ft x 70 ft)	1,680	0
EOD Range		
Demolition Pit	400	0
Two 2-ft x 2-ft concrete pads	4 (each)	8
6-ft x 6-ft concrete pad for dumpster	36	36
Clear Area around Demolition Pit – Crusher Run	5,230	0
Line of Site	37,150	0
TOTAL	52,392	2,932

Legend: ft = foot/feet; EOD = Explosive Ordnance Disposal; SF = square foot/feet

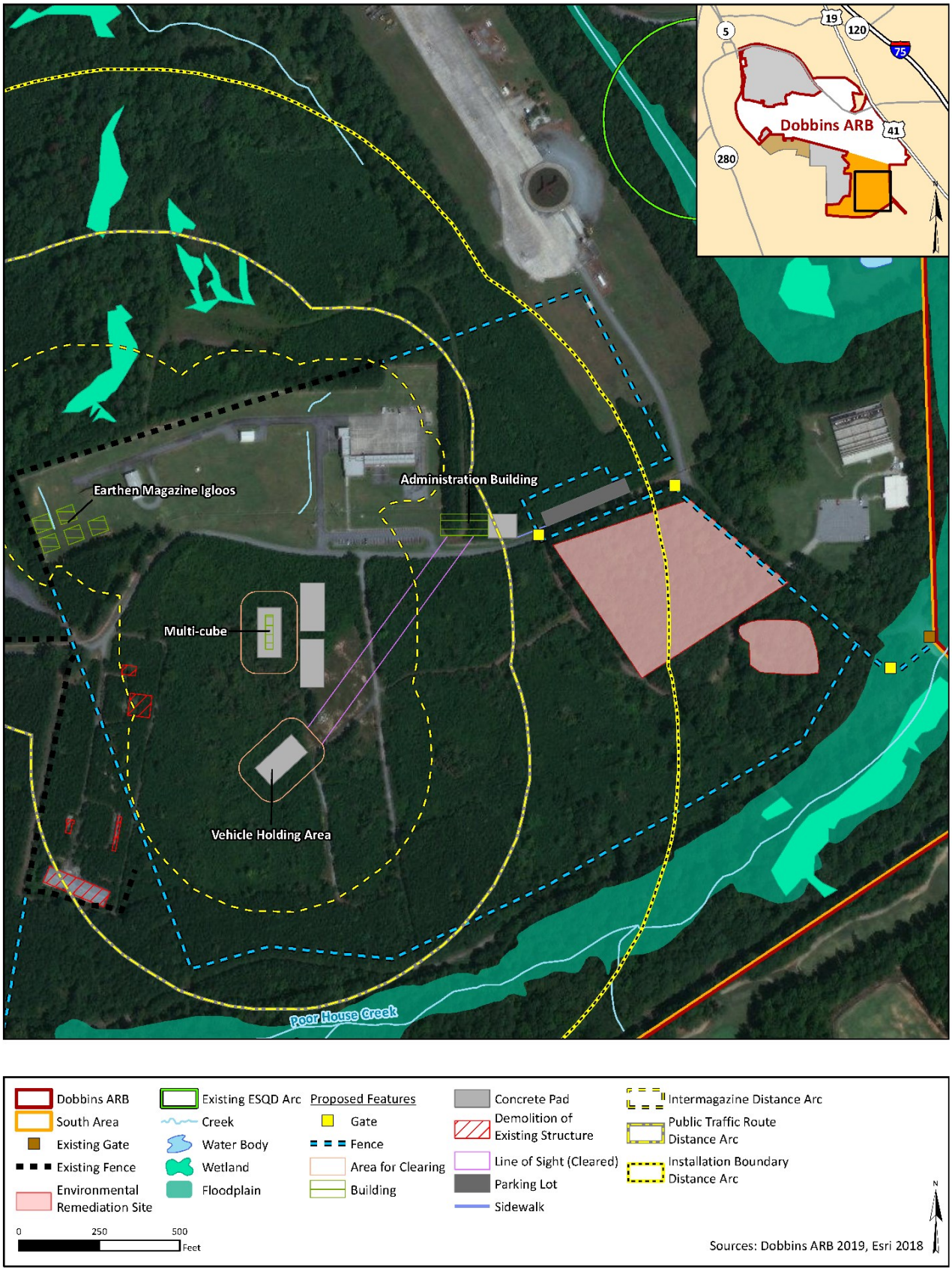


Figure 2.4-4. Alternative 2, Proposed MSA Area

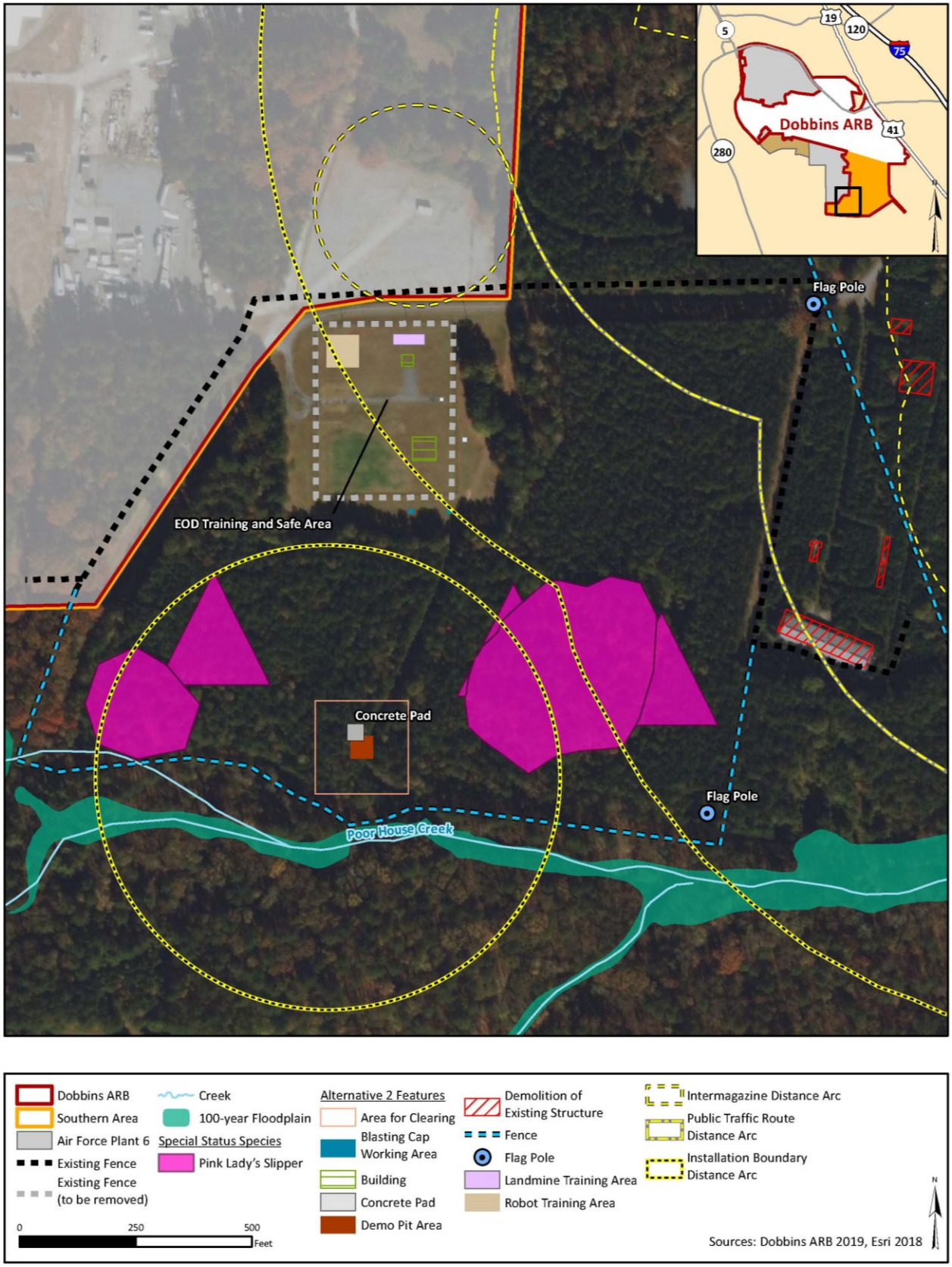


Figure 2.4-5. Alternative 2, Proposed EOD Training Site

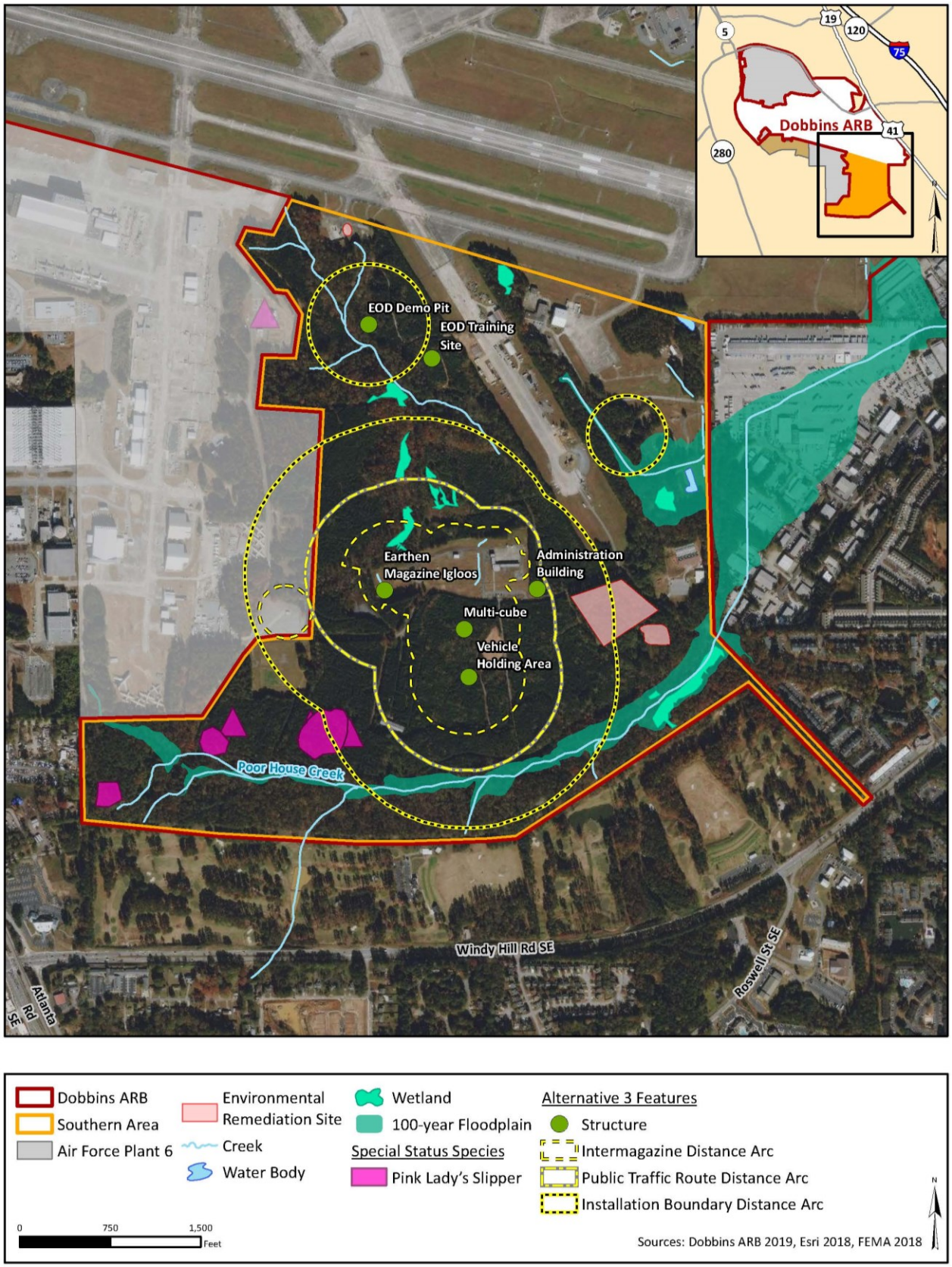


Figure 2.4-6. Alternative 3

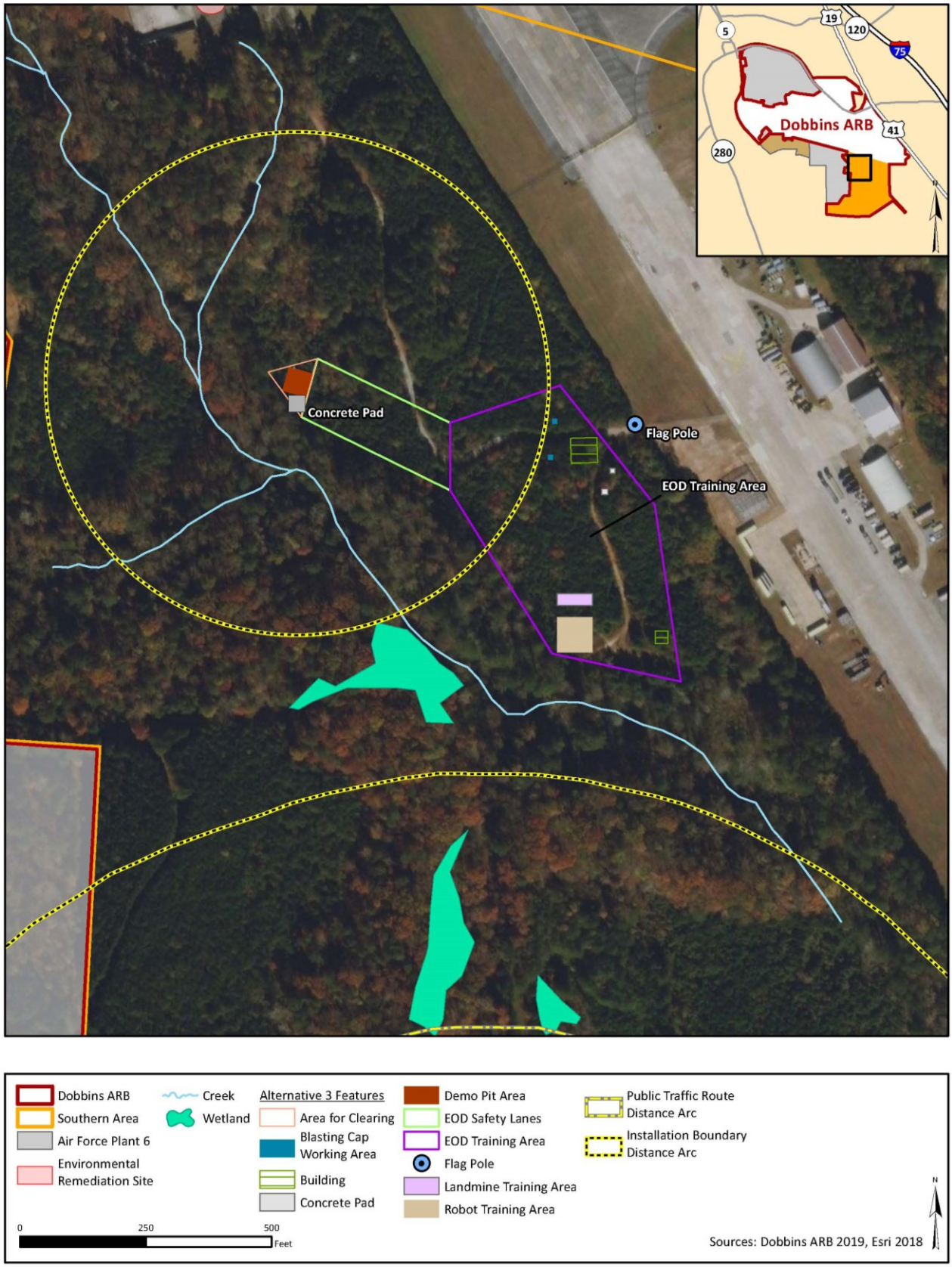


Figure 2.4-7. Alternative 3, Proposed EOD Training Site

2.4.4 NO ACTION ALTERNATIVE

The CEQ regulation 40 CFR § 1502.14(d) specifically requires analysis of the "No Action" alternative in all NEPA documents. Under the No Action Alternative, no changes to the Southern Area would occur and the 94 AW would not implement the proposed project components described under the Proposed Action. Under the No Action Alternative, existing waivers related to explosives storage and maintenance would not be eliminated and the current administration building would not be in compliance with AFMAN 91-201, *Explosives Safety Standards*. EOD technicians assigned to 94 AW would continue to be limited to EOD training with up to 2.5 lb explosive weight as would Air Force Reservists assigned throughout the U.S. and receiving their training and EOD certification through the 622d ECS-TCC. The structures in the abandoned Navy MSA would remain in place and continue to deteriorate. Although this alternative does not meet the purpose and need for the action, it is carried forward for analysis in this EA per CEQ regulations, and as a baseline from which to compare the potential impacts of the Proposed Action and alternatives.

2.5 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER CONSIDERATION

The Proposed Action is to restructure the Southern Area of the base in a manner that is compatible with the existing MSA and minimizes impacts in the 100-year floodplains, wetlands, and Pink lady's slipper habitat. Of the six alternatives evaluated, two best met the purpose and need and adhered to the majority and most significant selection standards. Various alternatives that were eliminated from further consideration are summarized below.

2.5.1 SUSPECT VEHICLE HOLDING AREA ON THE DEAD RUNWAY

This alternative considered all components of Alternative 1, except the placement of the suspect vehicle holding Area. Under this alternative, the suspect vehicle holding area would be located on the dead runway north of the MSA. However, this location was dismissed since this area would be located near the expeditionary heavy equipment and fire department training and the QD arcs would overlap with some of these areas and interfere with pre-deployment training.

2.5.2 KEEP EOD RANGE IN CURRENT LOCATION

All components of Alternative 1 were considered except the location of the 5 lb EOD range. This alternative considered upgrading the current 2.5 lb EOD range in its current location to a 5 lb range. However, this location was dismissed since the ESQD arcs would extend outside of the Base boundary and overlap with the expeditionary heavy equipment and fire department training and interfere with pre-deployment training.

2.5.3 COMPLETE CONSTRUCTION OF A 5 LB EOD RANGE TO THE SOUTH OF THE MSA

Completion of construction of the range within 270 yards of the MSA administration building would place the range inside of the ESQD IM and intraline (IL) arcs where the separation distances required to protect personnel not related to the MSA could not be met. The EOD range needs to be located outside of the IL arcs to comply with AFMAN 91-201.

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3.0 AFFECTED ENVIRONMENT

3.1 SCOPE OF ANALYSIS

This section describes relevant existing environmental conditions for resources potentially affected by the Proposed Action, as well as the No Action Alternative, presented in Chapter 2.0. In describing the affected environment, a framework for understanding the potential direct, indirect, and cumulative effects of the Proposed Action is provided.

As directed by guidelines contained in NEPA, CEQ regulations, and 32 CFR Part 989 et seq., The Environmental Impact Analysis Process, the description of the affected environment focuses only on those resource areas potentially subject to impacts and is commensurate with the anticipated level of environmental impact.

3.1.1 RESOURCES ANALYZED

This EA analyzes potential environmental effects for the following resource areas: safety, air quality, noise, air quality, land use, earth resources, water resources, biological resources, infrastructure, cultural resources, hazardous materials/waste, socioeconomic, and environmental justice and protection of children. The following subsections contain definitions of each resource, describe the region of influence (ROI), and present existing conditions for each resource.

3.1.2 RESOURCES ELIMINATED FROM DETAILED ANALYSIS

The following environmental issues were initially considered but were dismissed because they are not expected to be affected or would be negligibly affected by the implementation of the alternatives.

Visual Resources – The proposed construction and demolition would be located within Dobbins ARB property and would be consistent with the types of structures that are currently present. Minor and short-term impacts to the visual landscape could result from temporary construction activities but would not persist following project completion. Therefore, visual resources were dismissed from detailed analysis in this EA.

Airspace Management – Because the proposed projects would not involve any changes to airspace configuration or aircraft operations, there would be no impacts to airspace. Therefore, airspace was dismissed from detailed analysis in this EA.

3.2 SAFETY

3.2.1 DEFINITION OF THE RESOURCE

The USAF's Operational Risk Management program as outlined in AFI 90-901, *Operational Risk Management Requirements,* provides for a process to maintain readiness in peacetime and achieve success in combat while safeguarding people and resources. This section addresses existing conditions in the Southern Area of Dobbins ARB related to health and safety risks to the military

and civilian workforce and the general public associated with the handling and use of munitions and construction, as well as the procedures and resources that Dobbins ARB uses to reduce these risks. The Secretary of Defense has established basic explosives safety standards and minimum ESQD criteria which are to be observed by DoD components in the performance of operations involving ammunition and explosives. ESQD standards require that ammunition and explosives be handled, stored, or under the supervision of the military services, and be maintained at certain minimum distances from inhabited buildings, passenger railroads, public highways, ships, and other facilities and property. Areas encumbered by ESQD arcs are not considered to have high development potential.

The Southern Area of Dobbins ARB contains activities that have the potential to expose personnel to a variety of hazards. These hazards are primarily associated with the storage and use of munitions, including explosives. The Defense Explosives Safety Regulation (DESR) 6055.09 Edition 1, (the Under Secretary of Defense for Acquisition and Sustainment regulation published by the DDESB) establishes the safety standards required to manage explosives-related risk associated with DoD operations and installations by providing protection criteria to minimize serious injury, loss of life, and damage to property (DDESB 2019). USAF policy includes operational requirements to provide the maximum possible protection to personnel and property, both inside and outside the installations, from the damaging effects of potential accidents involving ammunition and explosives; and to expose the minimum number of people to the minimum amount of explosives for the minimum amount of time (USAF 2020). AFMAN 32-3001, *Explosive Ordnance Disposal (EOD) Program*, identifies program requirements and defines training requirements for Air Force Reserve personnel (USAF 2019). Dobbins ARB Flight Operating Instruction 13-2, *Proficiency Range Operations*, sets forth specific procedures to be used during explosive proficiency training on Dobbins ARB. It is the policy of the USAF to observe every possible precaution in the planning and execution of activities that occur on base to prevent injury to people or damage to property.

3.2.2 EXISTING CONDITIONS

3.2.2.1 Ground Safety

Transportation

Vehicles transporting hazardous materials, including munitions, are inspected before entering the Base. Vehicles suspected of containing hazardous cargo without proper documentation (i.e., suspect vehicles) are escorted by Security Forces personnel to a holding area located within the ESQD arcs to ensure the safety of personnel until the proper documentation can be obtained. There is currently no designated location for these vehicles as required by AFMAN 92-201. Suspect vehicles are escorted to the MSA parking lot where they a must remain until the appropriate paperwork is secured.

Construction and Demolition

Day-to-day operations and maintenance activities conducted by Dobbins ARB are performed in accordance with applicable USAF and AFRC safety regulations, published USAF technical orders, and standards prescribed by Air Force Occupational Safety and Health. Construction and demolition activities within or on the periphery of ESQD arcs are closely managed to ensure compliance with explosives safety requirements as required by DESR 6055.09, Edition 1. AFMAN 91-201, *Explosives Safety Standards,* implements DESR 6055.09 and governs siting and construction of USAF facilities located within the ESQD arcs.

3.2.2.2 Explosives Safety

Munitions Storage

Dobbins ARB controls, maintains, and stores all ordnance and munitions required for mission performance in the MSA located in the base's Southern Area. The existing facilities are fully certified for the ordnance they store and security of the MSA is maintained at all times so that, in the event of an accident, any mishap will cause minimal damage outside of the MSA. Ordnance is handled and stored in accordance with explosives safety directives, DESR 6055.09, Edition 1, and AFMAN 91-201. Military personnel responsible for the handling and use of munitions are thoroughly briefed on the hazards that can potentially cause health and safety problems, and munitions maintenance is carried out by trained, qualified personnel using USAF-approved technical data for the specific type of ordnance.

The MSA is secured by chain link fence and only authorized personnel are allowed to enter. Siting requirements for munitions storage and handling facilities are based on safety and security criteria. These criteria require that defined distances be maintained between areas used to store and maintain munitions and a variety of other types of facilities (USAF 2001).

Each explosive material storage or handling facility has ESQD areas extending outward from its sides and corners for a prescribed distance. The distances are determined by the type and quantity of explosive material to be stored. As can be seen in Figure 1.1-3, ESQD arcs surround the MSA. The ESQD arcs define the area where only individuals related to explosive operations are allowed to enter without escort. Signs are located on roads throughout the area warning visitors that they are entering an explosive clear area. The arcs also define areas where development is either restricted or prohibited altogether in order to ensure safety of personnel and minimize potential

for damage to other facilities in the event of an accident. Siting of facilities within the arcs is subject to review and approval of the DDESB. With the exception of the ESQD arcs that extend onto Air Force Plant 6 property, all ESQD arcs are over USAF-owned and controlled property. A memorandum of agreement has been established between the Air Force and Lockheed Martin (managers of Air Force Plant 6 property) to address exposures within the ESQD arcs and responsibilities between parties.

To the south of the MSA lies an abandoned Navy MSA. All munitions storage structures have been emptied, the administrative building abandoned, and the ESQD arcs removed. The area remains enclosed by chain link fencing and access continues to be limited to authorized personnel minimizing the potential for a safety incident to occur within the area.

Explosive Ordnance Disposal Training

Dobbins ARB's EOD training area is located just to the east of the Dead Runway near the eastern boundary of the Southern Area with ESQD arcs extending for 300 ft around the demolition pit (see Figure 1.1-3). The ESQD arc is contained within the Base boundaries. The EOD control site (Facility 2214), an auxiliary storage shed (facility 2214UT1), and an access road (2045D) are located within the area designated as the Inhabited Building Distance clear zone. Should an explosive mishap occur, potential for loss of the two facilities has been accepted by the commander. The road is very low density, used primarily by personnel working in the two facilities, with access limited through use of a keypad operated gate. As an additional safety precaution, prior to explosive operations, EOD sets up signs warning drivers of the explosive hazard and not to proceed until explosive operations are terminated (USAF 2011).

The existing EOD range is approved for detonation of explosives up to 2.5 lbs net weight with only non-fragmenting explosives permitted during training. Destruction of fragmentation-producing explosives are only allowed if EOD personnel are required to perform an emergency destruction. To minimize risks to other persons, the EOD training range is located in a controlled area secured by chain link fence. Signs along the fence warn of danger and prohibit entry by unauthorized personnel. Due to the inherent risk of serious bodily injury or death, non-essential personnel are not allowed on the range during training operations involving the use of explosives without a qualified EOD escort. Additionally, prior to the handling of explosives, the Range Safety Officer provides a safety briefing to all personnel participating in the EOD training and EOD personnel ensure that no unauthorized personnel are present. Red flags in the EOD area are flown indicating high explosives are in use.

By enforcing standard safety procedures, safety risks to military personnel, civilians, and unauthorized personnel are minimized.

3.3 AIR QUALITY

3.3.1 DEFINITION OF THE RESOURCE

Air quality is defined by ambient air concentrations of specific pollutants determined by the U.S. Environmental Protection Agency (USEPA) to be of concern with respect to the health and welfare of the general public. The ambient air quality levels measured at a particular location are determined by the interactions of emissions, meteorology, and chemistry. When discussing air quality, it is important to consider the types, amounts, and locations of pollutants emitted into the atmosphere. Meteorological factors that affect air quality include wind and precipitation patterns that can affect the distribution, dilution, and removal of pollutant emissions from the atmosphere. Furthermore, chemical reactions in the atmosphere can transform pollutant emissions into other chemical substances. Ambient air quality data are generally reported as a mass per unit volume (e.g., micrograms per cubic meter [$\mu g/m^3$] of air) or as a volume fraction (e.g., parts per million [ppm] by volume).

Pollutant emissions typically refer to the amount of pollutants or pollutant precursors introduced into the atmosphere by a source or group of sources. Pollutant emissions contribute to the ambient air concentrations of criteria pollutants, either by directly affecting the pollutant concentrations measured in the ambient air or by interacting in the atmosphere to form criteria pollutants. Primary pollutants, such as carbon monoxide (CO), sulfur dioxide (SO_2), lead (Pb), and some particulate matter (PM), are emitted directly into the atmosphere from emission sources.

Secondary pollutants, such as ozone (O_3), nitrogen dioxide (NO_2), and some PM, are formed through atmospheric chemical reactions that are influenced by meteorology, ultraviolet light, and other atmospheric processes. Suspended PM_{10} (coarse PM) and $PM_{2.5}$ (fine PM) are generated as primary pollutants by various processes. PM_{10} sources include crushing or grinding operations and dust stirred up by vehicles on roads. $PM_{2.5}$ emissions are produced from all types of combustion, including motor vehicles, power plants, residential wood burning, forest fires, agricultural burning, and some industrial processes. However, PM_{10} and $PM_{2.5}$ can also form as secondary pollutants through chemical reactions or by gaseous pollutants that condense into fine aerosols. Some air pollutants are considered "precursors" to the formation of criteria pollutants. Volatile organic compounds (VOCs) and nitrogen oxides (NO_x) aid in the formation of ground level O_3 through atmospheric chemical reactions that occur in the presence of sunlight and are considered to be O_3 precursors. For this reason, VOC and NO_x emissions are evaluated to assess impacts on O_3 concentrations in the ambient air.

The ROI for this discussion can vary according to pollutant. For pollutants that do not undergo a chemical reaction after being emitted from a source (i.e., direct emissions), the ROI is generally restricted to a region in the immediate vicinity of the Base. These pollutants include CO, SO_2, and

directly emitted PM_{10} and $PM_{2.5}$. For pollutants that undergo chemical reactions and interact within the atmosphere to form secondary pollutants, such as O_3 and its precursors NO_x and VOCs, and precursors of PM_{10} and $PM_{2.5}$, the ROI is a larger regional area. The chemical transformations and interactions that create O_3 and secondary PM_{10} and $PM_{2.5}$ can take hours to occur; therefore, the precursor pollutants may be emitted some distance from the impact area depending on weather conditions.

The Proposed Action would occur at Dobbins ARB located approximately 20 miles northwest of Atlanta, Georgia in the city of Marietta. Therefore, the ROI is part of the Metropolitan Atlanta Intrastate Air Quality Control Region (40 CFR 81.45).

3.3.2 EXISTING CONDITIONS

3.3.2.1 Regulatory Setting

As part of the Clean Air Act (CAA), the USEPA has established National Ambient Air Quality Standards (NAAQS) for major pollutants of concern, called "criteria pollutants." These criteria pollutants include CO, SO_2, NO_2, O_3, PM_{10}, $PM_{2.5}$, and Pb. The NAAQS represent maximum levels of background pollution that are considered safe, with an adequate margin of safety to protect the public health and welfare. Based on measured ambient criteria pollutant data, the USEPA designates areas in the U.S. as having air quality better than (attainment) or worse than (nonattainment) the NAAQS. The State of Georgia has adopted the federal NAAQS; additionally, hundreds of air toxics are regulated through stationary source permits (Georgia Department of Environmental Protection 2017). No stationary source air permits are anticipated to be required for the Proposed Action; therefore, the air toxics regulated by the State of Georgia for stationary sources are not evaluated as part of the air quality analysis.

The CAA also established a national goal of preventing degradation or impairment in federally designated Class I areas. Class I areas are defined as those areas where any appreciable degradation in air quality or associated visibility impairment is considered significant. As part of the Prevention of Significant Deterioration (PSD) Program, Congress assigned mandatory Class I status to all national parks, national wilderness areas (excluding wilderness study areas or wild and scenic rivers), and memorial parks greater than 5,000 acres. There are three Class I areas in the state of Georgia, one in Alabama, and two in Tennessee, but none are less than 60 miles from the ARB and are not considered further in the analysis.

Major stationary sources in attainment areas are regulated under the PSD Program. There are no major stationary sources proposed as part of the Action.

In addition to criteria pollutants, the USEPA has defined 187 substances as hazardous air pollutants (HAPs). HAPs emitted from mobile sources are called Mobile Source Air Toxics (MSATs). MSATs are compounds emitted from highway vehicles and non-road equipment that are known or suspected to cause cancer or other serious health and environmental effects. The primary control

methodologies for these pollutants for mobile sources involves reducing their content in fuel and altering the engine operating characteristics to reduce the volume of pollutant generated during combustion. MSATs would be the primary HAPs emitted by mobile sources during construction. The equipment used during construction would likely vary in age and have a range of pollution reduction effectiveness. Construction equipment, however, would be operated intermittently, for the duration of construction (estimated at 6 years), and would produce negligible ambient HAPs in a localized area. Therefore, MSAT emissions are not considered further in this analysis.

Federal actions are required to conform with the approved State Implementation Plan for those areas of the U.S. designated as nonattainment or maintenance areas for any criteria air pollutant under the CAA (40 CFR §§ 51 and 93). The purpose of the General Conformity Rule is to ensure that applicable federal actions, such as the Proposed Action, would not cause or contribute to a violation of an air quality standard and that the Proposed Action would not adversely affect the attainment and maintenance of any NAAQS. A conformity evaluation must be completed for every applicable USAF action that generates emissions to determine and document whether a proposed action complies with the General Conformity Rule. A conformity demonstration evaluating total direct and indirect emissions must be made. In determining the total direct and indirect emissions caused by the action, agencies must project the future emissions in the area along with the proposed action emissions. Total direct and indirect emissions must consider all emission increases and decreases, be reasonably foreseeable at the time that the conformity evaluation is conducted and are possibly controllable through an agency's continuing program responsibility to affect emissions.

Cobb County is designated as nonattainment for O_3. Additionally, the County was in nonattainment for the annual $PM_{2.5}$ standard that was promulgated in 1997, but this standard was revoked in 2016. For any area that has been redesignated to attainment for the 1997 annual $PM_{2.5}$ NAAQS (i.e., a maintenance area for the 1997 annual $PM_{2.5}$ NAAQS) and is not designated nonattainment for the 2012 primary annual $PM_{2.5}$ NAAQS, the relevant planning organization does not have to make conformity determinations for any annual $PM_{2.5}$ NAAQS after the effective date of the revocation of the 1997 primary annual $PM_{2.5}$ NAAQS because the CAA does not require maintenance areas for secondary NAAQS to make conformity determinations and the 1997 primary annual NAAQS will have been revoked (USEPA 2016a). As a result, general conformity only applies to Cobb County with regard to ozone.

Greenhouse Gases (GHGs) are also regulated under the federal CAA. The USEPA defines the following compounds as the main GHGs emitted into our atmosphere: carbon dioxide (CO_2), methane, nitrous oxide, and fluorinated gases such as hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. GHGs have varying global warming potential (GWP). The reference gas for GWP is CO_2; therefore, CO_2 has a GWP of 1. Other GHGs that have GWPs include methane, which has a GWP of 25, and nitrous oxide, which has a GWP of 298. Carbon dioxide equivalent (CO_2e) emissions are defined as the amount of CO_2 that would have the same GWP, when

measured over a specified timescale (generally, 100 years). CO_2e emissions are calculated by multiplying the mass emissions by the GWP and are reported in metric tons.

The potential effects of proposed GHG emissions are by nature global and result in cumulative impacts because most individual sources of GHG emissions are not large enough to have any noticeable effect on climate change. Therefore, the impact of proposed GHG emissions to climate change is discussed in the context of cumulative impacts.

3.3.2.2 Climate and Meteorology

In the Atlanta metropolitan region, the summers are hot and muggy; the winters are short, cold, and wet; and it is partly cloudy year-round. Over the course of the year, the temperature typically varies from 35 degrees Fahrenheit (°F) to 89°F and is rarely below 22°F or above 95°F. The chance of wet days in the region varies throughout the year. The wetter season lasts 3.8 months, from May through August, with a greater than 32 percent chance of a given day being a wet day. The chance of a wet day peaks at 45 percent in July.

In the coming decades, Georgia will become warmer, and the state will probably experience more severe floods and drought. Rising temperatures are likely to increase the demand for water but make it less available. Warmer temperatures increase the rate at which water evaporates (or transpires) into the air from soils, plants, and surface waters. Because irrigated farmland would need more water, the total demand for water is likely to increase 10 to 50 percent during the next half century. But the amount of available water is likely to decrease, and soils are likely to become drier in most of the state, except along the coast. Seventy years from now, most of Georgia is likely to have 45 to 75 days per year with temperatures above 95°F, compared with about 15 to 30 such days today. Warmer air can also increase the formation of ground-level O_3, a key component of smog. O_3 has a variety of health effects, aggravates lung diseases such as asthma, and increases the risk of premature death from heart or lung disease (USEPA 2016b).

3.3.2.3 Regional and Local Air Pollution Sources

The affected environment for the air quality analysis is Cobb County, Georgia, which is part of the Metropolitan Atlanta Air Quality Control Region.

Table 3.3-1 presents the 2014 emission inventory for Cobb County, which includes the city of Marietta and Dobbins ARB.

Table 3.3-1. 2014 Criteria Pollutant Emissions for Cobb County, Georgia

	Emissions (Tons/Year)					
Location	***VOCs***	***CO***	***NO_x***	***SO_2***	***$PM_{2.5}$***	***PM_{10}***
Cobb County, Georgia	22,546	93,757	12,482	767	2,012	5,973

Legend: CO = carbon monoxide; NO_x = nitrogen oxides; SO_2 = sulfur dioxide; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; PM_{10} = particulate matter less than or equal to 10 microns in diameter; VOC = Volatile Organic Compound.
Source: USEPA 2020.

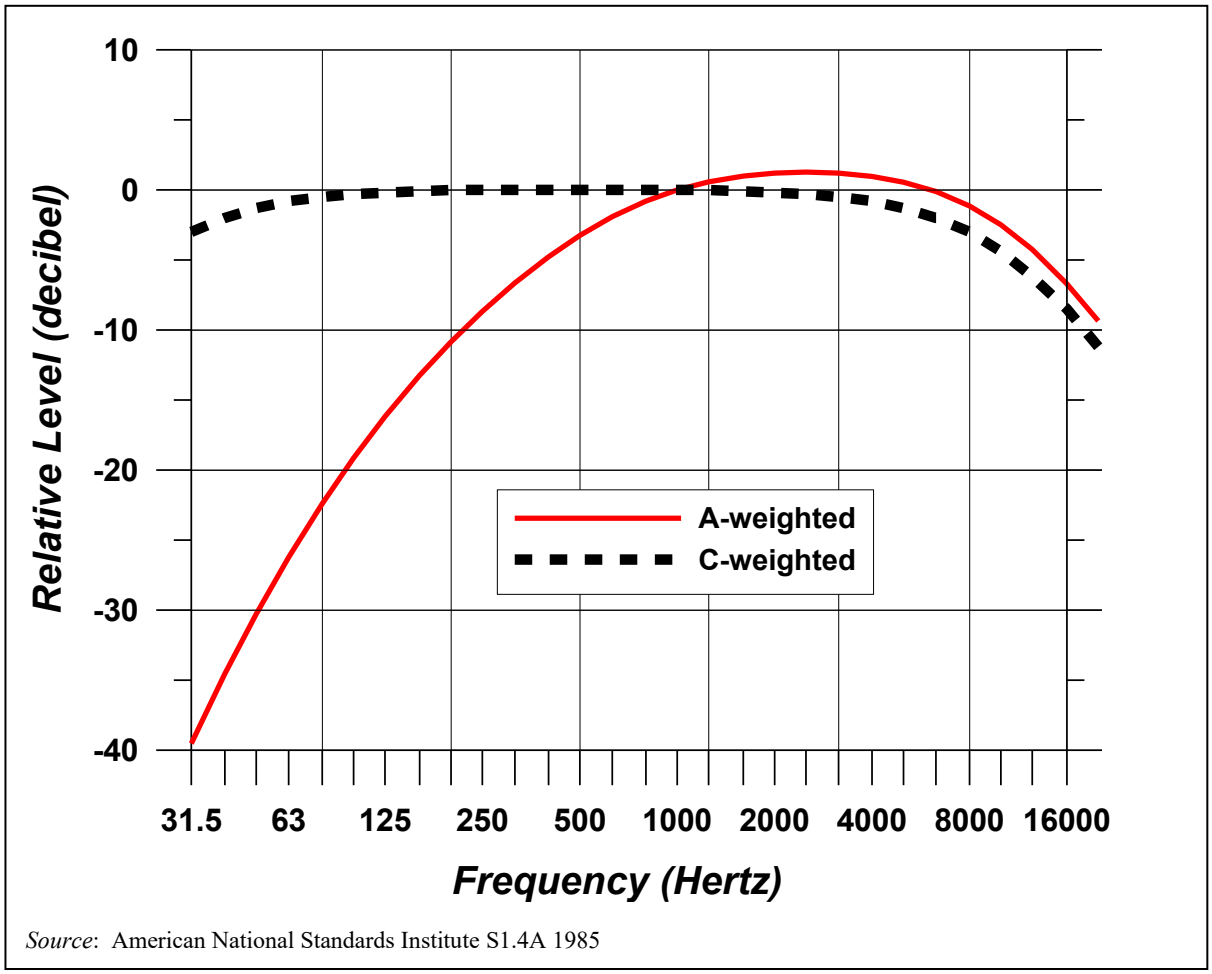
3.4 NOISE

3.4.1 Definition of the Resource

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air or water, and are sensed by the human ear. Sound is all around us. Noise is considered to be unwanted sound that interferes with normal activities or otherwise diminishes the quality of the environment. Although continuous exposure to very high noise levels can cause hearing loss, the principal human response to noise is annoyance. The response of different individuals to similar noise events is diverse and is influenced by the type of noise, perceived importance of the noise, its appropriateness in the setting, time of day, type of activity during which the noise occurs, and sensitivity of the individual.

Sound is expressed in decibels (dB), which is a logarithmic unit. A sound level of 0 dB is approximately the threshold of human hearing and is barely audible under extremely quiet listening conditions. Normal speech has a sound level of approximately 60 dB; sound levels above 120 dB begin to be felt inside the human ear as discomfort. Sound levels between 130 to 140 dB are felt as pain (Berglund and Lindvall 1995). The minimum change in the sound level of individual events that an average human ear can detect is about 3 dB. On average, a person perceives a doubling (or halving) of the sound's loudness when there is a 10 dB change in sound level.

Human hearing sensitivity to differing sound pitch, measured in cycles per second or hertz, is not constant. To account for this effect, sound measured for environmental analysis often utilizes A-weighting, which emphasizes sound roughly within the range of typical speech and de-emphasizes very low and very high frequency sounds, as depicted in Figure 3.4-1. A-weighting is associated with transportation noise, such as roadways and aircraft operations.



Source: American National Standards Institute S1.4A 1985

Figure 3.4-1. Frequency Characteristics of A- and C-Weighting

As shown in Table 3.4-1, blast noise, such as that generated through detonation of explosive ordnance, is fundamentally different from more common noise sources, such as transportation noise. Noise associated with detonation of explosive ordnance is impulsive, contains more low-frequency noise energy, and is best described in terms of C-weighted decibels (dBC), with little low-frequency de-emphasis. Because impulsive sound typically contains more low-frequency energy, it can create secondary effects, such as shaking of a structure, rattling of windows, and inducing vibrations. These secondary effects can cause additional annoyance and complaints.

Table 3.4-1. Comparison of Characteristics of Blast Noise and Transportation Noise

Characteristic	*Blast Noise*	*Transportation Noise*
Duration	Very short	Continuous or greater than 1 second duration
Frequency Content	Broadband, may contain significant low frequency content	Broadband, higher frequencies. May have tonal content
Loudness	Very loud	Moderately loud
Frequency of occurrence	Intermittent	Continuous or frequent
Visibility of noise source	Often far away, hard to determine direction, and unseen	Often visible, direction of source can often be determined
Directivity of source	Typically stationary. Source directivity can be significant	Typically moving. Source directivity is less profound over the duration of the signal

Source: Defense Noise Working Group 2013.

3.4.1.1 Noise Metrics

The word "metric" is used to describe a standard of measurement. As used in environmental noise analysis, there are several different types of noise metrics. Each metric has a different physical meaning or interpretation, and each was developed by researchers attempting to represent the effects of environmental noise. The USAF does not specify policy regarding impulsive noise impacts and defers to the Army Regulation (AR 200-1, *Environmental Protection and Enhancement*) so this study utilizes the following two noise metrics to support noise analysis for this EA, the C-weighted Day-Night Average Sound Level (CDNL) and the Single Event Peak Sound Level Exceeded by 15 Percent of Events (PK15), which is unweighted.

Day-Night Average Sound Level and C-weighted Day-Night Average Sound Level

The Day-Night Average Sound Level (DNL), related to CDNL, accounts for the total or cumulative noise impact of many sources of noise, such as aircraft or road. DNL is the A-weighted noise metric that accounts for all noise events occurring in an average 24-hour period. A 10 dB adjustment is applied to noise events occurring between 10 p.m. and 7 a.m. to account for the added intrusiveness while people are most likely to be relaxing or sleeping. It has been well established that DNL correlates well with long-term community response to noise (Schultz 1978; Finegold et al. 1994). For impulsive sounds, such as explosive detonations, the C-Weighted version, CDNL, is used to better account for the impulsive nature of blast noise. CDNL and DNL can be correlated with one another by way of matching equivalent levels of annoyance. Table 3.4-2 presents the relationships between these metrics and the percentage of the population highly annoyed (Committee on Hearing, Bioacoustics, and Biomechanics 1981).

Table 3.4-2. Relation Between Annoyance, DNL and CDNL

DNL	*% Highly Annoyed*	*CDNL*
45	1	42
50	2	46
55	3	51
60	6	56
65	12	60
70	22	65
75	36	69

Legend: CDNL = C-weighted Day-Night Average Sound Level; DNL = Day-Night Average Sound Level.
Source: Committee on Hearing, Bioacoustics, and Biomechanics 1981.

The Army specifies CDNL thresholds to represent noise zones for community impact from environmental noise roughly matching the percentage of people highly annoyed, as described in Table 3.4-3. According to surveys, 15 percent of the population would be expected to be highly annoyed at a CDNL of 62 dB, which corresponds to the upper threshold of Noise Zone I in AR 200-1. Noise Zone II includes the range of 62-70 dB CDNL for impulsive noise. Noise Zone III includes CDNL levels greater than 70 dB for impulsive noise and corresponds to greater than 36 percent of the population that would be expected to be highly annoyed. This study utilizes Noise Zones II and III computed for the CDNL metric to analyze the potential for impacts to noise sensitive areas.

Table 3.4-3. Noise Limits and Noise Zones

Noise Zone	*DNL (A-weighted aircraft noise)*	*CDNL (C-weighted impulsive noise)*
LUPZ	60-65	57-62
I	< 65	< 62
II	65-75	62-70
III	> 75	> 70

Legend: CDNL = C-weighted Day-Night Average Sound Level; DNL = Day-Night Average Sound Level; LUPZ = Land Use Planning Zone.
Source: U.S. Army 2007.

Peak Noise Level and Single Event Peak Sound Level Exceeded by 15 Percent of Events

The Peak Noise Level (L_{pk}) is the highest instantaneous level obtained by a sound level measurement device. For example, a balloon popped at a distance of approximately 3 ft would produce a peak level between 117 to 137 dB, and a thunderstorm would produce levels between 95 and 112 dB at varying distances (Defense Noise Working Group 2013). The Single Event Peak Sound Level Exceeded by 15 Percent of Events (PK15[met]) is similar to L_{pk}, but accounts for statistical variation in a single event peak noise level that is due to variable weather conditions. All PK15 values presented in this study utilize the Army prescribed meteorological conditions but dropped the '(met)' for brevity. PK15 depicts the noise level that could be exceeded by 15 percent of all events that might occur while the remaining 85 percent of events would be at or below these levels.

The U.S. Army has correlated a range of PK15 level to complaint risk to supplement the Noise Zones described in Table 3.4-3. As detailed in Table 3.4-4, a PK15 of 115 dB or less has a low

risk of noise complaints while a PK15 of 140 dB or greater represents the level at which risk of physiological damage to unprotected human ears and structural damage claims may begin.

Table 3.4-4. Risk of Noise Complaints by Level

Risk of Noise complaints	***Large caliber weapons noise limits (dB) PK15(met)***	***Perceptibility****
Low	< 115	Audible
Medium	115 - 130	Noticeable, distinct, may notice vibration/rattle
High	>130	Very loud, may startle
Risk of physiological damage to unprotected human ears and structural damage claims	>140	Very loud

Note: *Perceptibility is subjective. The classifications are based on how a typical person might describe the event.
Legend: dB = decibel; PK15 = Single Event Peak Level Exceeded by 15 Percent of Events.
Source: U.S. Army 2007.

3.4.2 EXISTING CONDITIONS

3.4.2.1 Aircraft Noise

The primary mission of Dobbins ARB is associated with aircraft flight operations. Aircraft operations are the primary source of noise and define the acoustic environment in the Dobbins ARB ROI. The acoustic environment associated with aircraft activity is presented in the October 2011 Air Installation Compatible Use Zone (AICUZ) Study, which is hereby incorporated by reference (Dobbins ARB 2011). The AICUZ program relies on an A-weighted DNL at and above 65 dB to establish noise zones and recommendations for land use compatibility. The noise zones identified in the 2011 AICUZ study encompass land in Cobb County, the city of Marietta, and a small portion of northern Smyrna (Dobbins ARB 2011). The cities of Marietta and Smyrna, Georgia have developed guidelines to control development in areas surrounding (Dobbins ARB 2015) based in part on recommendations contained in the AICUZ study. Noise generated by aircraft overflights would not change under this proposal; therefore, these are not modeled for the purposes of this EA. There are no changes proposed that would affect the DNL noise contours established by the 2011 AICUZ Study. The CDNL associated with the EOD Range is not included in the AICUZ Study and is, therefore, modeled and detailed below.

3.4.2.2 Explosive Ordnance Disposal Range Noise

The existing EOD Range is located on the eastern boundary of Dobbins ARB as shown in Figure 1.1-3. The EOD Range is used by the 94th Civil Engineering Squadron EOD Flight and the 622d ECS-TCC Flight to train and become proficient in the handling of explosives. Table 3.4-5 lists ordnance expended on the existing range in 2019 and modeled in BNOISE2. The largest charges currently used are 2.5 lbs of Composition 4 (C4), Trinitrotoluene (TNT), Dynamite, and Semtex with 56 total events per year at this charge weight.

Table 3.4-5. Modeled Baseline Annual Ordnance Expenditures at Dobbins ARB EOD Range

Ordnance Type	*Quantity Used*
Demolition charge, C-4 M112, 2.5 lbs (M023)	45
Demolition charge, TNT 2.5 lbs [M032]	2
Demolition charge, Dynamite, 2.5 lbs [M591]	6
Semtex, 2.5 lbs [MN82]	3
Non-electric Blasting Cap, [M131]	40
Electric Blasting Cap, [130]	20
Detonating Cord, 2.5 lb [M456]	3
Demolition Charge, Explosive Sheet, Flexible, 2.5 lbs [M980]	8
Demolition Charge, Shaped Flexible Linear FLSC, 2.31 lbs [MM54]	3
Demolition Charge, Shaped Flexible Linear FLSC, 4.62 lbs [MM54]	1
Demolition Charge, 0.5 lb Semtex A	108
Demolition Charge, 1.25 lb, C-4 [M112]	54
Demolition Charge, block, TNT, 0.5 lb	54
Detonating Cord, PETN	2,700
Deta-sheet, 0.083 inch thick	38

The USAF does not specify policy regarding impulsive noise impacts and defers to AR 200-1, *Environmental Protection and Enhancement*, which prescribes use of BNOISE Version 2 software for analysis. This software allows calculation of noise levels resulting from various explosive materials. Explosive ordnance noise levels were calculated for CDNL and PK15 using the BNOISE2 noise model. These calculated noise levels also support analyses in other environmental resources such as land use, biology and environmental justice.

As can be seen in Figure 3.4-2, the CDNL noise thresholds of 62 and 70 dB are considered in this analysis, which correspond with levels at which community annoyance has been shown in social surveys to increase for high-energy impulsive sounds and noise sensitive uses are not recommended. The majority of the CDNL contours lie over Dobbins ARB property with the 62 dB extending slightly off-base to the east of 1st Street and over the industrial area located along Airport Industrial Park Drive.

3.4.2.3 Construction and Other Noise Sources

Noise associated with construction activities at Dobbins ARB is characteristic of that associated with most USAF installations. During periods of no aircraft activity, noise associated with Base operations results primarily from maintenance and shop activities, ground traffic movement, occasional construction, and similar sources. The resultant noise is almost entirely restricted to the Base itself and is comparable to that which might occur in adjacent community areas.

Figure 3.4-2. Baseline CDNL Noise Contours

3.5 LAND USE

3.5.1 DEFINITION OF THE RESOURCE

Land use describes how land is developed and used, typically in terms of the types of activities allowed. The attributes of land use examined in this EA include land ownership and status, general land use patterns, land management plans, and special use areas. Land use comprises the natural conditions and/or human-modified activities occurring at a particular location. Human-modified land use categories generally include residential, commercial, industrial, agricultural, and other public uses. For the installations and environs, management plans and zoning regulations determine the type and extent of allowable land use in specific areas to limit conflicting land uses and protect specially designated or environmentally sensitive areas. On military installations, land use tends to be generally divided into various operational and support functions.

Several siting criteria have been established specifically for land development and use at and around commercial and military airfields. For example, accident potential zones and runway protection zones address height restrictions, development density, and land use in and around airports, and are enforced to reduce the potential for aircraft-related hazards.

The USAF has established guidelines to help assess land use compatibility with noise exposure around airports and has adopted the Army's land use compatibility tables for use at ranges where explosives are used. As shown in Table 3.5-1, a range of noise exposure levels are associated with a given land use. These guidelines are intended as a planning tool and as such provide general indications as to whether particular land uses are appropriate for certain predicted noise exposure levels. The designations in the table do not constitute a federal determination that any land use is acceptable or unacceptable under federal, state, or local law, nor are they used to determine if a structure is habitable or uninhabitable. Combined with the land use tables, CDNL and DNL provides one mechanism for local communities to use in controlling new development in a manner that limits interference to day-to-day activities from outside noise sources, such as ordnance operations (CDNL), aircraft overflights and other transportation noise (DNL). However, these recommendations must be adapted based on the economic and technological feasibility and the needs and desires of each particular community.

Table 3.5-1. Land Use Compatibility for Artillery/Explosives.

LAND USE		SUGGESTED LAND USE COMPATIBILITY		
SLUCM No.	*Land Use Name*	*LUPZ CDNL or CNEL 57-62*	*Noise Zone II CDNL or CNEL 62-70*	*Noise Zone III CDNL or CNEL 70+*
10	Residential			
11	Household units	Y[1]	N[2,3]	N[3]
11.11	Single units: detached	Y[1]	N[2,3]	N[3]
11.12	Single units: semidetached	Y[1]	N[2,3]	N[3]
11.13	Single units: attached row	Y[1]	N[2,3]	N[3]
11.21	Two units: side-by-side	Y[1]	N[2,3]	N[3]
11.22	Two units: one above the other	Y[1]	N[2,3]	N[3]
11.31	Apartments: walk-up	Y[1]	N[2,3]	N[3]
11.32	Apartment: elevator	Y[1]	N[2,3]	N[3]
12	Group quarters	Y[1]	N[2,3]	N[3]
13	Residential hotels	Y[1]	N[2,3]	N[3]
14	Mobile home parks or courts	Y[1]	N[2,3]	N[3]
15	Transient lodgings	Y	Y	N
16	Other residential	Y[1]	N[2,3]	N[3]
20	Manufacturing			
21	Food and kindred products; manufacturing	Y	Y[4]	Y[4]
22	Textile mill products; manufacturing	Y	Y[4]	Y[4]
23	Apparel and other finished products; products made from fabrics, leather, and similar materials; manufacturing	Y	Y[4]	Y[4]
24	Lumber and wood products (except furniture); manufacturing	Y	Y[4]	Y[4]
25	Furniture and fixtures; manufacturing	Y	Y[4]	Y[4]
26	Paper and allied products; manufacturing	Y	Y[4]	Y[4]
27	Printing, publishing, and allied industries	Y	Y[4]	Y[4]
28	Chemicals and allied products; manufacturing	Y	Y[4]	Y[4]
29	Petroleum refining and related industries	Y	Y[4]	Y[4]
30	Manufacturing (continued)			
31	Rubber and misc. plastic products; manufacturing	Y	Y[4]	Y[4]
32	Stone, clay and glass products; manufacturing	Y	Y[4]	Y[4]

Table 3.5-1. Land Use Compatibility for Artillery/Explosives.

LAND USE		SUGGESTED LAND USE COMPATIBILITY		
SLUCM No.	*Land Use Name*	*LUPZ CDNL or CNEL 57-62*	*Noise Zone II CDNL or CNEL 62-70*	*Noise Zone III CDNL or CNEL 70+*
33	Primary metal products; manufacturing	Y	Y[4]	Y[4]
34	Fabricated metal products; manufacturing	Y	Y[4]	Y[4]
35	Professional scientific, and controlling instruments; photographic and optical goods; watches and clocks	Y	N	N
39	Miscellaneous manufacturing	Y	Y[4]	Y[4]
40	Transportation, communication and utilities			
41	Railroad, rapid rail transit, and street railway transportation	Y	Y	Y
42	Motor vehicle transportation	Y	Y	Y
43	Aircraft transportation	Y	Y	Y
44	Marine craft transportation	Y	Y	Y
45	Highway and street right-of-way	Y	Y	Y
46	Automobile parking	Y	Y	Y
47	Communication	Y	N	N
48	Utilities	Y	Y	Y
49	Other transportation, communication and utilities	Y	Y	N
50	Trade			
51	Wholesale trade	Y	Y	N
52	Retail trade – building materials, hardware and farm equipment	Y	Y	N
53	Retail trade – including shopping centers, discount clubs, home improvement stores, electronics superstores, etc.	Y	Y	N
54	Retail trade – food	Y	Y	N
55	Retail trade – automotive, marine craft, aircraft and accessories	Y	Y	N
56	Retail trade – apparel and accessories	Y	Y	N
57	Retail trade – furniture, home, furnishings and equipment	Y	Y	N
58	Retail trade – eating and drinking establishments	Y	Y	N
59	Other retail trade	Y	Y	N
60	Services			
61	Finance, insurance and real estate services	Y	Y	N
62	Personal services	Y	Y	N
62.4	Cemeteries	Y	Y	Y
63	Business services	Y	Y	N
63.7	Warehousing and storage	Y	Y[4]	Y[4]
64	Repair services	Y	Y	N
65	Professional services	Y	Y	N
65.1	Hospitals, other medical facilities	Y[1]	N	N
65.16	Nursing homes	Y[1]	N	N
66	Contract construction services	Y	Y	N
67	Government services	Y	Y	N

Table 3.5-1. Land Use Compatibility for Artillery/Explosives.

LAND USE		SUGGESTED LAND USE COMPATIBILITY		
SLUCM No.	*Land Use Name*	*LUPZ CDNL or CNEL 57-62*	*Noise Zone II CDNL or CNEL 62-70*	*Noise Zone III CDNL or CNEL 70+*
68	Educational services	Y[1]	N	N
68.1	Child care services, child development centers, and nurseries	Y[1]	N	N
69	Miscellaneous Services			
69.1	Religious activities (including places of worship)	Y[1]	N	N
70	Cultural, entertainment and recreational			
71	Cultural activities	Y[1]	N	N
71.2	Nature exhibits	Y[1]	N	N
72	Public assembly	Y[1]	N	N
72.1	Auditoriums, concert halls	Y[1]	N	N
72.11	Outdoor music shells, amphitheaters	Y[1]	N	N
72.2	Outdoor sports arenas, spectator sports	Y	N	N
73	Amusements	Y	Y	N
74	Recreational activities (including golf courses, riding stables, water recreation)	Y	N	N
75	Resorts and group camps	Y	N	N
76	Parks	Y	N	N
79	Other cultural, entertainment and recreation	Y	N	N
80	Resource production and extraction			
81	Agriculture (except live- stock)	Y	Y	Y
81.5	Livestock farming	Y	N	N
81.7	Animal breeding	Y	N	N
82	Agriculture related activities	Y	Y	Y
83	Forestry activities	Y	Y	Y
84	Fishing activities	Y	Y	Y
85	Mining activities	Y	Y	Y
89	Other resource production or extraction	Y	Y	Y

Notes:

[1]LUPZ- Land Use Planning Zone is a subdivision of Land Use Zone I and functions as a buffer for Noise Zone II. Communities and individuals often have different views regarding acceptable or desirable levels of noise. To address this, some local governments have implemented land use planning measures beyond Noise Zone II limits. In addition to mitigating current noise impacts, implementing such controls within the LUPZ can create a buffer to prevent the possibility of future noise conflicts.

[2]Although local requirements for on- or off-base housing may require noise-sensitive land uses within Noise Zone II, such land use is generally not compatible within Noise Zone II. Measures to achieve overall noise level reduction inside structures do not solve noise difficulties outside the structure. Barriers are not effective reducing the noise from artillery and armor, the detonation of either large caliber military munitions or a large quantity of explosives. Additionally, noise level reduction inside structures does not mitigate the vibration generated by the low-frequency energy of large caliber weapons firing and detonations.

[3]Within Zones, existing "noise sensitive land uses are considered as pre-existing incompatible land uses. In most cases these uses are not a risk to either mission sustainment or a community's quality of life. Most long-term members near Army installations or activities acknowledge hearing military operations and activities but they are usually not alarmed or bothered by the noise.

[4]Although noise levels may be compatible, caution should be exercised in siting any activity which may be sensitive to vibration.

The ROI for land use includes Dobbins ARB and the lands immediately adjacent to the base.

3.5.2 EXISTING CONDITIONS

Dobbins ARB is located in Cobb County, Georgia between the cities of Smyrna, south of the Base, and Marietta, northwest of the base. The Base is surrounded primarily by land that is zoned for residential housing, commercial, and industrial areas (Figure 3.5-1). To the east of the Base is East Cobb, a suburban residential area of unincorporated Cobb County. Directly adjacent to the north of Dobbins ARB are a few city parks, including Al Burruss Nature Park and Wildwood Park. Several universities are also located north of the Base, including Life University, Georgia Highland College, Kennesaw State University, and Embry-Riddle University. Directly adjacent to the Southern Area on the western boundary is Air Force Plant 6 and Lockheed Martin and to the east boundary is an apartment complex and private industry. Two golf courses (Fox Creek and Legacy Golf Links) are directly adjacent to the southern boundary of the base.

Dobbins ARB is divided into five planning districts: the Airfield District, the Flightline District, the Mission Support District, the Training District, and the Joint Use District. The Training District, which encompasses this Proposed Action, is composed primarily of the dead runway, MSA, and runway buffer. A privately owned cemetery, Jonesville Cemetery, is located north of the flightline and entirely within the boundaries of Dobbins ARB.

Land use activities most sensitive to noise typically include residential and commercial use, public services, and areas associated with cultural and recreational uses, such as parks/open space. Noise measurements related to ordnance operations that define the area of noise impact are expressed in terms of CDNL (see Section 3.4, *Noise,* for more details). The DoD has established noise compatibility criteria for various land uses. According to these criteria, sound levels up to 62 dB CDNL are compatible with land uses such as residences, transient lodging, manufacturing, and medical facilities. However, noise levels above 62 dB DNL are not compatible with residences. Currently, ordnance noise from Dobbins ARB exposes approximately 81 acres of off-Base areas to the southeast that are zoned as industrial and planned residential to noise levels between 62 and 70 dB CDNL. Figure 3.5-1 shows existing noise contours and the land use in the vicinity of Dobbins ARB.

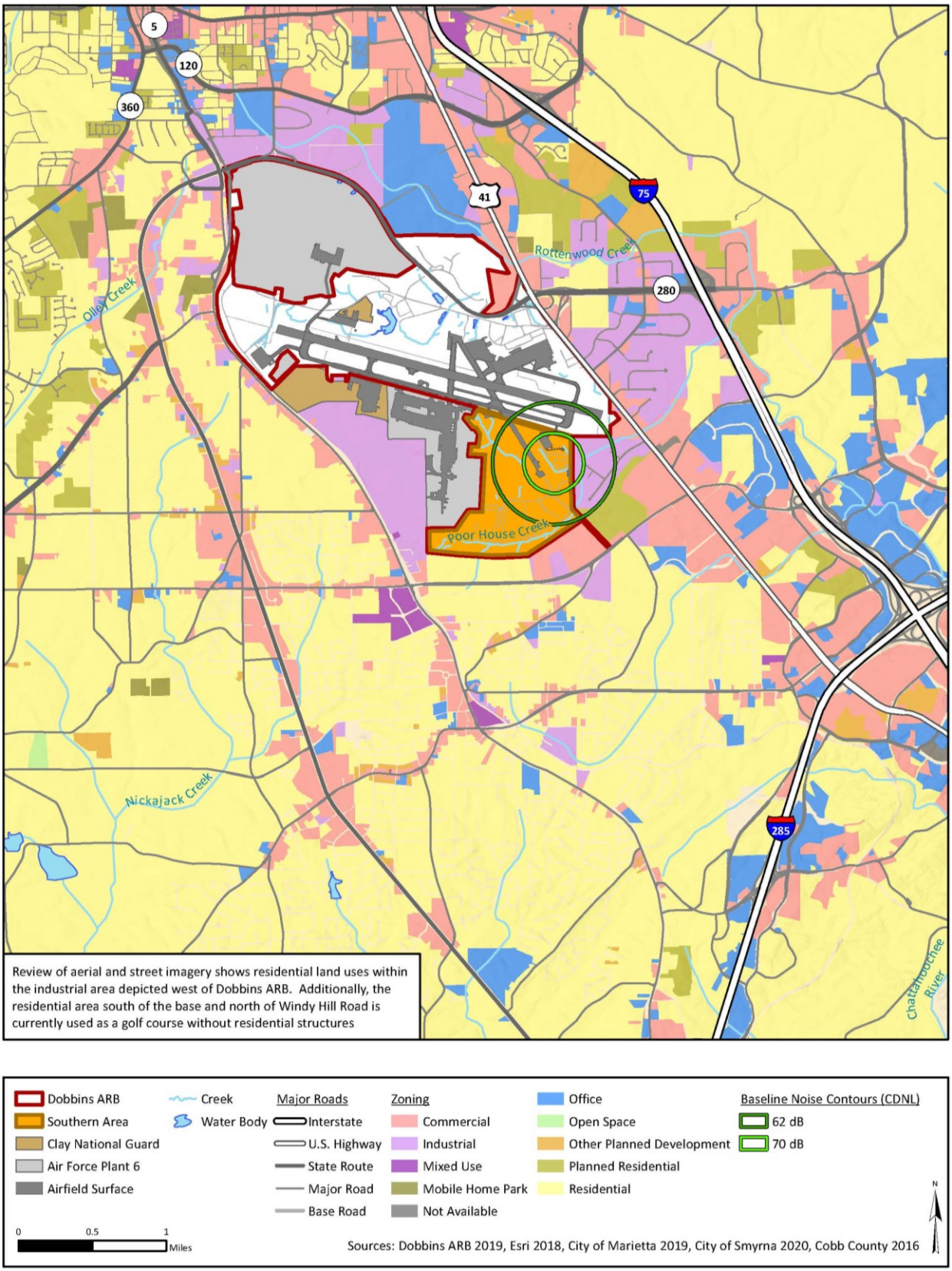


Figure 3.5-1. Existing CDNL Noise Contours and Land Use within the Vicinity of Dobbins ARB

3.6 EARTH RESOURCES

3.6.1 DEFINITION OF THE RESOURCE

Earth resources include geology, soils, and topography within the project area. The geology of an area includes bedrock materials and mineral deposits. The principal geologic factors influencing the stability of structures are soil stability, bedrock depth, and seismic properties. Soil refers to unconsolidated earthen materials overlying bedrock or other parent material. Soil structure, elasticity, strength, shrink-swell potential, liquefaction potential, and its potential to erode, all determine the ability of the ground to support structures and facilities. Topography describes the physical surface characteristics of land such as slope, elevation, and general surface features. Long-term geological, erosional, and depositional processes typically influence topographic relief of an area.

The ROI for earth resources includes the project area located within the Southern Area on Dobbins ARB shown in Figure 1-2.

3.6.2 EXISTING CONDITIONS

3.6.2.1 Geology

The Base is underlain by the Powers Ferry Geologic Formation. The formation consists of intercalated gneiss, schist, and amphibolites in decreasing abundance. It is estimated to be more than 3,290 ft thick and dates from the late Precambrian and early Paleozoic eras (500-600 million years ago) (U.S. Geological Survey [USGS] 2020a). One major feature cutting across the Piedmont is the Brevard Fault Zone. The Brevard Fault Zone runs southwest-northeast, passes through northwestern Atlanta, and the Chattahoochee River follows the Brevard Fault Zone (University of Georgia 2015).

Geological Hazards

Dobbins ARB is at minimal risk from geologic hazards such as volcanism and earthquakes, since Georgia lies on a passive continental margin with a stable transition between continental and oceanic crust. The USGS produced seismic hazard maps based on current information about the frequency and intensity of earthquakes. The maps show the levels of horizontal shaking that have a 2 in 100 chance of being exceeded in a 50-year period. Shaking is expressed as a percentage of the force of gravity (percent g) and is proportional to the hazard faced by a particular type of building. In general, little or no damage is expected at values less than 10 percent g, moderate damage could occur at 10 to 20 percent g, and major damage could occur at values greater than 20 percent g. The 2014 National Seismic Hazard map for Georgia, produced by the USGS, shows that Dobbins ARB has a seismic hazard rating of approximately 8 to 10 percent g (USGS 2020b), making the risk of damage from seismic activity minimal.

3.6.2.2 Soils

The U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) mapped soils in the vicinity of Dobbins ARB (NRCS 2020). Surface deposits are predominantly composed of micaceous silts and micaceous sandy silts derived from the weathering of the underlying rock layer.

The two main soil associations at Dobbins ARB are the Madison-Gwinnett-Cecil and the Madison-Gwinnett-Pacolet Associations. They are both characterized by well-drained soils with a sandy loam and clay loam surface horizon and a clayey to loamy subsurface horizon. Another soil association found on Base, Cartecay-Toccoa, is comprised of poorly and well-drained alluvial soils located in floodplains along streams and is subject to frequent flooding. These soils are acidic with a pH ranging from 4.5 to 5.0 (NRCS 2020). These soil associations are subdivided into 14 soil series and urban land, with 36 soil mapping units.

Because of previous cultivation and land development practices, many of the native soil profiles on Dobbins ARB have been disturbed and no longer exist. Much of the original surface topsoil has been eroded, with the clayey subsoils left exposed. Large portions of Dobbins ARB are designated as urban land (NRCS 2020), which includes areas covered by pavement and building footprints, as well as borrow areas. The remaining land areas consist primarily of sand and clay loams of the Appling-Cartecay-Toccoa, Appling-Hiawassee-Roanoke, and Chewacla-Toccoa-Wilkes associations (U.S. Department of Agriculture Soil Conservation Service 1973; NRCS 2020). The soils on Dobbins ARB are susceptible to water erosion if not protected with vegetation or other cover. Most soils on the Base are considered to be moderately erodible. Soils underlying the Southern Area of Dobbins ARB are described in Table 3.6-1 and mapped in Figure 3.6-1.

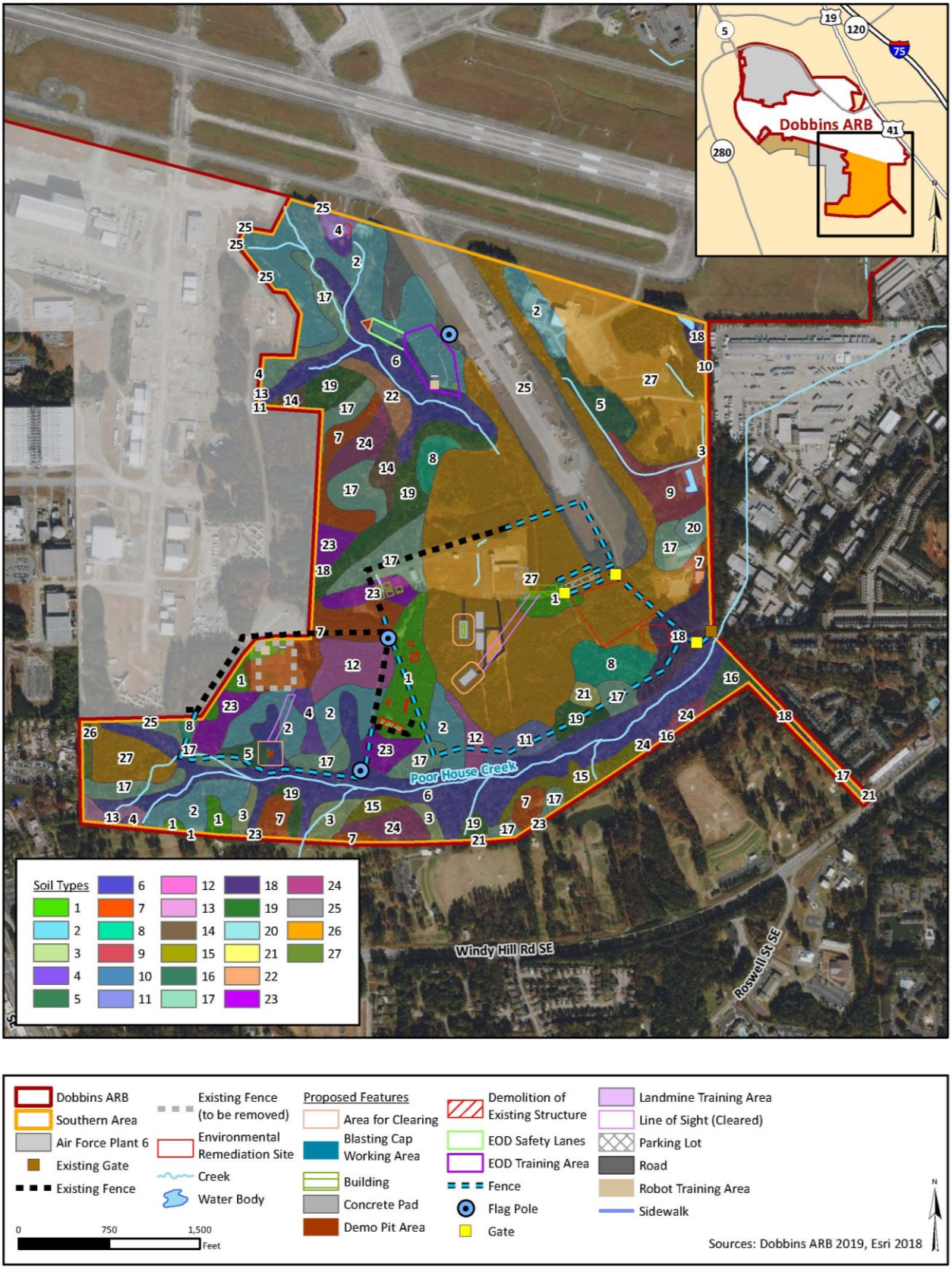


Figure 3.6-1. Soils Underlying the Southern Area of Dobbins ARB

Table 3.6-1. Soils Underlying the Proposed Project Site at Dobbins ARB

Label Number	*Soil Name*	*Soil Description*
1	AnB3	Appling sandy clay loam, 2 to 6 percent slopes, severely eroded
2	AnC3	Appling sandy clay loam, 6 to 10 percent slopes, severely eroded
3	AmD	Appling sandy loam, 10 to 15 percent slopes
4	AmB	Appling sandy loam, 2 to 6 percent slopes
5	AmC	Appling sandy loam, 6 to 10 percent slopes
6	Cah	Cartecay fine sandy loam, 0 to 2 percent slopes, frequently flooded
7	CYB2	Cecil sandy loam, 2 to 6 percent slopes, moderately eroded
8	CYC2	Cecil sandy loam, 6 to 10 percent slopes, moderately eroded
9	Csw	Chewacla soils, wet variants
10	DiB	Durham sandy loam, 2 to 6 percent slopes
11	GeD3	Gwinnett clay loam, 10 to 15 percent slopes, severely eroded
12	GeC3	Gwinnett clay loam, 6 to 10 percent slopes, severely eroded
13	HYC	Helena sandy loam, 2 to 10 percent slopes
14	LkE	Louisa gravelly sandy loam, 10 to 25 percent slopes
15	LnE	Louisburg sandy loam, 10 to 25 percent slopes
16	LDF	Louisburg stony sandy loam, 15 to 45 percent slopes
17	MsD3	Madison and Pacolet soils, 10 to 15 percent slopes, severely eroded
18	MsE2	Madison and Pacolet soils, 15 to 25 percent slopes, eroded
19	MDE3	Madison clay loam, 15 to 25 percent slopes, severely eroded
20	MgD2	Madison sandy loam, 10 to 15 percent slopes, eroded
21	MgB2	Madison sandy loam, 2 to 6 percent slopes, moderately eroded
22	MJF	Musella and Pacolet stony soils, 10 to 45 percent slopes
23	PgC3	Pacolet sandy clay loam, 6 to 10 percent slopes, severely eroded
24	PfD	Pacolet sandy loam, 10 to 15 percent slopes
25	Ud	Urban land
26	UfC	Urban land-Cecil complex, 2 to 10 percent slopes
27	Ubp	Urban land and borrow pits

Source: U.S. Department of Agriculture Soil Conservation Service 1973; NRCS 2020.

3.6.2.3 Topography

Dobbins ARB is situated within the Central Uplands of the Piedmont Physiographic Province, which stretches across the state of Georgia, separating the Ridge and Valley and Blue Ridge Provinces to the north from the Atlantic and Gulf Coastal Plains to the south. Throughout the Piedmont Province, the terrain has been subject to millions of years of erosion and is now typically rolling. However, there is also extensive dissection, especially near larger rivers. In particular, the Upper Piedmont, where Dobbins ARB is located, is hillier than the Lower Piedmont to the south (USAF 2018a).

The topography of the Dobbins ARB is characterized by rolling hills sloping throughout the Base, with an overall gradual slope toward the southeast. The Base is bounded to the north by Rottenwood Creek and to the south by Poorhouse Creek. Elevations on Dobbins ARB range from 960 to 1,100 ft above sea level. The most prominent natural feature in the vicinity is Kennesaw Mountain about 2 miles to the northwest, which has a summit elevation of more than 1,800 ft above sea level. The Chattahoochee River is to the south and east (USAF 2018a). The Southern Area of Dobbins ARB is generally level, with elevations approximately 1,000 ft above sea level (USGS 2011).

3.7 WATER RESOURCES

3.7.1 DEFINITION OF THE RESOURCE

Water resources analyzed in this EA include both surface water and groundwater quantity and quality, floodplains, and wetlands. Surface water includes all lakes, ponds, rivers, and streams and is important for a variety of reasons including irrigation, power generation, recreation, flood control, and human health. The nation's waters are protected under the Clean Water Act (CWA). The goal of the CWA is to restore and maintain the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water." Pollutants regulated under the CWA include "priority" pollutants, including various toxic pollutants; "conventional" pollutants, such as biochemical oxygen demand, total suspended solids, fecal coliform, oil and grease, and pH; and "non-conventional" pollutants, including any pollutant not identified as either conventional or priority. Under the CWA Section 402, it is illegal to discharge any point and/or nonpoint pollution sources into any surface water without a National Pollutant Discharge Elimination System (NPDES) permit.

Groundwater includes the subsurface hydrologic resources of the physical environment and is by and large a safe and reliable source of fresh water for the general population, especially those in areas of limited precipitation and is commonly used for potable water consumption, agricultural irrigation, and industrial applications. Groundwater also plays an important part in the overall hydrologic cycle and its properties are described in terms of depth to aquifer or water table, water quality, and surrounding geologic composition.

Floodplains are defined by EO 11988, *Floodplain Management*, as "the lowland and relatively flat areas adjoining inland and coastal waters including flood-prone areas of offshore islands, including at a minimum, the area subject to a one percent or greater chance of flooding in any given year" (that area inundated by a 100-year flood). Floodplains and riparian habitat are biologically unique and highly diverse ecosystems providing a rich diversity of aquatic and terrestrial species, as well as promoting stream bank stability and regulating water temperatures. EO 11988 requires federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development whenever there is a practicable alternative.

Wetlands are considered sensitive habitats and are subject to federal regulatory authority under Sections 401 and 404 of the CWA and EO 11990, *Protection of Wetlands*. Wetlands are defined by the U.S. Army Corps of Engineers (USACE) as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (Environmental Laboratory 1987). Wetlands generally include swamps, marshes, bogs,

and similar areas. The affected environment for wetlands includes only those areas potentially subject to ground disturbance.

The ROI for water resources includes Dobbins ARB as well as nearby surface waters that receive runoff generated within the project area.

3.7.2 EXISTING CONDITIONS

3.7.2.1 Surface Water

Dobbins ARB is within the Rottenwood Creek and Poorhouse Creek watersheds, which drain into the Chattahoochee River approximately 3.5 miles southeast of the Base. There are 2 man-made lakes on the Base (Big Lake and Little Lake), 28 delineated streams and tributary stream reaches, 5 spill retention ponds, 3 sedimentation detention basins, and 4 stormwater retention basins. The spill retention ponds act as containment basins for potential petroleum, oil, and lubricants spills that could occur near the flight line, while the sedimentation basins are used for stormwater and sediment retention (USAF 2018a). The Base is drained throughout by a series of storm sewers and ditches. Stormwater exits through outfalls surrounding the Base boundary. There are two primary drainages on Dobbins ARB, both of which drain into Rottenwood Creek (HUC 031300011104). Rottenwood Creek starts west of the airfield and runs under the airfield in the pipe and merges into the natural streams present in the main Base, which includes both lakes. Poorhouse Creek drains the southern part of the Base and merges with the other drainage east of Dobbins ARB, which then flows into the Chattahoochee River approximately 3.5 miles southeast of the Base (USAF 2018a). Poorhouse Creek resides along the southern edge of the Southern Area of Dobbins ARB.

3.7.2.2 Groundwater

Groundwater under Dobbins ARB consists of a surficial water table and bedrock aquifers; however, the bedrock aquifers beneath the Base are generally not productive and contain a high concentration of minerals. The aquifer beneath the Dobbins ARB is unconfined, characterized by three geologic strata (residual soils, underlying fractured bedrock, and the competent bedrock) (Air Force Plant 6 2018). The residual soils and underlying fractured bedrock provide the dominant pathway for groundwater flow. Groundwater in the northern Piedmont Physiographic Province occurs predominantly in joints and fractures in the bedrock and in the pore spaces of the overlying residual soils. Recharge is principally from rainfall that either seeps downward through the residuum or flows into openings in exposed rock (USAF Plant 6 2018). Depth to groundwater was identified as part of the 2012 EA for a Proposed Commissary on the north part of Dobbins ARB. Depth to groundwater was found to change on the northern portion of the Base from approximately 12 ft below ground surface on the eastern portion of Dobbins ARB to 60 ft below ground surface to the west side of the Base (USAF 2012). More recently, there was a remedial investigation for four different sites on Dobbins ARB. The Past Base Landfill site, shown in Figure 1.1-3, is within the Southern Area of Dobbins ARB. As part of this remedial investigation,

groundwater contours were delineated and show that the flow of groundwater in this area is to the southeast. Groundwater elevations across the remediation site range from 18 ft below ground surface to approximately 30 ft below ground surface, from northwest to southeast across the remediation site (Dobbins ARB 2018).

3.7.2.3 Floodplain

Based on Federal Emergency Management Agency (FEMA) data, there are designated floodplains on Dobbins ARB (FEMA 2013) (see Figure 1.1-3). There are some small areas of floodplains in North Base and in the main Base associated with Rottenwood Creek. The largest floodplain is associated with Poorhouse Creek in the southern part of the Base, near the Southern Area (the proposed project area). The 100-year floodplain extends into the Southern Area of the Base and the inundation area follows Poorhouse Creek. However, none of the proposed structures occur within the 100-year floodplain (FEMA 2008, 2013).

3.7.2.4 Jurisdictional Wetlands and Waters of the U.S.

Dobbins ARB has 21 wetland areas totaling approximately 23 acres as determined in a 2009 wetland delineation (see Figure 1.1-3). The wetlands are predominantly found along Rottenwood Creek, Poorhouse Creek, and surrounding Big Lake and Little Lake (USAF 2018a).

A Jurisdictional Wetland Delineation was conducted in 2015 covering the majority of the Base (USAF 2018a). This delineation identified wetlands within the Southern Area, just north of the existing MSA Area. It was determined that this previous delineation did not specifically address all areas included in the proposed project area. Therefore, a natural resource survey for the identification of waters of the U.S., including wetlands, was conducted in 2019 in support of this EA (Dobbins ARB 2020). The natural resource survey area was surveyed with special attention devoted to potential drainages, culvert locations, and low areas. No waters of the U.S., including wetlands, were identified during the surveys in the study area.

3.8 BIOLOGICAL RESOURCES

3.8.1 DEFINITION OF THE RESOURCE

Biological resources include plant and animal species, and the habitats within which they occur. Plant associations are referred to as *vegetation* and animal species are referred to as *wildlife*. Although the existence and preservation of biological resources are intrinsically valuable, these resources also provide aesthetic, recreational, and socioeconomic values to society. This analysis focuses on species or vegetation types that are important to the function of ecosystems, are of special societal importance, or are protected under federal or state law. For purposes of this analysis, these resources are divided into three categories: vegetation, wildlife, and special status species.

Vegetation includes all existing terrestrial plant communities as well as their individual component species. Special status plant species are discussed in more detail below.

Wildlife includes the characteristic animal species that occur in the project area.

Special status species are those plant and animal species that are listed, have been proposed for listing, or are candidates for listing as threatened or endangered under the federal ESA, species protected by Georgia Department of Natural Resources, and other species of concern as recognized by state or federal agencies. Special consideration is given to bird species protected under the MBTA and EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*. Special status wildlife species are discussed in more detail below.

The ROI for biological resources consists only of lands that could be directly affected by the proposed demolition and construction footprints on Dobbins ARB and those lands in the immediate vicinity that could be indirectly affected by the Proposed Action.

3.8.2 EXISTING CONDITIONS

3.8.2.1 Vegetation

The majority of Dobbins ARB is comprised of improved or semi-improved areas including buildings, paved surfaces, and landscaped areas such as lawns, ornamental trees, or maintained open fields of grass. Approximately 480 acres are forested with natural vegetation and include pine, pine-hardwood, oak-hickory, mixed hardwood, and Piedmont bottomland forests. The majority of the forest are dominated by mixed stands of loblolly pine and tulip poplar in various stages of succession (USAF 2018a).

3.8.2.2 Wildlife

The majority of the wildlife habitat on Dobbins ARB is limited to the forested areas and water resources. Common bird species observed on the Base include mourning dove (*Zenaida macroura*), cardinal (*Cardinalis cardinalis*), tufted titmouse (*Parus bicolor*), eastern towhee (*Pipilo erythropthalmus*), starlings (*Sturna vulgaris*), Canada geese (*Branta canadensis*), common grackles (*Quisculus quiscula*), and red-winged blackbirds (*Agelaius phoenicius*). Common mammal species observed on the Base include the white-tailed deer (*Odocoileus virginianus*), red fox (*Vulpes vulpes*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), gray squirrel (*Sciurus carolinensis*), eastern cottontail (*Sylvilagus floridanus*), and opossum (*Didelphis virginiana*). Common reptiles and amphibians include the box turtle (*Terrapene carolina*), common garter snake (*Thamnophis sirtalis*), northern water snake (*Nerodia sipedon*), spring peeper *(Pseudacris crucifer*), and chorus frog (*Pseudacris triseriata*) (USAF 2018a).

3.8.2.3 Special Status Species

Table 3.8-1 summarizes state- and federally-listed species that have the potential to occur on Dobbins ARB. No federally- or state-listed plant and animal species have been observed on Dobbins ARB during past surveys conducted. However, one state-protected plant species (listed as Unusual by Georgia Department of Natural Resources), pink lady's slipper orchid (*Cypripedium*

acaule), has been documented on the Base. Figure 1.1-3 shows the location of this plant that has been observed near the proposed project sites.

Table 3.8-1. Federal and State-Listed Species Found within Cobb County, GA

SPECIES		STATUS		
Common Name	*Scientific Name*	*Federal*	*Georgia*	*Status on Dobbins ARB*
Birds				
Henslow's sparrow	*Ammodramus henslowii*	-	R	Not Observed. Marginal habitat
Mammals				
Northern long-eared bat	*Myotis septentrionalis*	T	-	Not Observed.
Fish				
Cherokee darter	*Cambarus howardi*	T	T	Not Observed. Not endemic to this watershed
Highscale shiner	*Notropis hypsilepis*	-	R	Not Observed. Unlikely, due to urbanization and disturbance
Bluestripe shiner	*Cyprinella callitaenia*	-	R	Not Observed. Unlikely, due to small stream sizes
Invertebrates				
Chattahoochee crayfish	*Cambarus howardi*	-	T	Not Observed. Unlikely, due to urbanization, disturbance, and impoundments
Delicate spike	*Elliptio arctata*	-	E	Not Observed. Not endemic to this watershed
Gulf moccasinshell mussel	*Medionidus penicillatus*	-	E	Not Observed. No perennial river
Plants				
Bay star-vine	*Schisandra glabra*	-	T	Not Observed. Unlikely
Little amphianthus	*Amphianthus pusillus*	T	-	Not Observed. Unlikely
Michaux's sumac (Dwarf sumac)	*Rhus michauxii*	E	E	Not Observed. Possible, likes disturbance
Pool Sprite, Snorkelwork	*Amphianthus pusillus*	-	T	Not Observed. Habitat not present.
Indian olive	*Nestronia umbellula*	-	R	Not Observed. Unlikely
Georgia aster	*Symphyotrichum georgianum*	-	T	Not Observed. Possible habitat in open oak-hickory forests.
White fringeless orchid (Monkeyface orchid)	*Platanthera integrilabia*	T	T	Not Observed. Unlikely
Sun-loving draba	*Draba aprica*	-	E	Not Observed. Unlikely
Pink lady's slipper orchids	*Cypripedium acaule*	-	U	Documented within the project area.

Status: E – listed as endangered by the USFWS and/or Georgia Department of Natural Resources ; T – listed as threatened by the USFWS and/or Georgia Department of Natural Resources; R – listed as rare by Georgia Department of Natural Resources ; U – listed as unusual by Georgia Department of Natural Resources ; BGEPA – Protected under the Bald and Golden Eagle Protection Act.

Source: Georgia Department of Natural Resources 2020; USFWS 2020; USAF 2018a.

3.9 INFRASTRUCTURE

3.9.1 DEFINITION OF THE RESOURCE

Infrastructure refers to the system of public works, such as utilities and transportation, which provide the underlying framework for a community. Utilities include such amenities as water, power supply, and waste management. Transportation and circulation refer to roadway and street systems, the movement of vehicles, pedestrian and bicycle traffic, and mass transit. The

infrastructure components to be discussed in this section include the electricity and natural gas, wastewater, stormwater, solid waste, potable water, and transportation. The infrastructure elements at Dobbins ARB include both transportation and utility systems.

The ROI for this resource primarily consists of Dobbins ARB, with additional information presented for the surrounding area where relevant.

3.9.2 EXISTING CONDITIONS

3.9.2.1 Transportation

Regional access to Dobbins ARB is provided by several roadways including Interstate (I-) 75 which runs north to south and is located approximately 1 mile east of the Base, and I-285 which is located approximately 1.5 miles south of the Base, runs east to west, and connects to I-75. The Base's main gate is accessed from South Cobb Drive and Cobb Parkway Southeast (U.S. Highway 41). Cobb Parkway Southeast can be accessed by I-75 through either Delk Road Southeast or South Marietta Parkway Southeast.

Primary roads within Dobbins ARB include Atlanta Avenue, Industrial Drive, and Gym Road. The primary road used to access the project area would be 1st Street along the eastern boundary of the Base.

3.9.2.2 Utilities

Wastewater System

Dobbins ARB generates wastewater from sanitary and industrial processes. Sanitary sewer (wastewater) is collected Base-wide and routed to a treatment plant currently owned and operated by Lockheed Martin. After treatment, all suitable discharge is ultimately conveyed to Nickajack Creek. Lockheed Martin is considering abandoning treatment operations and routing sanitary discharge to the Cobb County wastewater collection system. If fulfilled, sanitary sewer would require evaluation, and resulting cost impacts to the Base must be considered (USAF 2018b).

Stormwater Drainage System

A high percentage of the active administrative and industrial areas of the Base are paved or roofed, resulting in high runoff rates during precipitation events. Dobbins ARB has a stormwater drainage conveyance system typified by a series of culverts, man-made ditches, and natural drainage ways, discharge to receiving waters or other municipal separate storm sewer systems. The watersheds serving the surface drainage system are divided between the Rottenwood Creek watershed in the northern portion of the Base and the Poorhouse Creek watershed in the southern portion of the Base. The stormwater drainage system has been designed to safely collect and transport surface water runoff from storm events to prevent flooding within the Base and is a separate system from the wastewater (sewage) system (see Section 3.6, *Water Resources* for further detail) (USAF 2018b).

Natural Gas

Natural gas is supplied to Dobbins ARB by Atlanta Gas Light Company. The distribution system enters the Base at the main gate via a 6-inch steel pipe and is looped in a series of steel mains. Natural gas capacity is adequate for current operation; demand approaches capacity only during peak winter (cold) periods (USAF 2012, 2018b).

Electricity

Electrical service is provided to Dobbins ARB by Georgia Power through the Lockheed Martin Substation on the north side of AFP-6. Two main feeders and an alternate feeder line enter the Base through a network of underground and overhead distribution lines. Various aspects of electrical service infrastructure were recently upgraded when the system was privatized, and it provides sufficient capacity for peak operation. Lockheed Martin purchases all power at a discounted rate from Georgia Power and meters use for the entirety of Dobbins ARB. The Base reimburses Lockheed Martin for its share of power consumption (USAF 2012, 2018b).

Solid Waste Management

Municipal solid waste at Dobbins ARB is managed in accordance with their Integrated Solid Waste Management Plan (USAF 2016) and guidelines specified in AFI 32-7042, *Waste Management* (2017). In general, AFI 32-7042 establishes the requirement for installations to have a solid waste management program that incorporates the following: a solid waste management plan; procedures for recycling, diversion, handling, storage, collection, and disposal of solid waste; recordkeeping and reporting; and pollution prevention.

Dobbins ARB generates solid waste in the form of office trash, nonhazardous industrial wastes, normal municipal waste, and construction debris. These nonhazardous solid wastes are collected in dumpsters located throughout Dobbins ARB and transported by contractor to permitted municipal landfills.

In order to reduce the amount of solid waste generated, Dobbins ARB maintains a comprehensive recycling program. Recyclable items are collected in separate receptacles and transported to the Base's Recycling Center for processing. Recyclable items include paper, aluminum cans, cardboard, wood, fiberboard, scrap metal, tires, and polystyrene. Construction and demolition wastes are separated from the solid waste stream and recycled at the Base (USAF 2012).

Potable Water System

Cobb County-Marietta Water Authority provides potable water for Dobbins ARB through a contract agreement with Lockheed Martin. The Cobb County-Marietta Water Authority has two water treatment plants, the Quarles Water Treatment Plant which receives water from the Chattahoochee River, and the Hugh A Wyckoff Water Treatment Plant which receives water from Lake Allatoona. The Quarles Water Treatment Plant is currently permitted to produce 86 million

gallons per day while the Hugh A Wyckoff Water Treatment Plant is permitted to produce 72 million gallons of water per day (Cobb County-Marietta Water Authority 2019; USAF 2012).

3.10 CULTURAL RESOURCES

3.10.1 DEFINITION OF THE RESOURCE

Cultural resources consist of prehistoric and historic buildings, districts, sites, structures, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. Cultural resources can be divided into three major categories: archaeological resources (prehistoric and historic), architectural resources, and traditional cultural resources.

Archaeological resources are locations where human activity measurably altered the earth or left deposits of physical remains (e.g., tools, arrowheads, or bottles). "Prehistoric" refers to resources that predate the advent of written records in a region. These resources can range from a scatter composed of a few artifacts to village sites and rock art. "Historic" refers to resources that postdate the advent of written records in a region. Archaeological resources can include campsites, roads, fences, trails, dumps, battlegrounds, mines, and a variety of other features.

Architectural resources include standing buildings, dams, canals, bridges, and other structures of historic or aesthetic significance. Architectural resources generally must be more than 50 years old to be considered for protection under existing cultural resource laws. However, more recent buildings and structures, such as Cold War-era military buildings, may warrant protection if they have exceptional characteristics and the potential to be historically significant or if they are integral parts of a district that is eligible. These properties are evaluated under National Register of Historic Places (NRHP) Criteria Consideration G, which includes properties that have achieved significance within the past 50 years. Architectural resources must also possess integrity (i.e., important historic features must be present and recognizable in order to convey its significance).

Traditional cultural resources can include archaeological resources, buildings, neighborhoods, prominent topographic features, habitats, plants, animals, and minerals that American Indians or other groups consider essential for the continuance of traditional cultures.

Only cultural resources considered to be significant, known or unknown, warrant consideration with regards to adverse impacts resulting from a proposed action. To be considered significant, archaeological or architectural resources must meet one or more criteria as defined in 36 CFR 60.4 for inclusion in the NRHP. The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

(a) that are associated with events that have made a significant contribution to the broad patterns of our history; or

(b) that are associated with the lives of persons significant in our past; or
(c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
(d) that have yielded, or may be likely to yield, information important in prehistory or history.

Several federal laws and regulations have been established to manage cultural resources, including the NHPA (1966), the Archaeological and Historic Preservation Act (1974), American Indian Religious Freedom Act (1978), the Archaeological Resources Protection Act (1979), and Native American Graves Protection and Repatriation Act (1990). In addition, coordination with federally recognized American Indian Tribes must occur in accordance with EO 13175, *Consultation and Coordination with Indian Tribal Governments*.

On November 27, 1999, the DoD promulgated its Annotated American Indian and Alaska Native Policy, which emphasizes the importance of respecting and consulting with tribal governments on a government-to-government basis. This Policy requires an assessment, through consultation, of the effect of proposed DoD actions that may have the potential to significantly affect protected tribal resources, tribal rights, and Indian lands before decisions are made by the respective services (DoD American Indian/Alaska Native Policy), as does DoD Instruction 4710.02, *Interaction with Federally Recognized Tribes* (September 14, 2006).

The area of potential effects for this project encompasses the area where ground-disturbing activities and building demolitions would occur. Dobbins ARB is consulting with the Georgia SHPO on its finding of effect for the Proposed Action.

3.10.2 EXISTING CONDITIONS

3.10.2.1 Historic Context

Dobbins ARB is located within the Central Uplands of the Piedmont physiographic province. A brief overview of the cultural history of the area is presented below. Additional details dating back to the Paleoindian Period (10,000 to 5000 Before Christ) can be found in the Dobbins ARB Integrated Cultural Resources Management Plan (USAF 2018c).

Pre-Dobbins ARB Settlement

In northern Georgia, the Contact period starts with Spanish exploration (circa 1540-1548) and continues through the period of early settlement by English settlers in the early 1700s. European contact brought dramatic alteration to Native American technology. Metal tools and firearms greatly affected economic patterns with Native American cultures and made these cultures increasingly dependent on trade (or interaction) with Europeans. There were dramatic demographic changes in aboriginal populations, resulting from displacements from war (with Europeans and with other Native American groups), forced movements of populations and

concentration of formerly widely spaced groups, attrition from disease, and shifts in subsistence and trade networks. Together, these changes resulted in a gradual loss of political independence of Native American groups (USAF 2018c).

The Cherokee and Creek Indians are known to have populated this area and were encountered by European explorers in the 1600s and 1700s. The Creek Indians occupied the greater part of the state of Georgia, while the Cherokee remained in the northern sections of Georgia, farming and hunting in the area that would become Dobbins ARB (USAF 2018c).

Post-Contact Period; Establishment of Dobbins ARB

Cobb County was established in 1832 out of Cherokee County on land that was previously occupied by the Cherokee Indians. In 1833, settlers poured into the county, with most coming from Virginia, the Carolinas, and other parts of Georgia. Settlements were generally scattered as the new residents began to prepare the land for cultivation. Between 1832 and the start of the Civil War, the population of the county increased by approximately 800 percent (USAF 2018c).

The tract of land that would become Dobbins ARB originally was to become a commercial airfield in Cobb County, serving communities north of the city of Atlanta. In October 1940, the Atlanta Chamber of Commerce invited a Cobb County delegation to a meeting to encourage the county to obtain federal funding for the construction of an airport there. Cobb County pursued the Civil Aeronautics Administration, a federal agency that oversaw a program of funding emergency airfield construction, for the new airfield. The Civil Aeronautics Administration approved the Cobb County Airport construction project in May 1941. The airfield was to provide commercial service as well as act as an auxiliary airfield for the U.S. Navy (USAF 2018c).

Cobb County Army Air Field (AAF) was activated on 10 June 1943 using part of the property that had been acquired for Plant 6 (now named Air Force Plant 6) including the runway and some of the structures on the eastern portion of the property. The first B-29 unit of the Army Air Force, the 58th Bombardment Operational Training Wing, was established in 1943. The airfield was renamed to Marietta AAF that same year. From 1943 until 1946, Marietta AAF operated under the jurisdiction of both the resident Army Air Forces Plant Representative and Bell Aircraft Corporation. Another unit was also assigned to the Marietta AAF at the time, the 1320th Guard Squadron. Functionally, the field was dominated by the B-29 flight testing operations associated with the adjacent GAP 6 (USAF 2018c).

The Cold War between the U.S. and the Soviet Union provided a continuous demand for military aircraft after the end of World War II. After Lockheed Martin moved into Plant 6 in February 1951, it modified and reconditioned B-29 bombers for the Korean War. Marietta AFB was renamed Dobbins AFB on 6 February 1950. A joint use agreement between Continental Air Command and Air Materiel Command was drawn to establish a line of demarcation between Dobbins AFB and Plant 6, with 2,133.8 acres assigned to Dobbins AFB and 709.3 acres assigned to Plant 6 (USAF 2018c).

In response to the increased training activity prior to and during the Korean War, Dobbins AFB experienced a wave of new construction in 1950 in a concentrated area adjacent to the aircraft parking apron and lying north of the main runway. Dobbins experienced another substantial period of construction in 1955, when the numbered USAF, the 22 AF, moved onto the Base. On 1 June 1961, the USAF's 116th Fighter Group became the Georgia Air National Guard's Air Transport Wing and converted to the C-97 "Stratofreighter" transport. In 1974, the group became a fighter unit and was redesignated the 116th Tactical Fighter Wing. In 1996, the Base at Dobbins ARB became the headquarters for all Georgia Air National Guard units (USAF 2018c).

3.10.2.2 Identified Cultural Resources

Archaeological Resources

Dobbins ARB covers 1,666 acres, approximately 1,600 acres have been previously surveyed for archaeological resources. The remaining 66 acres that have not been surveyed are primarily part of the built environment, including paved and landscaped areas. A Base-wide reconnaissance survey of archaeological sites at Dobbins ARB was conducted in 1994. Two archaeological sites were identified. Site 9CO377 was a historic house site and Site 9CO378 was a historic agricultural feature. Both sites were determined ineligible for listing in the NRHP (USAF 2018c). A prehistoric isolated find was found on the surface in 2006 within the northern portion of Forest Stand 8 and east of a crude forest access road and fire break. A series of shovel tests were conducted in 2007 to determine if any subsurface archaeological remains were present related to the isolated find. All of the shovel test pits were negative for archaeological material (Friedemann 2007).

Architectural Resources

In 1994, seven buildings at Dobbins ARB were inventoried and evaluated as part of a larger cultural resources survey completed for the Base. Three of the seven buildings predate construction of Dobbins ARB; the other four were built during the initial development of Dobbins ARB by the Bell Bomber Plant during World War II. Only one building (Building 510) was recommended as eligible for listing in the NRHP. A nomination form for this resource was subsequently completed and the building was listed in the NRHP in 1994 (USAF 2018c).

In 1996, a supplement to the 1994 report was submitted, which provided the requested inventory and evaluation of Stone Dam and Big Lake Dam. It was recommended that both structures are ineligible for listing in the NRHP. The Deputy SHPO evaluated Big Lake Dam as eligible for listing in the NRHP. The USAF and Dobbins ARB entered into a Programmatic Agreement with the SHPO and Advisory Council on Historic Preservation regarding future renovations to the dam (USAF 2018c).

In 2006, as part of the planning level survey conducted as part of the Integrated Cultural Resources Management Plan update, an inventory and evaluation of 24 buildings constructed between 1950

and 1961 was completed. None of these buildings were evaluated as eligible for listing in the NRHP (USAF 2018c).

Eight additional buildings were surveyed as part of the 2012-2016 update to the Integrated Cultural Resources Management Plan. Although eight buildings were identified for evaluation, none were recommended as eligible for listing in the NRHP (USAF 2018c).

Traditional Cultural Resources

To date, none of the federally recognized Native American Tribes with historic ties to Dobbins ARB and the surrounding area have identified traditional cultural properties at the Base. Five federally recognized Native American Tribes that are historically, culturally, and linguistically affiliated with the area have been identified. These Tribes include the Alabama-Quassarte Tribal Town, Catawba Indian Nation, Cherokee Nation, Eastern Band of Cherokee Indians, and Poarch Band of Creek Indians (USAF 2018c).

3.11 HAZARDOUS MATERIALS AND WASTE

3.11.1 DEFINITION OF THE RESOURCE

The terms "hazardous materials" and "hazardous waste" refer to substances defined as hazardous by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA). In general, hazardous materials include substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may present substantial danger to public health or the environment when released into the environment. Hazardous wastes that are regulated under RCRA are defined as any solid, liquid, contained gaseous, or semisolid waste, or any combination of wastes that either exhibit one or more of the hazardous characteristics of ignitability, corrosivity, toxicity, or reactivity, or are listed as a hazardous waste under 40 CFR Part 261, *Identification and Listing of Hazardous Waste*. Toxic substances are specific substances whose manufacture, processing, distribution, use, or disposal are restricted by the Toxic Substances Control Act (40 CFR §§ 700-766) because they may present unreasonable risk of personal injury or health of the environment. They include asbestos-containing materials (ACMs), polychlorinated biphenyls (PCBs), lead, and radon.

The Military Munitions Rule (MMR) under RCRA was published as a final rule in 1997 and identifies when conventional and chemical military munitions become RCRA hazardous waste. Military munitions include, but are not limited to confined gases, liquids, or solid propellants; explosives; pyrotechnics; chemical and riot agents; and smoke canisters (USEPA 2011). Under the MMR, wholly inert items and non-munitions training materials are not defined as military munitions (USEPA 1997). Munitions-related training activities have resulted in the presence of unexploded ordnance, discarded military munitions, and munitions constituents at training ranges. Unexploded ordnance, discarded military munitions, and munitions constituents all present

potential explosive hazards and are collectively referred to as munitions and explosives of concern (MEC). Military munitions that are used for their "intended purposes" are not considered waste per the MMR (40 CFR 266.202). In general, military munitions become subject to RCRA transportation, storage, and disposal requirements (i.e., judged not to have been used for their "intended purposes") when:

- Transported off-range for storage,
- Reclaimed and/or treated for disposal,
- Buried or land filled on- or off-range, or
- Munitions land off-range and are not immediately rendered safe or retrieved.

3.11.1.1 Defense Environmental Restoration Program

In 1986, Congress created the Defense Environmental Restoration Program. The Defense Environmental Restoration Program addresses the identification and cleanup of hazardous substances and military munitions remaining from past activities at DoD installations and formerly used defense sites. Within the Defense Environmental Restoration Program, DoD created two program categories, the Installation Restoration Program and the Military Munitions Response Program.

Installation Restoration Program

The Installation Restoration Program focuses on cleaning up releases of hazardous substances that pose risks to the public and/or the environment at active, base realignment and closure, and formerly used defense sites owned or used by the DoD, including the USAF.

Military Munitions Response Program

The Military Munitions Response Program addresses hazards associated with MEC within areas no longer used for operational range activities. These former range training areas are called munitions response areas. Munitions response areas often contain one or more discrete munitions response sites. In December 2001, Congress passed the National Defense Authorization Act. This Act required DoD to develop an initial inventory of areas not located within operational ranges (i.e., active or inactive ranges) that are known or suspected to contain MEC.

Asbestos

Asbestos is a common constituent of building materials manufactured prior to 1978 when a federal ban on its use in building materials became effective. Any building or portion thereof that was constructed prior to 1978 may possess ACM. Asbestos may be contained in plaster, acoustic ceiling tiles, wallboard, and floor tiles/carpeting mastic and asbestos particles may be present in building ductwork. Therefore, any buildings or portions thereof constructed prior to 1978 should receive a full asbestos survey if they are to be renovated or demolished. ACM must be removed and handled by a licensed contractor and disposed of in accordance with applicable regulations.

All work involving ACM must be coordinated with the Georgia Environmental Protection Division.

Polychlorinated Biphenyls

PCBs are common constituents of oils used as dielectric fluids or coolants in electrical equipment manufactured prior to 1979 when a federal ban of the manufacture of PCBs became effective. Any building or portion thereof that was constructed prior to 1979 may possess PCB-containing electrical equipment (i.e., transformers, capacitors, compressors). PCB-containing materials may also be in the capacitors of the fluorescent light ballasts, especially any manufactured prior to 1979. Older waste and hydraulic oils may also contain PCBs. Any buildings or portions thereof constructed prior to 1979 should receive a full PCB survey if they are to be renovated or demolished. PCB-containing materials should be handled and disposed of in accordance with applicable regulations.

Lead

Lead is a common constituent of paint manufactured prior to 1980 when a federal ban on lead paint became fully effective. Lead may also be present in the pipes and solder of plumbing in older buildings, or in the ductwork of older buildings, especially those that contained LBP. Any building or portion thereof that was constructed prior to 1980 may contain lead-based paint (LBP). Therefore, any buildings or portions thereof constructed prior to 1980 should receive a full LBP inspection from a licensed Georgia-Certified Lead Services Firm prior to renovation/demolition activities. Lead paint must be removed or encapsulated by a licensed contractor and disposed of in accordance with applicable regulations.

Radon

Radon is a naturally occurring radioactive gas produced by the decay of uranium in rock and soil. It tends to accumulate in enclosed spaces that are below ground and/or poorly ventilated. Radon is colorless, odorless, and a known carcinogen that increases the risk for developing lung cancer when inhaled.

The USEPA-recommended action level for radon is 4 picocuries per liter. Dobbins ARB is located in Cobb County, which is considered high risk for radon intrusion (Radon Zone 1). Therefore, the predicted average indoor radon screening levels for the County are greater than 4 picocuries per liter of air. As a proactive measure, DoD has ongoing radon monitoring and abatement programs to ensure that its existing facilities meet USEPA radon health recommendations (USEPA 2015). In addition, for new facilities, radon resistant construction techniques, radon testing, and the installation of radon mitigation systems as appropriate are employed.

Mercury-Containing Equipment

Mercury-containing equipment includes devices, items, or articles that contain varying amounts of elemental mercury. Some commonly recognized devices are thermostats, barometers,

manometers, temperature and pressure gauges, and mercury switches, such as light switches in automobiles. Mercury-containing equipment is a category of Universal Waste. Universal waste is a category of waste materials designated as "hazardous waste" but containing materials that are very common and for which the USEPA has streamlined the hazardous waste management standards (batteries, light bulbs, etc.). Universal wastes do not require manifests and are not counted towards hazardous waste generator volumes, but they do require proper management and disposal.

3.11.2 REGULATORY FRAMEWORK

Specific environmental statutes govern the management of hazardous materials and hazardous waste. The key statutes include:

- CERCLA of 1980 (*42 USC 9601–9675*) as amended by the Superfund Amendments and Reauthorization Act of 1986. CERCLA/Superfund Amendments and Reauthorization Act regulates the prevention, control, and compensation of environmental pollution.
- *Community Environmental Response Facilitation Act (42 USC 9620)*. This Act amended CERCLA to require that, prior to termination of federal activities on any real property owned by the federal government, agencies must identify real property where hazardous substances were stored, released, or disposed of.
- *Emergency Planning and Community Right-to-Know Act of 1986 (42 USC 11001–11050)*. Emergency Planning and Community Right-to-Know Act requires emergency planning for areas where hazardous materials are manufactured, handled, or stored and provides citizens and local governments with information regarding potential hazards to their community.
- *Federal Insecticide, Fungicide, and Rodenticide Act of 1996 (7 U.S.C. §136)*. Federal Insecticide, Fungicide, and Rodenticide Act provides for federal regulation of pesticide distribution, sale, and use. Registered pesticides must be shown to not generally cause unreasonable adverse effects on the environment when used as directed.
- *Resource Conservation and Recovery Act (42 USC 6901–6992)*. RCRA established standards and procedures for handling, storage, treatment, and disposal of hazardous waste.
- *Federal Facility Compliance Act of 1992 (Public Law 102-426)*. This Act provides for a waiver of sovereign immunity on the part of federal agencies with respect to federal, state, and local requirements relating to RCRA solid and hazardous waste laws and regulations.
- *Pollution Prevention Act of 1990 (42 USC 13101–13109)*. This Act encourages minimization of pollutants and waste through changes in production processes.
- *USEPA Regulation on Identification and Listing of Hazardous Waste (40 CFR Part 261)*. This regulation identifies solid wastes subject to regulation as hazardous and to notification requirements under RCRA.

- *USEPA Regulation on Standards for the Management of Used Oil (40 CFR Part 279)*. This regulation delineates requirements for storage, processing, transport, and disposal of oil that has been contaminated by physical or chemical impurities during use.
- *USEPA Regulation on Designation, Reportable Quantities, and Notification (40 CFR Part 302)*. This regulation identifies reportable quantities of substances listed in CERCLA and sets forth notification requirements for releases of those substances. It also identifies reportable quantities for hazardous substances designated in the CWA.
- *Toxic Substances Control Act of 1976 (15 U.S.C. §2601 et seq)*. This regulation established requirements to identify and control toxic chemical hazards to human health and the environment. It specifically addresses PCBs, asbestos, radon, and lead control and abatement programs.

3.11.3 AFFECTED ENVIRONMENT

The ROI for hazardous materials and waste includes areas that could be exposed to an accidental release of a hazardous substance from construction or demolition activities, other specific areas affected by past and current hazardous waste operations, and areas where hazardous materials would be utilized or stored. Therefore, the ROI for this action is defined as the Southern Area of Dobbins ARB.

Several hazardous waste-type management plans exist and are implemented at Dobbins ARB. These plans and instructions include the following:

- The Hazardous Materials Management Plan
- The Hazardous Waste Management Plan
- Stormwater Pollution and Prevention Plan (SWPPP) for Municipal and Industrial Activities
- Integrated Pest Management Plan
- AFI 32-7042, Solid and Hazardous Waste Compliance
- AFI 32-1052, Facilities Asbestos Management
- AFI 32-7086: Civil Engineering-Hazardous Materials Management
- AFI 13-212: Nuclear, Space, Missile, Command and Control Operations
- Dobbins ARB Asbestos Operations and Management Plan
- Dobbins ARB Lead Based Paint Management Plan.

3.11.3.1 Hazardous Materials and Petroleum Products

A variety of products containing hazardous materials, including munitions, solvents, paints, detergents, and a variety of petroleum, oils, and lubricants are used by the Base as part of normal operations. To manage the use of these materials, Dobbins ARB has established a Hazardous Materials Pharmacy as a single point of control for ordering, distributing, storing, and use of

hazardous materials, with the goal of increasing safety and reducing the production of hazardous wastes (Dobbins ARB 2017).

Storage Tanks

There are several aboveground storage tanks (ASTs) and underground storage tanks (USTs) at Dobbins ARB that range in size from 300 to 10,000 gallons and when combined, hold approximately 400,000 gallons of fuel, including jet propulsion number 8 (JP-8) aviation fuel, gasoline, unleaded gasoline, and diesel fuels. Nearly 300,000 gallons of JP-8 is stored in two ASTs and diesel fuel is stored in a variety of ASTs ranging in size from 300 to 10,000 gallons. Unleaded fuel is stored in one 10,000-gallon UST (Dobbins 2012). No known permanent ASTs or USTs are located in or adjacent to any of the proposed project areas.

Munitions

Munitions are and have been used for training within and near the proposed project areas at Dobbins ARB. The current and historical status of hazardous materials around the former Navy MSA site are unknown, although the use as a MSA indicates there is potential for exposure to hazardous constituents. The remaining proposed construction areas are undisturbed and not likely to contain MEC.

3.11.3.2 Hazardous and Petroleum Wastes

Dobbins ARB is registered as a large-quantity generator of hazardous waste and maintains USEPA identification number GA1570024306. Large quantity generators generate more than 1,000 kilograms of hazardous waste, or more than 1 kilogram of acutely hazardous waste, per month. Hazardous wastes are generated by aircraft, vehicle, and equipment maintenance, all of which is managed and disposed of in accordance with federal regulations mentioned above. Types of hazardous and petroleum (nonhazardous) waste generated include waste paints, used oil filters, used oil, expired miscellaneous chemicals, and construction debris.

Dobbins ARB has implemented a Hazardous Waste Management Plan that identified hazardous waste generation areas and addresses proper labeling, storage, and handling of these wastes (Dobbins ARB 2009).

Hazardous Waste Accumulation Points

Hazardous wastes are initially stored at satellite accumulation points at work locations. No more than 55 gallons of hazardous waste can be accumulated at these points. Once the storage limit is reached, the waste is transferred to the central accumulation point and stored for a maximum of 90 days until an approved contractor removes the waste for disposal. The waste is then transported to an approved off-Base treatment, storage, or disposal facility in accordance with applicable regulations.

3.11.3.3 Toxic Substances/Universal Wastes

Several disused buildings on the former Navy MSA site would be demolished as part of the proposed activities, including Buildings 1033, 1034, 1035, 1036, and 1037. Buildings 1033 (built 1979) and 1034 (1977) are standard ammunition igloos, each consisting of a concrete slab and walls, with an earthen roof. Buildings 1035 (1979), 1036 (1979), and 1037 (1959) are aboveground magazines, each consisting of a concrete slab and concrete or sheet metals walls. Buildings 1035 and 1036 contain one or more vehicle bays.

No surveys for LBP, ACM, mercury, or PCBs are known to have been conducted at the former Navy MSA site. Based on the age of the structures, these materials are assumed to be present.

3.11.3.4 Defense Environmental Restoration Program Sites

Dobbins ARB contains four active ERP sites. Two ERP sites are located near the proposed New MSA and vehicle holding area under Alternatives 1 and 2 (Figure 3.11-1):

- Past Base Landfill: Designated as LF001 (Dobbins ARB 2018) and is about 5.75 acres of highly disturbed land on a southeastward-dipping slope near the southeast corner of Dobbins ARB. The whole area is thought to have been borrow pits used during the construction of the airfield in the 1940s. Mixed fill and soils are found down to a depth of 40 ft. The landfill is no longer active but has the potential to contain office or household waste, construction waste, and industrial waste, all of which may contain or generate hazardous material (metals, total petroleum hydrocarbons, pesticides, PCBs, VOCs, semi-volatile organic compounds, and polycyclic aromatic hydrocarbons). The area is currently abandoned and vegetated. Groundwater flow is to the southeast.
- Barrel Disposal Site: Designated as DA011 (Dobbins ARB 2018) and is an approximately 190 ft by 260 ft area on the southeast side of the Past Base Landfill. Approximately 25 barrels of unknown origin and content, all in poor condition, were discovered partially buried at the site. The potential source of hazardous material at the Barrel Disposal Site is the release of unknown drum contents. Soil and groundwater may be impacted by metals (total metals in groundwater), total petroleum hydrocarbons, pesticides, PCBs, VOCs, semi-volatile organic compounds, and polycyclic aromatic hydrocarbons. Fill consists of mixed soil, asphalt, and concrete rubble. The site is currently abandoned and vegetated. Groundwater flow is to the southeast. Poorhouse Creek is approximately 250 ft south of the site.

Two other sites of environmental concern are located near the project area of Alternatives 1 and 2 (Georgia Department of Natural Resources 2020b) (Figure 3.11-1):

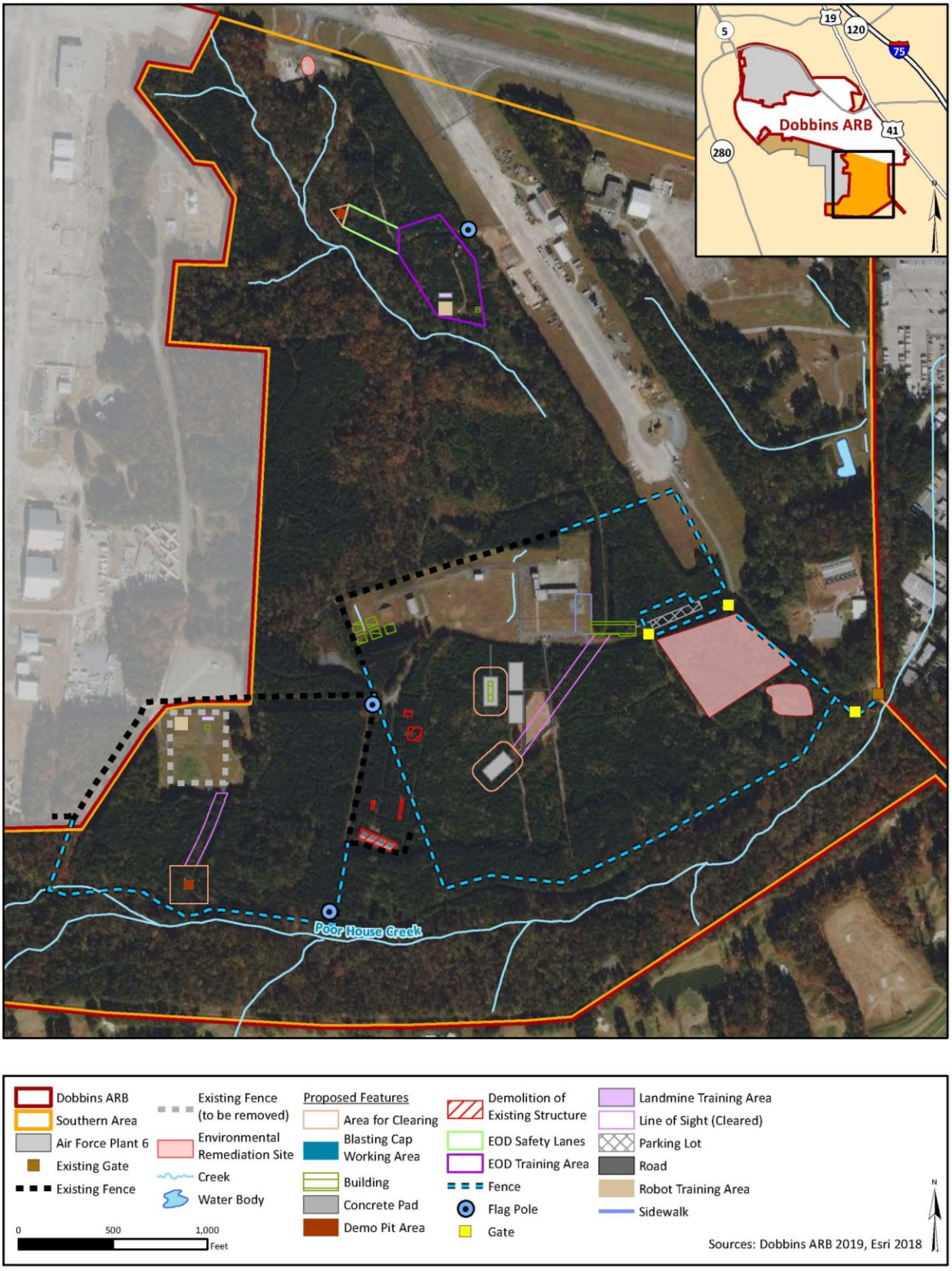


Figure 3.11-1. Environmental Remediations Located within the Southern Area on Dobbins ARB

- Abandoned Drum Site Southeast End of Taxiway A: Designated as AOC-3, and is located northeast of the proposed parking lot, across from the road which stems from the runway. The site has drums containing asphaltic joint sealing compound, waste solvents, and·waste-contaminated oil.
- Small Arms Range: Located north of AOC-3 and is contaminated with lead shot used while the small arms range was active.

No Military Munitions Response Program sites are known to occur in the vicinity of the proposed project areas.

3.12 SOCIOECONOMICS

3.12.1 DEFINITION OF THE RESOURCE

Socioeconomics comprise the basic attributes and resources associated with the human environment, particularly population and economic activity. Economic activity also typically encompasses employment, personal income, and economic growth. Impacts to these fundamental socioeconomic components also influence other issues such as housing availability and the provision of public services.

Dobbins ARB sits between the municipalities of Marietta and Smyrna, Georgia within Cobb County. These two cities and the county as a whole have greatest potential for socioeconomic impacts and are therefore considered the socioeconomic impact ROI.

3.12.2 EXISTING CONDITIONS

3.12.2.1 Population

Population metrics for the ROI are presented in Table 3.12-1. As of 2018, Cobb County had a population of 756,865 people, which was a 10.0 percent increase over 2010 levels. Marietta and Smyrna are similarly sized cities with populations of 60,806 and 56,706 people, respectively. Smyrna's population has grown at a slightly higher rate than Cobb County with an increase of 10.8 percent since 2010, while the rate of growth for Marietta was lower than the county at 7.4 percent. The population density of Smyrna is 3,694 people per square mile which is higher than the 2,635 people per square mile in Marietta.

Table 3.12-1. Population, 2010 to 2018

Area	*2010*	*2018*	*Percent Change 2010-2018*	*Population per square mile 2018*
Georgia	9,688,709	10,519,475	8.6%	182.9
Cobb County	688,071	756,865	10.0%	2,229.0
Marietta	56,594	60,806	7.4%	2,634.6
Smyrna	51,188	56,706	10.8%	3,694.2

Source: U.S. Census Bureau 2018.

3.12.2.2 Housing

Table 3.12-2 lists housing characteristics in the ROI including the number of housing units, the median home value, the median monthly rent, and the rental vacancy rate. Median home values in the ROI are higher than in the state of Georgia overall, as are the median monthly rental rates. Rental vacancy rates are higher than the statewide rate in Marietta and lower in Smyrna and the county overall. Cobb County has a total of 295,227 housing units with a median home value of $219,700, a median monthly rental rate of $1,102, and a rental vacancy rate of 6.1 percent. Marietta has a total of 26,322 housing units and compared with Cobb County, has a higher median home value ($242,000), a lower median rental rate ($983), and a higher rental vacancy rate (7.7 percent). Smyrna has 26,579 housing units with a higher median home value than both Marietta and Cobb County ($248,600), a median monthly rental rate that is higher than Marietta and lower than Cobb County ($1,073), and a rental vacancy rate that is lower than both Marietta and Cobb County (4.7%).

Table 3.12-2. Housing Characteristics, 2017

Area	*Housing Units*	*Median Home Value*	*Median Rent (per Month)*	*Rental Vacancy Rate*
Georgia	4,203,288	$158,400	$927	7.4%
Cobb County	295,227	$219,700	$1,102	6.1%
Marietta	26,322	$242,000	$983	7.7%
Smyrna	26,579	$248,600	$1,073	4.7%

Source: U.S. Census Bureau 2017a.

3.12.2.3 Income and Employment

Per capita incomes in the ROI are higher than the statewide level (Table 3.12-3). The highest per capita income in the ROI is in Smyrna ($44,823) and the lowest is in Marietta ($33,020) with the Cobb County level ($38,268) falling between the two cities. Median household incomes in the ROI are higher than the statewide level of $55,679 in Cobb County ($75,153) and Smyrna ($73,788) but lower in Marietta ($54,983). The unemployment rate for Cobb County is 2.3 percent which is lower than the statewide level of 3.3 percent.

Table 3.12-3. Employment and Income Statistics

Area	*Median Household Income (2018)*	*Per Capita Income (2018)*	*Labor Force (2019)*	*Employed (2019)*	*Unemployed (2019)*	*Percent Unemployed (2019)*
Georgia	$55,679	$29,523	5,125,727	4,958,875	166,852	3.3%
Cobb County	$75,153	$38,268	430,368	420,289	10,079	2.3%
Marietta	$54,983	$33,020	N/A	N/A	N/A	N/A
Smyrna	$73,788	$44,823	N/A	N/A	N/A	N/A

Note: Employment data for the cities is not available from the Bureau of Labor Statistics.
Legend: N/A = not available.
Source: U.S. Census Bureau 2018; Bureau of Labor Statistics 2019a, 2019b.

3.13 ENVIRONMENTAL JUSTICE AND THE PROTECTION OF CHILDREN

3.13.1 DEFINITION OF THE RESOURCE

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (1994), addresses potential disproportionate human health and environmental impacts that a project may have on minority or low-income communities. USEPA defines environmental justice as, "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies" (USEPA 2018). It goes on to clarify that "no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental, and commercial operations or policies."

CEQ guidance states that "minority populations should be identified where either: (a) the minority population of the affected areas exceeds 50 percent, or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis" (CEQ 1997). Minority populations include those that report their ethnicity as something other than non-Hispanic White alone; minority populations include Black or African American, Hispanic or Latin, American Indian, Native Hawaiian or other Pacific Islander, Asian, or Alaska Native. According to 15 USC § 689(3), the U.S. Department of Housing and Urban Development defines a low-income area as a census block or tract having greater than 20 percent of its population living below the federal poverty line, among other possible indicators.

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks* (1997), requires federal agencies to, "identify and assess environmental health risks and safety risks that may disproportionately affect children," and, "ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks." Additionally, children and the elderly are identified in the USAF *Guide for Environmental Justice Analysis under the Environmental Impact Analysis Process* as sensitive receptors (Air Force Civil Engineer Center 2014). Children are defined as those individuals under the age of 18 years and the elderly are defined as those who are aged 65 years and older.

3.13.2 EXISTING CONDITIONS

3.13.2.1 Minority and Low-Income Populations

Cobb County is comprised of 46.9 percent minority individuals which is a higher percentage than the state of Georgia as a whole (46.4 percent) (Table 13.3-1). Smyrna and Marietta both have higher proportions of minority residents than Cobb County at 54.7 percent and 51.8 percent, respectively. The poverty rate in Cobb County is 10.9 percent and is lower than the statewide total in Georgia which is 16.9 percent. Marietta has a poverty rate that is 19.0 percent and is higher than both the county and state levels. Smyrna's poverty rate is 11.9 percent which is lower than the statewide level and higher than the county level.

Table 13.3-1. Share of the Population Composed of Minority, Low-Income, Under 18, and Elderly Populations

Area	*Minority Population (2017)*	*Poverty Rate (2017)*	*Population under the age of 18 (2017)*	*Population aged 65 or older (2017)*
Georgia	46.4%	16.9%	24.5%	12.7%
Cobb County	46.9%	10.9%	24.4%	11.0%
Marietta	51.8%	19.0%	23.1%	12.0%
Smyrna	54.7%	11.9%	22.5%	8.8%

Source: U.S. Census Bureau 2017b, 2017c, 2017d.

3.13.2.2 Protection of Children and the Elderly

Table 13.3-1 shows the percentages of the population in Georgia, Cobb County, Marietta, and Smyrna that are under the age of 18. The share of the population that is comprised of children (i.e., under the age of 18), is lower than the statewide level (24.5 percent) in Cobb County (24.4 percent), Marietta (23.1 percent), and Smyrna (22.5 percent). According to the National Center for Education Statistics (2019), Cobb County had a total of 125 schools with 121,564 students during the 2017-2018 school year. Of these totals, 13 schools with 8,926 students are in the Marietta school district, 1 school with 554 students are in the Smyrna school district, and the remaining 111 schools and 112,084 students are in the Cobb County school district.

Cobb County, Marietta, and Smyrna all have lower proportions of elderly residents than the state of Georgia. Smyrna has the lowest proportion of the elderly with 8.8 percent and Marietta has 12.0 percent, which is higher than the county level of 11.0 percent.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 SAFETY

4.1.1 METHODOLOGY

Impacts to safety are gauged by their potential to affect the safety of personnel, the public, and property. Issues addressed in this section are ground safety and explosives safety. The potential for the Proposed Action to increase these risks is assessed, as well as the USAF's capability to manage the risks. A significant impact would exist if a condition were created where effects of an explosives mishap caused an unsafe effect on personnel and/or property or if the ESQD Arcs were to expand off-Base into areas that would affect additional persons not affiliated with the storage and use of explosive ordnance or, if the Proposed Action would increase long-term safety hazards associated with construction.

4.1.2 IMPACTS

4.1.2.1 Alternative 1

Transportation

There are no proposed changes to the transportation of munitions to and from the Base or the MSA and main Base where weapons may be loaded or unloaded. These areas are chosen for security and safety reasons, so that the munitions are accessed by only specified personnel and so that, in the event of an accident, any mishap will cause minimal damage outside of the MSA. Suspect vehicles are currently escorted from the entry gate to the MSA parking lot where they are held until the proper documentation is received and the vehicle is cleared for Base entry.

Construction and Demolition

Construction and demolition activities would result in a short-term increase in ground safety risks; however, no significant adverse impacts are anticipated with the application of standard industrial safety standards and procedures identified in DDESR. All activities and workers at the construction site would comply with Occupational Safety and Health Administration standards and would be required to conduct construction activities in a manner that would not pose any risks to personnel at or near the construction site. Demolition activities would result in a short-term increase in the ground safety risks; however, no significant adverse impacts are anticipated with the application of standard industrial safety standards. All construction within or on the periphery of ESQD arcs are closely managed to ensure compliance with explosives safety requirements as required by DESR 6055.09, Edition 1, *DoD Ammunition and Explosives Safety Standards*. During construction activities, munitions and explosives would not be used or handled. No significant environmental effects to ground safety would be expected as a result of construction and demolition activities.

Explosive Safety

Munitions Storage

Under the Proposed Action, a new MSA administrative building would be constructed in compliance with the DDESB explosives safety policy and standards. The structure would be located outside of the ESQD IM Arc (see Figure 2.1-1) where inhabited facilities are not permitted. This would create a safer work environment and a positive impact on employees not actively engaged in munitions handling or maintenance. There would be no significant impacts to other personnel and no impacts to off-Base populations would occur.

There are two types of MSAs proposed that are defined by their storage capability, permanent and temporary. Permanent storage areas are proposed in the existing MSA area and near the proposed suspect holding area, temporary storage areas are proposed for the EOD training area. Permanent munition storage facilities are constructed to meet all required safety and security measures for larger quantities and types of munitions to be stored. Temporary storage facilities are established to support specific training, such as EOD training.

Additional permanent munitions storage capacity would be achieved through the addition of new earthen magazine igloos and mixed munitions multi-cube storage facilities. This additional storage capacity would require the expansion of ESQD arcs. The revised ESQD arcs would remain primarily within the Base boundaries with the exception of a small section that would lie over Air Force Plant 6 property managed by Lockheed Martin (see Figure 2.1-1). The area that lies over Air Force Plant 6 is currently covered in a Letter of Agreement between Dobbins ARB and Lockheed Martin and no changes would be anticipated. Only personnel trained in accordance with all applicable DoD and USAF regulations, including AFI 91-201, *Explosives Safety Standards*, and AFI 91-202, *the U.S. Air Force Mishap Prevention Program*, would be permitted to handle, transport, maintain, load, or dispose of munitions and explosives stored in the additional facilities. In addition, in accordance with AFI 13-212, public access to the areas would be prohibited unless specifically authorized by MSA personnel. As required to ensure explosive storage standards are enforced, the DDESB has reviewed the site plans and approved advanced explosive ordnance magazines and two aboveground magazines. The additional permanent storage facilities would have no significant adverse effects.

In addition to the permanent munitions storage facilities, two mobile explosive storage magazines would be used near the proposed 5 lb EOD range. These facilities would be used during training missions only and would not trigger an expansion of the ESQD arcs beyond the Base boundaries. No significant affects to personnel or other persons would be expected.

EOD Training

There would be no changes to the existing 2.5 lb range or the existing safety procedures although use is expected to decrease. The proposed EOD 5-lb training range demolition pit would be sited

outside of the ESQD arcs for the MSA and in an area where the ESQD arc associated with the proposed demolition pit would remain within the Base's boundary. All explosives would be detonated inside of the demolition pit and only non-fragmenting explosives would be permitted during training. The additional fencing proposed for the Southern Area would add the ability to restrict entry to the Southern Area to authorized personnel only. An updated Flight Operating Instruction 13-2, *Proficiency Range Operations*, would set the procedures to be used during explosive proficiency training at the new 5-lb range to minimize the risk of a mishap.

The EOD Flight Chief would continue to be responsible for ensuring all personnel who use the EOD range are familiar with the requirements set forth in Dobbins Flight Operating Instruction 13-2, and the Range Safety Officer would continue to be responsible for conducting a safety briefing prior to use of the range. The safety procedures currently used for the 2.5-lb range would be enforced. To ensure unauthorized personnel are not present during training, trees would be cleared ensuring line of sight to the range. In addition, red flags would be flown around the perimeter warning all persons in the Southern Area that the range is active. Personnel at Dobbins ARB would continue to control, maintain, and store all explosives required for mission performance in accordance with USAF explosive safety directives (AFMAN 91-201) and no adverse environmental consequences are anticipated with the relocation of the EOD Training Range.

EOD training under Alternative 1 would not result in adverse impacts to public safety in the event of an accident or other mishap. Current Standard Operating Procedures would dictate that all training is carried out in a way that minimizes impacts to the public. Therefore, safety impacts with respect to use of munitions would have negligible impacts.

4.1.2.2 Alternative 2

Under Alternative 2, in addition to the additional fencing securing the Southern Area, the entire EOD training area would be fenced and line-of-sight to the EOD would not exist. This additional fencing would add extra surety that personnel not authorized by the EOD Flight Chief are not present during training. Additional red flags would be flown around the perimeter of the fence warning all persons in the Southern Area that the range is active. Personnel at Dobbins ARB would continue to control, maintain, and store all explosives required for mission performance in accordance with USAF explosive safety directives (AFMAN 91-201). Other safety risks associated with Alternative 2 would be the same as those identified under Alternative 1. No significant impacts would occur.

4.1.2.3 Alternative 3 (Preferred Alternative)

Under Alternative 3, the MSA and Suspect Vehicle Holding Area construction and operations would be the same as under Alternative 1; however, the EOD Range would be located north of the MSA area. Safety risks associated with Alternative 3 would be the same as under Alternative 1. The proposed EOD 5-lb Training Range demolition pit would be sited outside of the ESQD arcs

for the MSA and in an area where the new ESQD arc associated with the proposed demolition pit would remain within the Base's boundary. All explosives would be detonated inside of the demolition pit and only non-fragmenting explosives would be permitted during training. An updated Flight Operating Instruction 13-2, *Proficiency Range Operations*, would set the procedures to be used during explosive proficiency training at the new 5-lb range to minimize the risk of a mishap. As a result, the EOD training under Alternative 3 would not result in adverse impacts to public safety. Current Standard Operating Procedures would dictate that all training is carried out in a way that minimizes impacts to the public. Therefore, safety impacts with respect to use of munitions would have no significant impact.

4.1.2.4 No Action Alternative

Implementation of the No Action Alternative would maintain existing conditions, and the current size and level of explosive ordnance and munitions usage would remain the same. Under the No Action Alternative, there would be no increase in safety risks from what they are under current conditions.

4.2 AIR QUALITY

4.2.1 METHODOLOGY

Air quality impacts within the affected environment were reviewed relative to federal, state, and local air pollution standards and regulations. Because Cobb County is in nonattainment for O_3, the General Conformity Rule applies; and so, for the purposes of the General Conformity Applicability analysis, the 100 tons per year per pollutant General Conformity *de minimis* thresholds for VOCs and NO_x was used to assess emissions. For attainment area criteria pollutants, the project air quality analysis uses the USEPA's PSD permitting threshold of 250 tons per year as an initial indicator of the local significance of potential impacts to air quality. Indicators do not trigger a regulatory requirement; however, they provide an indication or a warning that the action is potentially approaching a threshold that would trigger a regulatory requirement. It is important to note that these indicators only provide a clue to the potential impacts to air quality. In the context of criteria pollutants for which the proposed project region is in attainment of a NAAQS, the analysis compares the annual net increase in emissions estimated for each project alternative to the 250 tons per year PSD permitting threshold. The PSD permitting threshold represents the level of potential new emissions below which a new or existing major stationary source may acceptably emit without triggering the requirement to obtain a permit. No similar regulatory indicator is available for mobile source emissions, which are the primary sources for construction activities under this proposal. Lacking any regulatory mobile source emissions thresholds, the 250 tons per year per pollutant indicator was used to equitably assess mobile source emissions from the Proposed Action at Dobbins ARB. If the intensity of any net emissions increase for a project alternative is below 250 tons per year in the context of an attainment criteria pollutant, the

indication is the air quality impacts will likely not result in significant impacts, such as placing the area in nonattainment for the pollutant.

4.2.2 IMPACTS

4.2.2.1 Alternative 1

Several areas within the Southern Area of Dobbins ARB would be developed and fencing would be added to secure the newly developed areas. The abandoned Navy MSA would be demolished and the land returned to its natural state. Construction would include a vehicle holding area, a 16-bay multi-cube ammunitions storage facility, a new MSA administrative building and parking lot, and a new EOD range.

As a result of the proposed construction, 33,546 SF of new buildings would be constructed. A total of 2,539 truck trips have been estimated, covering the maximum amount of materials brought in (9,769 cubic yards) and maximum amount of materials removed (11,538 cubic yards). Most of the proposed construction is within the footprint of the developed Base, with the exception of paving that would occur adjacent to the Base. The construction, demolition, and renovation activities would occur beginning in 2020. The following assumptions were used for construction projects at Dobbins ARB.

- New building foundations require excavation of at least 1 ft of grade soil.
- All buildings are single story.
- All new buildings require at least 100 ft of utility trenching.
- All new impervious surfaces are assumed to be concrete unless clearly identified as asphalt.
- All construction activities were assumed to occur in 1 year to provide a worst-case scenario for emissions.
- Where two options are under consideration, the option that would generate the greatest emissions was selected for analysis.

Construction emission estimates were prepared using the USAF Air Conformity Applicability Model. Emissions would primarily be generated by:

- diesel-powered construction equipment operating on-site,
- trucks removing or delivering materials from the construction areas,
- construction worker vehicles,
- application of architectural coatings, and
- dust created by grading and other bare earth construction activities.

Results of the modeling are presented in Table 4.2-1. Detailed information on the modeling can be found in Appendix B.

Table 4.2-1. Annual Construction Emissions Estimates for Dobbins ARB, Cobb County, Georgia

	Emissions (Tons/Year)						
Year	*VOC*	*NO_x*	*CO*	*SO_x*	*PM_{10}*	*$PM_{2.5}$*	*CO_2e*
2021	0.135	0.219	0.082	0.001	2.053	0.007	68.2
de Minimis threshold	100	100	NA	NA	NA	NA	NA
Comparative Indicator	250	250	250	250	250	250	NA
Exceedance (Yes/No)	No	No	No	No	No	No	NA

Legend: CO = carbon monoxide; CO_2e = carbon dioxide equivalent; NO_x = nitrogen oxides; SO_x = sulfur oxides; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; PM_{10} = particulate matter less than or equal to 10 microns in diameter; VOC = Volatile Organic Compound.

Based on the Air Conformity Applicability Model calculations, the emissions associated with construction activities proposed at Dobbins ARB would not be significant. Both VOC and NO_x pollutant emissions are below the General Conformity *de minimis* thresholds and the remaining criteria pollutants are below the comparative indicator values.

In addition, the USAF plans to implement best management practices (BMPs) in the contracts for the construction activities. These include:

Construction Equipment

- Plan construction scheduling to minimize vehicle trips.
- Verify idling restrictions through unscheduled inspections.
- Non-road Vehicles and Equipment: Non-road vehicles and equipment should meet, or exceed, the USEPA Tier 4 exhaust emissions standards for heavy-duty, non-road compression-ignition engines (e.g., construction equipment, non-road trucks).
- Prevent tampering and conduct unscheduled inspections to ensure these measures are followed.
- Use ultra-low sulfur diesel fuel (15 ppm maximum) in construction vehicles and equipment.
- Regularly maintain diesel engines to keep exhaust emissions low. Follow the manufacturer's recommended maintenance schedule and procedures. Smoke color can signal the need for maintenance (e.g., blue/black smoke indicates that an engine requires servicing or tuning). Lacking availability of non-road construction equipment that meets Tier 4 engine standards, the responsible agency should commit to using USEPA-verified particulate traps, oxidation catalysts, and other appropriate controls where suitable to reduce emissions of diesel PM and other pollutants at the construction site.
- Consider alternative fuels and energy sources for equipment such as natural gas and electricity (plug-in or battery).

Fugitive Dust Source Controls

- Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative, where appropriate. This applies to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.

- Install wind fencing and phase grading operations where appropriate and operate water trucks for stabilization of surfaces under windy conditions.
- When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour. Limit speed of earth-moving equipment to 10 miles per hour.

A Record of Conformity Analysis for VOCs and NO_x has been prepared to document that the emissions from these pollutants are exempt from the General Conformity Rule. A Record of Air Analysis has been prepared to document that the impacts for attainment criteria pollutants would not be significant, and can be found in Appendix B.

Operations

Under Alternative 1, the EOD range would be used up to 50 days each year for approximately 4 hours per day. On average, seven detonations would occur during a training session. These small, intermittent training sessions would generate minimal, intermittent emissions from ordnance detonation.

Greenhouse Gas Emissions

The proposed construction activities would contribute a small amount of GHG emissions from fossil fuel combustion. Demolition and construction activities would generate approximately 68 tons of CO_2e emissions in 2021. To put these emissions in perspective, tons of GHGs is the equivalent of 13 cars driving the national average of 11,500 miles per year (USEPA 2018). These GHG emissions would only be generated during the construction period. The operation of new facilities may result in a small increase in Base-related GHG emissions, primarily through the consumption of electricity and possibly through the combustion of fossil fuel on-site if any oil or natural gas boilers or other heating units are installed in the new facilities.

While the GHG emissions generated from the construction activities and building operations alone would not be enough to cause global warming, in combination with past and future emissions from all other sources they would contribute incrementally to the global warming that produces the adverse effects of climate change.

4.2.2.2 Alternative 2

Alternative 2 is essentially the same as Alternative 1, with the only revisions being an additional 6,500 linear ft of fencing, and the line-of-sight area at the EOD would not be cleared from the safe area to the demolition pit. Due to the similarities between the two alternatives and the additional clearing required under Alternative 1, the emissions from Alternative 1 are consistent for Alternative 2 and so are used for this analysis. Therefore, the results from Alternative 1 apply to Alternative 2, along with the same conclusions that the emissions would not be significant.

4.2.2.3 Alternative 3 (Preferred Alternative)

For Alternative 3, all new proposed features described under Alternative 1 would be the same except the location of the new EOD Range, which would be located north of the MSA Area instead of southwest. The amount of material removed from the site would be slighter larger and is represented as the maximum amount of material removed under Alternative 1. Due to the similarities between the two alternatives and the maximum amount of material removed that is included under Alternative 1, the emissions from Alternative 1 are consistent for Alternative 3 and so are used for this analysis. Therefore, the results from Alternative 1 apply to Alternative 3, along with the same conclusions that the emissions would not be significant.

4.2.2.4 No Action Alternative

Under the No Action Alternative, no changes to the Southern Area would occur and the 94 AW would not implement the proposed project components described under the Proposed Action. Air quality would be expected to remain as described under affected environment in Section 3.3. Therefore, there would be no impacts to air quality under the No Action Alternative.

4.3 NOISE

4.3.1 METHODOLOGY

The Proposed Action would include the construction of a new EOD pit that would support EOD training with a maximum explosive charge of 5 lbs. A new MSA administrative building would be constructed, roads would be improved, concrete pads would be added, and the structures in the abandoned Navy MSA would be demolished. Noise levels associated with the proposed EOD range were predicted using the BNOISE 2 computer model based on the number and types of explosives proposed for use (see Table 2.4-3). All EOD activities would occur during the CDNL daytime (7 a.m. to 10 p.m.). Consistent with the methods used for Section 3.4, *Noise*, explosive ordnance noise levels were calculated for CDNL and PK15. Noise associated with the proposed construction and demolition would be comparable to construction and other noise sources that occur at Dobbins ARB and in the local community; therefore, construction noise associated with the Proposed Action is discussed, but not quantified.

4.3.2 IMPACTS

4.3.2.1 Alternative 1

<u>Explosive Ordnance Noise</u>

Table 2.4-3 presents the proposed number of annual EOD operations, by type, under Alternative 1 where the proposed location of the demo pit would be located in the southwestern portion of the Southern Area (see Figure 2.4-1). In addition to changing the EOD location, Alternative 1 would increase the maximum charge weight from 2.5 lbs to 5 lbs, while the number of annual events at the maximum weight would be reduced by half. Under Alternative 1, the existing EOD site would

not be closed and could be used as a backup to the proposed site. However, both would not be used at the same time and, if used, explosive weights at the existing site would not exceed the current 2.5-lb maximum. Because the elimination or reduction of activity at the existing EOD site would decrease impacts, this analysis focuses on the most likely scenario with the greatest potential for impacts where all activity is moved to the new site.

Figure 4.3-1 depicts the proposed CDNL noise contours that would result from EOD operations relocated from their current location to the new site. As can be seen, the 70 dB CDNL (boundary between Noise Zone II and III) would remain primarily within the Base boundaries but would extend beyond the Base boundary by approximately 400 ft to south of the Southern Area onto a golf course. As discussed in Section 3.4, 70 dB CDNL corresponds to approximately 40 percent of the population being highly annoyed (see Table 3.4-2). However, no residents are located within the 70 dB CDNL and golf courses are not considered incompatible with that level.

The 62 dB CDNL (lower boundary of Noise Zone II) would extend off-Base by approximately 1,500 ft to the northwest over portions of Air Force Plant 6, approximately 1,500 ft south, and 700 ft west of the Base. The areas to the south would primarily comprise the golf course as well as some residences along Windy Hill Road. The areas to the west include commercial services on Dixie Avenue SE, and residential areas along Davis Road SE and Happy Hollow Rd SE. Approximately 15 percent of the population within the 62 dB CDNL would be expected to be highly annoyed (see Table 3.4-2). While annoyance in these areas would increase during training exercises, due to the infrequency of use (50 days per year), and the limited number of explosives used, this would not be expected to be significant.

As discussed in Section 3.4, PK15 represents areas where 15 percent of the operations could be expected to exceed each respective peak level while the other 85 percent would be less. Under the Proposed Action, the number of larger weight detonation events at the Alternative 1 demolition pit would be reduced by roughly half to 28.

Figure 4.3-1. Proposed Alternative 1 CDNL Noise Contours

The 115, 130, and 140 dB PK15 noise levels for the most energetic events (5 lb C-4 and Semtex) are the most likely to affect the neighboring community due to their higher charge weights and greater release of energy than the other types of explosives. The 140 dB noise levels for these 5-lb events would extend approximately 0.6 mile from the detonation site to the residential and commercial areas southwest of Dobbins ARB and along Atlanta Road as well as encompassing the majority of the golf course and residential area along Windy Hill Road. During a training event, persons within this area could be startled and bric-a-brac on shelves could rattle. The 130 dB noise level would extend approximately 1.1 miles from the detonation site to include residential areas west of Atlanta Road, Campbell High School, three places of worship in Whitfield Park, and the residential area between Windy Hill Road and Dobbins ARB. The areas between PK15 130 and 140 dB represent areas of high noise complaint risk and noise sensitive land uses are highly discouraged. The PK15 115 dB would extend 2.7 miles from the detonation site reaching similar areas as the exiting PK15 115 dB to the northeast but extending an additional 1.3 miles to the southwest reaching additional residential areas. Between PK15 115 and 130 dB represents a medium risk of noise complaints. The PK15 levels associated with Alternative 1 would be expected to increase noise complaints and the potential for property damage to nearby properties and persons located outside exists. Although the infrequency of use (28 events per year) of the largest explosive charge weight (5 lbs) would reduce these risks, impacts from noise are expected to be significant in areas within the PK15 130- and 140-dB contours.

Construction Noise

Noise generated from the construction equipment would occur in the Southern Area of Dobbins ARB. Heavy equipment and vehicles involved in the demolition of structures in the abandoned Navy MSA and in the construction of additional facilities and roadways would generate the primary source of noise from these activities. Construction would most likely occur over an extended timeframe, although, at any one time, more than one project could occur simultaneously. Noise would be expected to be intermittent and of limited duration. Primary noise sources during such activity would be expected to be heavy vehicles and earth moving equipment. Table 4.3-1 shows sound levels associated with typical heavy construction equipment at a distance of 50 feet for miscellaneous heavy equipment.

Table 4.3-1. Heavy Equipment Noise Levels at 50 feet

Equipment	*Noise Level (dBA)*[a]
Bulldozer	82
Backhoe	78
Front Loader (rubber tire)	79
Dump Truck	76
Concrete Mixer Truck	79
Chain Saw	84
Crane	81
Flat-bed Truck (18 Wheel)	74
Scraper	84
Trenching Machine	80

Note: [a]RCNM Default Noise Emission Reference levels and Usage Factors
Source: FHWA Construction Noise Handbook

Construction areas are located within the Southern Area of the Base within areas already exposed to elevated noise from airfield operations, use of the exist 2.5-lb EOD range, and small arms range. Aircraft would continue to dominate the acoustic environment in areas surrounding Dobbins ARB. Construction noise emanating off-site may be noticeable in the immediate site vicinity but would not be expected to create adverse impacts. Furthermore, construction-related noise is intermittent and transitory, ceasing at the completion of construction. The long-term acoustic environment on Dobbins ARB would not be influenced by construction activities.

Sound propagation outdoors is estimated by using a common acoustic reference called the "inverse square law." Under this law, sound from a localized source such as construction equipment will spread out uniformly as it travels away from the source, and then the sound level will drop off at a rate of 6 dB with each doubling of distance. Assuming that noise from the construction equipment operation radiates equally in all directions, the sound intensity would diminish inversely as the square of the distance from the source increases. Table 4.2-1 shows the anticipated sound pressure levels at a distance of 50 feet for miscellaneous heavy equipment.

Noise related to the construction and demolition projects may have a short-term impact on-Base to the functions in the existing MSA administration building. The closest off-Base facility would be the Fox Creek Golf Course and Driving Range located approximately 750 ft south of the proposed EOD Demo Pit where persons golfing during clearing of the site could temporarily be exposed to elevated noise levels. The long-term acoustic environment on Dobbins ARB and surrounding environments would not be influenced by construction activities. Short-term impacts resulting from construction activities would not be expected to have significant impacts.

4.3.2.2 Alternative 2

Under Alternative 2, impacts to the noise environment would be the same as discussed for Alternative 1. Impacts from noise levels associated with the location of the 5 lb EOD training area are expected to be significant in areas within the PK15 130- and 140-dB contours.

4.3.2.3 Alternative 3 (Preferred Alternative)

Explosive Ordnance Noise

Table 2.4-3 presents the proposed number of annual EOD operations, by type, under Alternative 3 where the proposed location of the demo pit would be moved closer to the center of the Base in the northern portion of the Southern Area (see Figure 2.4-7). In addition to changing the EOD location, Alternative 3 would increase the maximum charge weight from 2.5 lbs to 5 lbs, while the number of annual events at the maximum weight would be reduced by half. Similar to Alternative 1, Alternative 3 would leave the existing EOD site which could be used as a backup to the proposed site, but both would not be used at the same time and explosive weights at the existing site would not exceed the current 2.5 lb maximum. Because the elimination or reduction of activity at the existing EOD site would decrease impacts, this analysis focuses on the most likely scenario with the greatest potential for impacts where all activity is moved to the new site.

Figure 4.3-2 depicts the proposed CDNL noise contours that would result from EOD operations relocated from their current location to the new site. As can be seen, the 70 dB CDNL (boundary between Noise Zone II and III) would be contained within the Base boundary to the north, east, and south and extend to the west onto the Air Force Plant 6 area approximately 400 ft. As discussed in Section 3.4, 70 dB CDNL corresponds to approximately 40 percent of the population being highly annoyed (see Table 3.4-2). However, no off-Base noise sensitive uses (i.e., residential or school) would be affected by the 70 dB CDNL and the Air Force Plant 6 area is industrial use.

The 62 dB CDNL (lower bound of Noise Zone II) would extend off Dobbins ARB by approximately 1,500 ft to the west over portions of Air Force Plant 6 and would not affect private property. Air Force Plant 6 is an industrial area without noise sensitive land uses and, while annoyance of workers may increase during training exercises, due to the infrequency of use (50 days per year), the limited number of explosives used, and lack of nearby noise sensitive land uses, this would not be expected to be significant.

As discussed in Section 34, PK15 represents areas where 15 percent of the operations could be expected to exceed each respective peak level while the other 85 percent would be less. Although the maximum explosive weight would be increased from 2.5 to 5 lbs under Alternative 3, the number of larger weight detonation events would be reduced by roughly half to 28 per year.

Figure 4.3-2. Proposed Alternative 3 CDNL Noise Contours

The 115, 130, and 140 dB PK15 levels for the most energetic events (5 lb C-4 and Semtex) are the most likely to affect the neighboring community due to their higher charge weights and greater release of energy than the other types of explosives. The 140 dB noise level for these 5-lb events would extend 0.6 mile from the detonation site and reach Air Force Plant 6 and a small portion of the Lockheed Martin industrial area to the west of Air Force Plant 6. During a training event, persons within this industrial area could be startled and may risk potential for hearing damage if outdoors without hearing protection. The 130 dB contour would extend approximately 1.1 miles from the detonation site to include residential areas along Atlanta Road, as well as two places of worship and a residential area along Windy Hill Road. These areas between the 130- and 140-dB contours represent areas of high noise complaint risk where noise-sensitive land uses are highly discouraged. The 115 dB contour would extend 2.7 miles from the detonation site reaching similar areas as the existing 115 dB contour to the northeast and east but extending an additional 0.9 mile to the west, reaching additional residential areas west of South Cobb Drive. The area between the 115- and 130-dB contours represents a medium risk of noise complaints. Although the predicted PK15 noise contours would be larger than existing, the number of larger weight detonation events would decrease from 56 to 28 per year and they would shift to the west where the highest noise levels would remain primarily on USAF-owned property; the existing residences to the east of the Southern Area would be expected to experience less noise events.

The PK15 levels associated with Alternative 3 may increase the risk for hearing damage if any Lockheed Martin personnel are outdoors without hearing protection and near the Dobbins ARB boundary during a detonation event. Although the infrequency of use (28 events per year) of the largest explosive charge weight (5 lbs) would reduce these risks, management actions like ensuring inclusion of Lockheed Martin in the base's existing requirement to notify personnel in nearby facilities of the EOD schedule would reduce the level of impact below significant.

Construction Noise

Noise related to the construction and demolition projects may have short-term impacts to on-Base functions in the existing MSA administration building. The closest off-Base facility would be Air Force Plant 6 and the Fox Creek Golf Course and Driving Range located approximately 1,500 ft south of the proposed suspect vehicle holding area. The long-term acoustic environment on Dobbins ARB and surrounding environments would not be influenced by construction activities. Short-term impacts resulting from construction activities would not be expected to have significant impacts and the nearest areas are industrial use where proposed noise levels would not differ greatly from typical exiting activity.

4.3.2.4 No Action Alternative

Under the No Action Alternative, no construction would occur, and the Base would continue to use the 2.5-lb EOD Range. Noise associated with EOD operations and construction would be the

same as discussed for the baseline conditions and would have no impact on the acoustic environment.

4.4 LAND USE

4.4.1 METHODOLOGY

The methodology to assess impacts on individual land uses requires identifying those uses and determining the degree to which they would be changed by the implementation of the Proposed Action. Significance of potential land use impacts is based on the level of land use sensitivity in areas affected by a proposed action. In general, land use impacts would be significant if they would:

1) be inconsistent or in non-compliance with applicable land use plans or policies to the extent that they rendered the property unusable,
2) preclude the viability of existing land use,
3) preclude continued use or occupation of an area, or
4) be incompatible with adjacent or land uses in the vicinity to the extent that public health or safety is threatened.

4.4.2 IMPACTS

4.4.2.1 Alternative 1

Proposed construction activities would be short term but may cause minor traffic and/or noise disruptions to local businesses as well as employees at Dobbins ARB. However, these disruptions would not be significant. All new construction would be totally within the boundaries of Dobbins ARB and elevated construction noise would not adversely affect nearby off-Base land uses such as residential and industrial areas and the golf courses to the south.

In addition to noise from construction, there would be additional noise from ordnance operations at the new EOD site. The land use analysis compares the proposed noise contours to current noise contours, which show the existing noise environment. The comparison of the Alternative 1 contours to the current contours shows potential change in noise conditions and land use compatibility (Table 4.4-1 and Figure 4.4-1). Alternative 1 would result in an overall increase in off-Base area affected by noise levels greater than 62 CDNL by approximately 179 acres, 65 of which are on Air Force Plant 6 property. Approximately 83 acres of land zoned for residential use would be located within the 62 to 70 CDNL contours, where land use recommendations consider it incompatible for residential use. These areas are located south of the Base in an area where the land uses are currently compatible with Base operations.

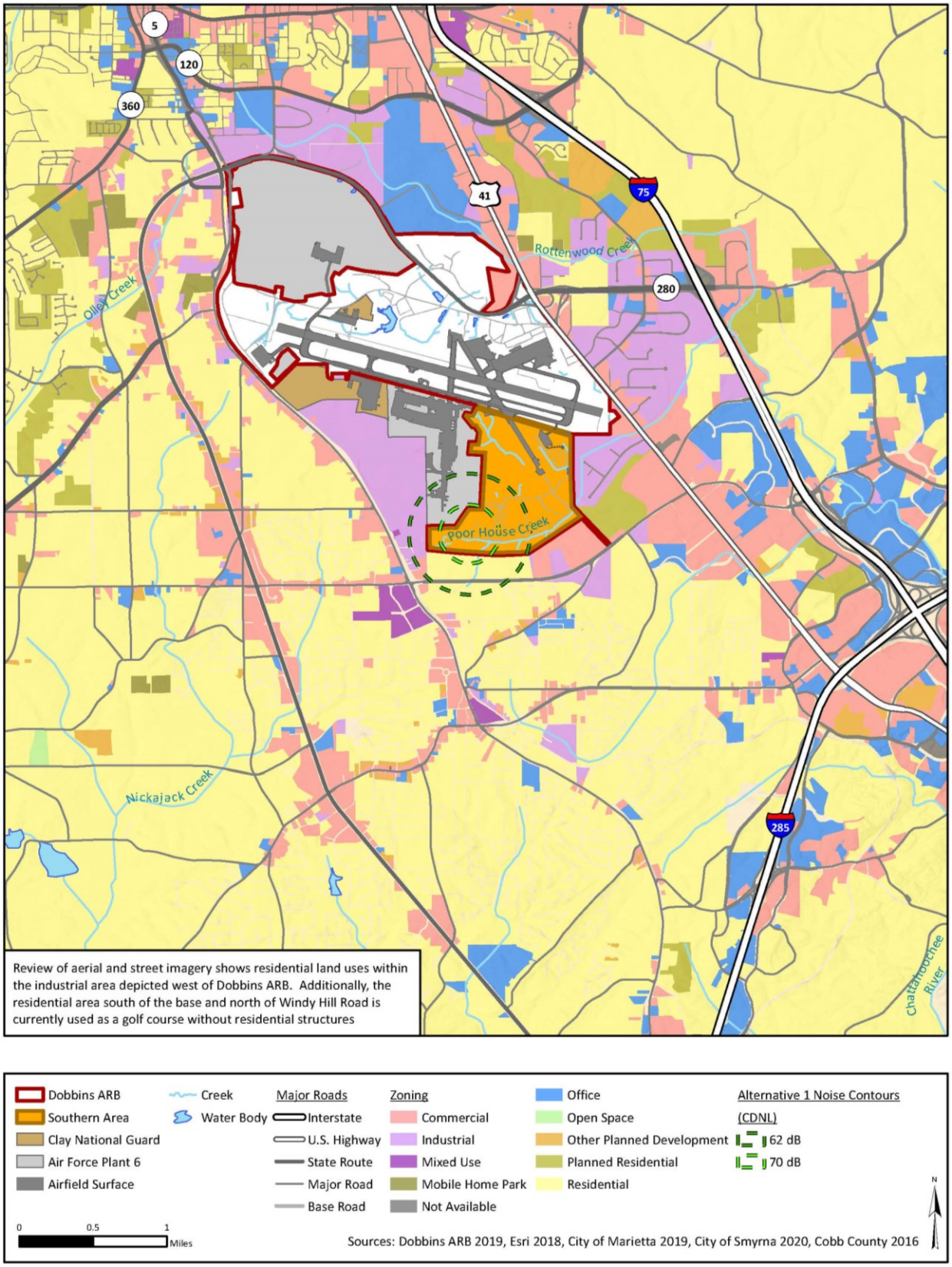


Figure 4.4-1. Proposed Alternative 1 CDNL Noise Contours and Land Use within the Vicinity of Dobbins ARB

Table 4.4-1. Off-Base Acreage by Land Uses Affected by Noise Levels 62 dB CDNL and Greater under Baseline and Alternative 1

	BASELINE CDNL		ALTERNATIVE 1 CDNL	
Zoning Category	***62 dB***	***70 dB***	***62 dB***	***70 dB***
Planned Residential	4	0	0	0
Residential*	0	0	74	9
Industrial*	63	10	27	0
Commercial	0	0	4	0
Air Force Plant 6	0	0	56	9
Other**	4	0	56	9
TOTAL	**71**	**10**	**161**	**18**

Notes: Numbers may not add up due to rounding errors.
*Review of aerial and street imagery shows residential land uses within the industrial area depicted west of Dobbins ARB. Additionally, the residential area south of the base and north of Windy Hill Road is currently used as a golf course without residential structures.
**Includes areas such as roads, water, etc.
Legend: CDNL = C-weighted Day-Night Average Sound Level; dB = decibel.

Review of aerial and street imagery shows residential land uses within the industrial area depicted west of Dobbins ARB. Additionally, the area zoned as residential south of the Southern Area and north of Windy Hill Road is currently used as a golf course without residential structures. The residential area and golf courses would be incompatible. When combined with the PK15 noise levels addressed in the Noise section (4.3.2) that finds a potential risk to the hearing of individuals outdoors without hearing protection when a blast could occur, impacts to land use under Alternative 1 would be considered significant. Incompatibility does not constitute a federal determination that any land use is acceptable or unacceptable under federal, state, or local law, nor are they used to determine if a structure is habitable or uninhabitable. Therefore, impacts to land use under Alternative 1 would be considered significant based on CDNL when combined with PK15.

4.4.2.2 Alternative 2

Impacts to land use would be the same as described under the Preferred Alternative. All new construction would be totally within the boundaries of Dobbins ARB and the additional noise from operations at the new EOD site would be the same as described under the Preferred Alternative. Therefore, impacts to land use under Alternative 2 would be considered significant.

4.4.2.3 Alternative 3 (Preferred Alternative)

Proposed construction activities would be short term but may cause minor traffic and/or noise disruptions to local businesses as well as employees at Dobbins ARB. However, these disruptions would not be significant. All new construction would be totally within the boundaries of Dobbins ARB and elevated construction noise would not adversely affect nearby off-Base land uses such as residential and industrial areas and the golf courses to the south.

In addition to noise from construction, there would be additional noise from ordnance operations at the new EOD site. The land use analysis compares the proposed noise contours to current noise contours, which show the existing noise environment. The comparison of the Alternative 3

contours to the current and Alternative 1 contours shows potential decrease in off-Base acreage affected noise levels (Table 4.4-2 and Figure 4.4-2). Compared to Alternative 1, Alternative 3 would result in an overall decrease in off-Base area affected by noise levels greater than 62 dB CDNL by approximately 87 acres. Approximately 92 acres off-Base would be located within the 62 to 70 dB CDNL contours, all of which are located on Air Force Plant 6 property. There would be no residential land use within the 62 dB or greater CDNL contours. Therefore, impact to land use would not be significant.

Table 4.4-2. Off-Base Acreage by Land Uses Affected by Noise Levels 62 dB CDNL and Greater under Baseline, Alternative 1, and Alternative 3

	BASELINE CDNL		ALTERNATIVE 1 CDNL		ALTERNATIVE 3 CDNL	
Zoning Category	***62 dB***	***70 dB***	***62 dB***	***70 dB***	***62 dB***	***70 dB***
Planned Residential	4	0	0	0	0	0
Residential	0	0	74	9	0	0
Industrial	63	10	27	0	0	0
Commercial	0	0	4	0	0	0
Air Force Plant 6	0	0	56	9	84	8
Other*	4	0	0	0	0	0
TOTAL	**71**	**10**	**161**	**18**	**84**	**8**

Notes: Numbers may not add up due to rounding errors.
*Includes areas such as roads, water, etc.
Legend: CDNL = C-weighted Day-Night Average Sound Level; dB = decibel.

4.4.2.4 No Action Alternative

Under the No Action Alternative, no changes to the Southern Area would occur and the 94 AW would not implement the proposed project components described under the Proposed Action. Land Use would be expected to remain as described under affected environment in Section 3.5. Therefore, there would be no impacts to land use under the No Action Alternative.

4.5 EARTH RESOURCES

4.5.1 METHODOLOGY

In evaluating impacts to earth resources, protection of unique geologic features, minimization of soil erosion, and the siting of facilities in relation to potential geologic hazards and soil limitations are considered. If a proposed action were to substantially affect or be substantially affected by any of these features, impacts may be considered significant. Generally, impacts associated with earth resources can be avoided or minimized to a level of insignificance if proper construction techniques, erosion control measures, geotechnical analysis, and structural engineering designs are incorporated into project development.

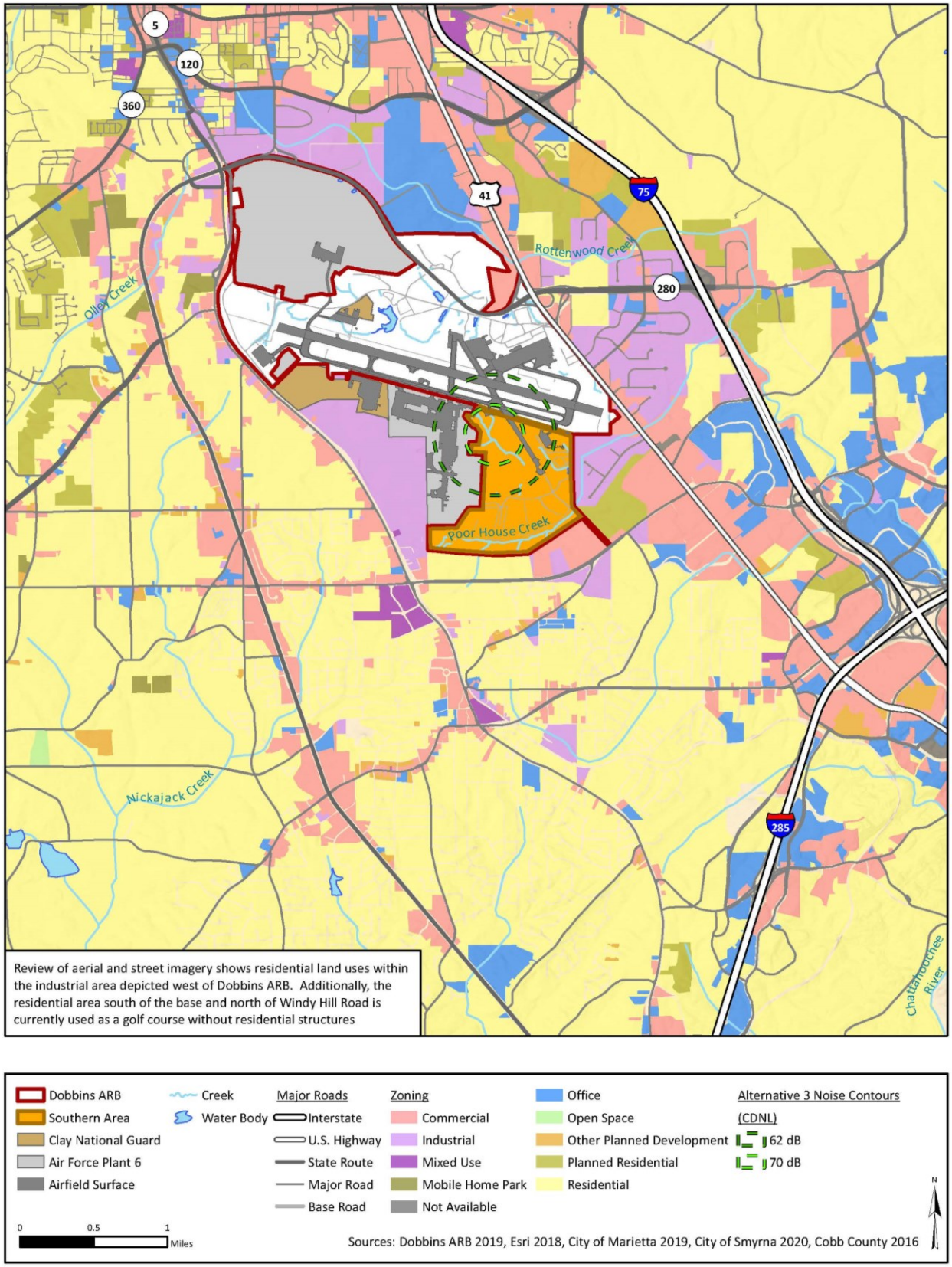


Figure 4.4-2. Proposed Alternative 3 CDNL Noise Contours and Land Use within the Vicinity of Dobbins ARB

Analysis of potential impacts to geologic resources typically includes identification and description of resources that could potentially be affected, examination of the potential effects that an action may have on the resources, assessment of the significance of potential impacts, and provision of management measures in the event that potentially significant impacts are identified. Analysis of impacts to soil resources resulting from proposed activities examines the suitability of locations for proposed operations and activities. Impacts to soil resources can result from earth disturbance that would expose soil to wind or water erosion, or otherwise damage soil productivity (e.g., through compaction).

Adverse impacts to soils and the associated potential indirect impacts to water resources can be minimized through the implementation of BMPs such as those typically required to be in compliance with the CWA. The NPDES program, administered by the Georgia Environmental Protection Division under the USEPA's supervision, requires a NPDES Construction Storm Water General Permit for discharge of stormwater from sites where construction activities will result in contiguous land disturbances equal to or greater than 1 acre or tracts of less than 1 acre that are part of a larger common plan of development with a combined disturbance 1 acre or greater. Compliance with this permit involves development and implementation of a site-specific construction Erosion, Sedimentation, and Pollution Control Plan that outlines the BMPs required by the Georgia Water Quality Control Act and the document "Manual for Erosion and Sediment Control in Georgia" published by the Georgia Soil and Water Conservation Commission to include site-specific erosion control measures.

4.5.2 IMPACTS

4.5.2.1 Alternative 1

Under Alternative 1, modifications to the Southern Area as described in Section 2.4.1 would involve construction of a new MSA Administrative Building, MSA parking lot, Multi-Cube mixed munitions storage facility, vehicle staging and loading area, suspect vehicle holding area, and five earthen magazine covered igloos. An existing earthen road to these facilities from the MSA would be improved likely using asphalt. Additionally, under Alternative 1, a new EOD Range would be constructed, as described in Section 2.4.1.2. Construction activities to modify the Southern Area of Dobbins ARB would involve grading, paving, vegetation removal, trenching, and some soil fill to create new training areas.

Topography

The Southern Area of Dobbins ARB, the proposed project site, is generally level, and modifications to the Southern Area from construction activities described in Chapter 2.0, as part of the proposed project, would not be expected to appreciably change the existing topography. Therefore, impacts to topography would not be significant.

Geology

Construction activities, within the proposed project site for Alternative 1, would not substantially alter the geology of the site and surrounding area since the land surrounding is already developed. Additionally, the site would not be subject to geologic hazards, such as earthquakes. Therefore, there would be no significant impacts to geology.

Soils

Under Alternative 1, increased impervious surfaces from construction to modify the Southern Area of Dobbins ARB could impact soil erosion and sedimentation. As part of the construction regulatory requirements, the new development must meet the requirements of the Georgia Erosion and Sedimentation Control Act. Thus, implementation of sustainable design techniques and project-specific BMPs would offset the increase in erosion, sedimentation, and stormwater runoff resulting from the increase in impervious surfaces. Project BMPs are outlined in the Manual for Erosion and Sediment Control in Georgia (Green Book) (Georgia Soil and Water Conservation Commission 2016).

Soils would be compacted from construction activities, disturbing the soil structure. Loss of soil structure due to excavation or compaction from construction, foot, and vehicle traffic could result in changes to drainage patterns. The soils where the vehicle holding area, Multi-Cube munitions storage facility, and the new MSA Administrative Building have not been previously disturbed, and the construction of these new facilities could impact soils. Any excavated/trenched areas needed to place the underground utilities would be filled with excavated soil and compacted to engineering standards and graded to approximate existing contours, to minimize any further erosion. Construction of the demolition pit for the EOD Range would be done on an undisturbed area south of the safe/training area. This area would require vegetation clearing and grading, as described in Section 2.4.1.2. Construction of this pit could impact soils, and removal of vegetation could increase erosion. Any adverse effects to soils from the proposed construction/modification activities would be minimized by implementing project-specific soil erosion-control, stormwater-control, and sediment-control measures, as outlined in the Green Book.

Impacts to soil from construction of the new EOD range would include trenching for new utility lines and trenching for fence footings and telephone pole installation. The excavated/trenched areas needed to place utilities would be filled with excavated soil and compacted to engineering standards and graded to approximate existing contours to minimize any further erosion. Top soil would be removed and filled with material as described in Section 2.4.1.2 for the robot training area; blasting cap working area; and Lanes 1, 2, and 3 of the EOD Training Area. For the EOD training lanes, each lane would have top soil removed. Each lane would have a geo-textile fabric placed at the bottom and a gravel fill. A French drain would be placed into the gravel layer to allow for drainage. Another fabric layer would be placed on top of the gravel and the remaining excavated area would be filled with sand for Lane 1, egg rock for Lane 2, and clean fill dirt for

Lane 3. The construction of the new EOD range would be done on a previously developed area where the majority of the soils have been previously disturbed and modified by development. Soil erosion-control, stormwater-control, and sediment-control measures would be implemented to minimize any further impacts. Therefore, no significant impacts to soils would be expected.

4.5.2.2 Alternative 2

Under Alternative 2, all components of Alternative 1 would be the same with the exception of the fencing associated with the MSA area and the EOD training area, and the line of sight in the EOD training area. Under Alternative 2, fencing would be installed to secure the new Multi-Cube munitions storage facility and suspect vehicle holding area. Additionally, the EOD training would be fenced and the line-of-sight area from the safe area to the demolition pit would not be cleared, as described in Section 2.4.2.

Topography

Impacts to the regional and local topography remain the same as under Alternative 1. Therefore, impacts to topography under Alternative 2 would not be significant.

Geology

Impacts to local geology remain the same as under Alternative 1. Therefore, there would be no significant impacts to geology under Alternative 2.

Soils

Impacts to soils under Alternative 2 would be similar to those under Alternative 1. The area from the safe area to the demolition pit would not be cleared for line-of-sight and would decrease the likelihood of erosion of the soil. The increased fencing activities would require additional trenching to place fence footings. Any additional trenched areas would be filled with excavated soil and compacted to engineering standards and graded to approximate existing contours, to minimize any further erosion. As part of the construction regulatory requirements, the new development must meet the requirements of the Georgia Erosion and Sedimentation Control Act. Any adverse effects to soils from the proposed construction/modification activities, under Alternative 2, would be minimized by implementing project-specific soil erosion-control, stormwater-control, and sediment-control measures. Therefore, there would no significant impacts to soils.

4.5.2.3 Alternative 3 (Preferred Alternative)

Under Alternative 3, all components of Alternative 1 would be the same with the exception of the EOD Range which would be located north of the MSA.

Topography

Impacts to the regional and local topography remain the same as under Alternative 1. Therefore, impacts to topography under Alternative 3 would not be significant.

Geology

Impacts to local geology remain the same as under Alternative 1. Therefore, there would be no significant impacts to geology under Alternative 3.

Soils

Impacts to soils under Alternative 3 would be similar to those under Alternative 1. However, under Alternative 3, impervious surfaces from construction of the new EOD range would be slightly higher (approximately 400 SF) than that of Alternative 1 and could impact soil erosion and sedimentation. As part of the construction regulatory requirements, the new development must meet the requirements of the Georgia Erosion and Sedimentation Control Act. Any adverse effects to soils from the proposed construction/modification activities under Alternative 2 would be minimized by implementing project-specific soil erosion-control, stormwater-control, and sediment-control measures. Therefore, there would no significant impacts to soils.

4.5.2.4 No Action Alternative

Under the No Action Alternative, no changes to the Southern Area would occur and earth resources would remain the same as under the existing conditions, described in Section 3.5.2. No impacts to earth resources would be expected.

4.6 WATER RESOURCES

4.6.1 METHODOLOGY

When land is developed, the hydrology, or natural cycle of water, can be altered. Impacts on hydrology can result from land clearing activities, disruption of the soil profile, loss of vegetation, introduction of pollutants, new impervious surface, and an increased rate and/or volume of runoff. Without proper management controls, these actions can adversely affect the quality and/or quantity of water resources.

Criteria for evaluating impacts related to water resources associated with the Proposed Action are stormwater runoff, water availability, water quality, groundwater recharge, and adherence to applicable regulations. Effects to water resources would be significant if they: (1) adversely affect water quality or endanger public health by creating or worsening adverse health hazard conditions, (2) threaten or damage unique hydrologic characteristics, or (3) violate established laws or regulations that have been adopted to protect or manage water resources of an area.

4.6.2 IMPACTS

4.6.2.1 Alternative 1

Surface Water

Grading activities and trenching for modifications to the Southern Area at the Base, as described in Section 2.4.1, associated with construction would temporarily (until construction is completed and the site is stabilized) increase the potential for localized erosion. Trenching associated with

utility line placement, installation of fencing, and installation of poles for training lanes at the EOD range is unlikely to encounter groundwater as groundwater depth range from 18 to 30 ft below the ground surface, and no dewatering discharge activities would be expected.

Construction of the suspect vehicle holding area, Multi-Cube munitions storage facility, MSA Administrative Building, and ancillary construction would increase the amount of impervious surfaces at the project site, by 93,826 SF and would therefore contribute additional stormwater runoff and/or pollutants to surface waters. Construction of the EOD training area would also increase the amount of impervious surfaces by 2,932 SF. Adherence to standard engineering practices and the Dobbins ARB SWPPP would reduce stormwater runoff-related impacts, resulting in no significant impact to surface water from increased impervious surfaces.

Because the project would result in a total area of more than 1 acre of soil disturbance, the project must obtain coverage under the NPDES Construction Storm Water General Permit. Coverage under the NPDES Construction Storm Water General Permit would include the preparation and implementation of an Erosion, Sedimentation, and Pollution Control Plan (Plan). The Plan would include standard erosion control measures to reduce potential impacts resulting from erosion. The Plan would incorporate the use of BMPs to protect stormwater runoff and outline the placement of those BMPs. The standard erosion, sedimentation, and pollution control measures outlined in the Green Book (Georgia Soil and Water Conservation Commission 2016) would reduce potential impacts resulting from erosion and impacts to water quality during grading and construction activities.

All new facilities associated with Alternative 1 would incorporate the concept of low impact development (LID). Federal projects with a footprint of 5,000 SF or greater, that includes construction or expansion of one or more buildings as part of the primary scope, must implement LID in accordance with the Energy Independence and Security Act (2007) and Department of Defense LID policies (2007, 2008, 2010, and most recently 2015). A comprehensive set of stormwater planning, design, and construction elements must be used to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow. This will be achieved with LID techniques using the 95th percentile, 24-hour storm, or via a site-specific hydrologic analysis using continuous simulation modeling or other tools. Site design must account for both water quality treatment and water quantity/flood control. Contractors must comply with specific stormwater design standards found in the Georgia Stormwater Management Manual, latest edition (February 2016), which can be obtained from the Atlanta Regional Commission website. LID strategies are described in detail in Unified Facilities Criteria 3-210-10, *Low Impact Development*. Therefore, increased stormwater runoff and associated water quality impacts would be minimized resulting in no significant impacts to surface water resources.

Groundwater

Groundwater at Dobbins ARB is not currently used for either potable or industrial purposes. Soil compaction and an increase in impervious surfaces from project implementation could result in localized changes in drainage. As portions of the Southern Area have been previously disturbed, and much of the area in the vicinity would remain pervious surface, there would be negligible effects on groundwater recharge. Construction activities associated with trenching and excavation for facility foundations (if required) would likely remain above the groundwater table. Therefore, no significant impacts to groundwater levels would occur during general construction activities for Alternative 1.

Floodplains

The 100-year floodplain inundation of Poorhouse Creek crosses the southernmost portion of the Southern Area. A small portion of new chain link fencing would extend into the 100-year floodplain of Poorhouse Creek, where a gate would be constructed (see Figure 2.4-1). However, there are no other structures planned within the floodplain area and existing surface topography would be restored following the installation of the fence and gate. There are currently numerous large trees and existing fencing and a gate along the Southern Area's border that are located within the 100-year floodplain of Poorhouse Creek. The new fence and gate would be located outside of the main channel of Poorhouse Creek and would affect overbank flood flows similarly to the existing trees and fencing. Overall, the new fence and gate are not expected to result in changes to flooding upstream or downstream of the site. Therefore, there would be no significant impact to floodplains and the project would be in compliance with EO 11988. Since a portion of this action would occur within a 100-year floodplain, a Finding of No Practicable Alternative has been prepared.

Jurisdictional Wetlands and Waters of the U.S.

The proposed project site was surveyed for natural resources, and no wetlands or other waters of the U.S. were identified within the survey area. Therefore, it was determined that no jurisdictional wetlands or other waters of the U.S occur within the project footprint nor would be subject to federal authority under Section 404 of the CWA. Therefore, there would be no direct impacts to these resources (see Figure 2.1-1).

4.6.2.2 Alternative 2

Under Alternative 2, all components of Alternative 1 would be the same, with the exception of the fencing associated with the MSA area and the EOD training area, and the line of sight in the EOD training area. Under Alternative 2, fencing would be installed to secure the new Multi-Cube munitions storage facility and suspect vehicle holding area. Additionally, the EOD training area would be fenced and the line-of-sight area from the safe area to the demolition pit would not be cleared, as described in Section 2.4.2.

Surface Water

Impacts to surface water under Alternative 2 would be similar to those described under Alternative 1. Therefore, there would be no significant impact to surface water resources.

Groundwater

Impacts to groundwater under Alternative 2 would be similar to those described under Alternative 1. Additional trenching required to construct the fencing for the MSA, and EOD areas would not impact groundwater resources as trenching would likely not be conducted at depths that would encounter groundwater. Thus, there would be no significant impacts to groundwater under Alternative 2.

Floodplains

Impacts to floodplains under Alternative 2 would be similar to those described under Alternative 1. As with Alternative 1, a small portion of new chain link fencing would extend into the 100-year floodplain of Poorhouse Creek, where a gate would be constructed. However, there are no other structures planned within the floodplain area and existing surface topography would be restored following the installation of the fence and gate. The new fence and gate would be located outside of the main channel of Poorhouse Creek and would affect overbank flood flows similarly to the existing trees and fencing. Overall, the new fence and gate are not expected to result in changes to flooding upstream or downstream of the site. Therefore, there would be no significant impact to floodplains and the project would be in compliance with EO 11988. Since a portion of this action would occur within a 100-year floodplain, a Finding of No Significant Impact has been prepared.

Jurisdictional Wetlands and Waters of the U.S.

There are no wetlands or other waters of the U.S. within the proposed project area of Alternative 2 that would be subject to federal authority under Section 404 of the CWA (see Figure 2.1-1). Therefore, there would be no significant impacts to jurisdictional wetlands or waters of the U.S. under Alternative 2.

4.6.2.3 Alternative 3 (Preferred Alternative)

Under Alternative 3, all components of Alternative 1 would be the same with the exception of the EOD Range which would be located north of the MSA.

Surface Water

Impacts to surface water under Alternative 3 would be similar to those described under Alternative 1. Therefore, there would be no significant impact to surface water resources.

Groundwater

Impacts to groundwater under Alternative 3 would be similar to those described under Alternative 1. Thus, there would be no significant impacts to groundwater under Alternative 3.

Floodplains

Impacts to floodplains under Alternative 3 would be similar to those described under Alternative 1. As with Alternative 1, a small portion of new chain link fencing would extend into the 100-year floodplain of Poorhouse Creek, where a gate would be constructed. However, there are no other structures planned within the floodplain area and existing surface topography would be restored following the installation of the fence and gate. The new fence and gate would be located outside of the main channel of Poorhouse Creek and would affect overbank flood flows similarly to the existing trees and fencing. Overall, the new fence and gate are not expected to result in changes to flooding upstream or downstream of the site. Therefore, there would be no significant impact to floodplains and the project would be in compliance with EO 11988. Since a portion of this action would occur within a 100-year floodplain, a Finding of No Practicable Alternative has been prepared.

Jurisdictional Wetlands and Waters of the U.S.

There are no wetlands or other waters of the U.S. within the proposed project area of Alternative 3 that would be subject to federal authority under Section 404 of the CWA (see Figure 2.1-1). Therefore, there would be no significant impacts to jurisdictional wetlands or waters of the U.S. under Alternative 3.

4.6.2.4 No Action Alternative

Under the No Action Alternative, no changes to the Southern Area would occur and water resource conditions would remain the same as under the existing conditions, described in Section 3.7.2. No impacts to water resources would be expected.

4.7 BIOLOGICAL RESOURCES

4.7.1 METHODOLOGY

This section analyzes the potential for impacts to biological resources resulting from implementation of the Proposed Action. Analysis of impacts focuses on whether and how ground-disturbing activities from proposed demolition of old facilities and construction of new facilities could affect biological resources.

Determination of the significance of potential impacts to biological resources is based on: (1) the importance (i.e., legal, commercial, recreational, ecological, or scientific) of the resource; (2) the proportion of the resource that would be affected relative to its occurrence in the region; (3) the sensitivity of the resource to proposed activities; and (4) the duration of ecological ramifications. Impacts to biological resources would be significant if species or habitats of concern were adversely affected over relatively large areas, if disturbances caused reductions in population size or distribution of a special status species, or if there are disproportionate adverse effects to habitat essential for breeding, feeding, or sheltering within the local region. This section analyzes the

potential for direct and indirect impacts to biological resources from implementation of the Proposed Action.

Direct impacts are associated with ground-disturbing activities resulting from demolition or construction of the facilities. Direct impacts may be either temporary (reversible) or permanent (irreversible). Temporary impacts include disturbances caused by construction activities and operations, such as noise, emissions, and traffic. Removal of vegetation can be a temporary or permanent impact. If the vegetation is restored after construction, the impact would be temporary. If a permanent structure is built, the vegetation cannot be restored, and the impact is permanent. Permanent impacts include direct mortality of species.

Indirect impacts are caused by or result from project-related activities but occur later in time and can extend beyond the immediate construction footprint(s). Indirect impacts are often diffuse, variable, resource-specific, and less amenable to quantification or mapping than direct impacts, but still need to be considered.

4.7.2 IMPACTS

4.7.2.1 Alternative 1

Vegetation

The majority of Dobbins ARB is comprised of improved or semi-improved areas including buildings, paved surfaces, and landscaped areas such as lawns, ornamental trees, or maintained open fields of grass. Approximately 480 acres are forested with natural vegetation. Under Alternative 1, approximately 222,156 SF (5.1 acres) of forests would be removed for new construction and clear zones and line of sight. This removal equates to approximately 1 percent of total forest or open woodland communities on Dobbins ARB. Therefore, impacts to vegetation would be minor.

Wildlife

Under Alternative 1 at Dobbins ARB, impacts to wildlife due to construction would be minor. Although approximately 5.1 acres of forested habitat would be removed as a result of construction, this is approximately 1 percent of total forest cover on the Base and similar habitat is available nearby for wildlife. Noise associated with construction and operations may cause wildlife to temporarily avoid the area or relocate to another area nearby, including those that are protected under the MBTA. Noise associated with construction activities, as well as an increase in general operational activity and human presence, could evoke reactions in birds. Disturbed nests in the immediate vicinity of construction and the EOD range operations would be susceptible to abandonment and depredation. However, bird and wildlife populations in the vicinity of the Dobbins ARB where project components would occur are accustomed to elevated noise associated with EOD operations at the existing range and aircraft and general military industrial use. As a result, indirect impacts from construction and operational noise are expected to be minimal

because the ambient noise levels within the vicinity are high under existing conditions and noise would be intermittent.

Construction, renovation, and demolition projects associated with Alternative 1would eliminate or displace wildlife from the project footprints and their vicinities. Individuals of the smaller, less mobile, and burrowing species could be killed or injured by construction in new footprints, whereas mobile species (e.g., birds and larger mammal species) would disperse to surrounding areas. However, wildlife within the Base is mostly limited as habitat is primarily composed of developed land and landscaped areas such as lawns, ornamental trees, or maintained open fields of grass. Those wildlife species that rely on forested habitat would be minimally affected given the small size of the proposed removal of this cover type. Any loss of commonly occurring individuals would not represent a noticeable portion of the population. Therefore, impacts to wildlife would be minor under Alternative 1.

Special Status Species

No federally listed species are known to occur on Dobbins ARB. Those that may potentially occur are already exposed to EOD range operations and airfield noise and will generally not be affected by slight temporary increases and shifts in noise levels. The only state-protected species on Dobbins ARB is the Pink lady's slipper orchid. However, Alternative 1 would avoid disturbance to these plant populations. Migratory birds that may occur in the vicinity of the project activities would disperse to surrounding areas, but no other direct impacts to migratory birds would occur. Impacts to special status species, therefore, would be minor under Alternative 1n.

4.7.2.2 Alternative 2

Under Alternative 2, all components of Alternative 1 would be the same with the exception of the fencing associated with the MSA area and the EOD training area, and the line of sight in the EOD training area. Under Alternative 2, approximately 200,376 SF (4.6 acres) of forests would be removed for new construction and clear zones and line of sight. This removal equates to approximately 1 percent of total forest or open woodland communities on Dobbins ARB. Therefore, impacts to vegetation would be minor.

Impacts to wildlife and special status species would be similar to that described under Alternative 1.

4.7.2.3 Alternative 3 (Preferred Alternative)

Under Alternative 3, all components of Alternative 1 would be the same with the exception of the EOD training area that would be located north of the MSA. Under Alternative 3, approximately 4,400 SF (1.2 acres) of forests would be removed for new construction and clear zones and line of sight. This removal equates to less than 1 percent of total forest or open woodland communities on Dobbins ARB. Therefore, impacts to vegetation would be minor. Impacts to wildlife and special status species would be similar to that described under Alternative 1.

4.7.2.4 No Action Alternative

Under the No Action Alternative, no changes to the Southern Area would occur and the 94 AW would not implement the proposed project components described under the Proposed Action. Biological resources would be expected to remain as described under affected environment in Section 3.8. Therefore, there would be no impacts to biological resources under the No Action Alternative.

4.8 INFRASTRUCTURE

4.8.1 METHODOLOGY

The infrastructure components evaluated include the electrical and natural gas systems, wastewater, stormwater, solid waste management, potable water system, and transportation. Potential impacts to infrastructure elements at Dobbins ARB are assessed in terms of effects of the Proposed Action on existing service levels. Impacts to public services/utilities and transportation networks are assessed with respect to the potential for disruption or improvement of current utility systems and traffic circulation patterns and deterioration or improvement of existing levels of service on local roads. Impacts may arise from physical changes to circulation or utility corridors, construction activity, and introduction of construction-related traffic and utility use.

Utility system effects may include disruption, degradation, or improvement of existing levels of service or potential change in demand for energy or water resources. Adverse impacts to roadway capacities would be significant if roads with no history of capacity exceedance had to operate at or above their full design capacity as a result of an action. Transportation effects may arise from changes in traffic circulation, delays due to construction activity, or changes in traffic volumes.

For the range of public services discussed below, the Base is required to proactively plan for and assess all specific infrastructure and utility requirements and other essential services to ensure that the proposed increase in personnel and their dependents would be accommodated under the Proposed Action. The Base routinely evaluates community facilities and services to account for fluctuations associated with new units assigned to the Base and the deployment of existing units. In addition, the Base identifies infrastructure or utility needs within the scope of each corresponding project. If particular projects require additional infrastructure or utilities, they are incorporated as a part of that project. This process ensures that any infrastructure or utility deficiencies are identified in the initial planning stages.

4.8.2 IMPACTS

4.8.2.1 Alternative 1

<u>Transportation</u>

Short-term, minor impacts may occur to the transportation system under Alternative 1. A slight increase in traffic is expected during construction and demolition at the site due to equipment

deliveries, workers arriving to the site, and removal of solid wastes. Under Alternative 1, there would not be a personnel increase at Dobbins ARB and no long-term impact on traffic at Dobbins ARB would occur.

Wastewater System

As the wastewater system is extended to the new MSA administration building and associated facilities, temporary impacts to the system could occur during construction. Minor temporary impacts could also occur during the demolition of abandoned structures in the event the main wastewater lines associated with those buildings require maintenance. These impacts would be short in duration and would only occur during construction and demolition. No significant impacts to the wastewater system on Dobbins ARB are expected under Alternative 1.

The demand on the wastewater system at Dobbins ARB would increase under Alternative 1 due to the new MSA administration building and associated facilities; however, the impact on the wastewater system at Dobbins ARB would likely be negligible and would be accommodated by the existing wastewater system capacity.

Stormwater Drainage System

Minor increases in sheet flow from impervious surfaces would be expected with the construction of the new MSA administration building, EOD range, and associated facilities. As required by the NPDES permit, Dobbins ARB implements a SWPPP (Dobbins ARB 2010) for Municipal and Industrial Activities, which includes an assessment of the Base's potential to release contaminants in to the drainage system and a series of procedures to minimize contaminants entering the stormwater system. No significant impacts to the stormwater drainage system on Dobbins ARB is expected under Alternative 1.

Natural Gas

The MSA administration building would be heated by natural gas. Atlanta Gas Light Company provides natural gas to Dobbins ARB. Natural gas infrastructure would be extended from the Dobbins ARB to the MSA administration building. Potential extension of natural gas services to the MSA administration building and the demolition of abandoned buildings could cause temporary disruptions in gas service to existing buildings and facilities within the surrounding service area.

The demand for natural gas on Dobbins ARB would increase under Alternative 1; however, the impact on the natural gas system at Dobbins ARB would likely be negligible and would be accommodated by the existing capacity.

Electricity

No significant impact on the existing electrical system would be expected under Alternative 1. As existing electrical utilities are extended to the new MSA administration building, EOD range, and associated facilities, minor temporary impacts could occur on the electrical system during

construction. Minor temporary impacts could also occur on the electrical system during the demolition of abandoned structures. These activities could cause temporary disruptions in service to surrounding buildings and facilities. These impacts would be short in duration and would only occur during construction and demolition.

The electrical demand on Dobbins ARB would increase due to new buildings and facilities and personnel utilizing the new infrastructure. The additional demand for electricity under Alternative 1 would likely be negligible and would be accommodated by the existing capacity of the Dobbins ARB electrical system.

Solid Waste Management

No significant impacts to solid waste management on Dobbins ARB would be expected under Alternative 1. A temporary increase in solid waste management is expected during construction of the new buildings and facilities and during demolition of the abandoned buildings. Nonhazardous solid wastes from these activities would be collected in dumpsters at the construction sites and transported by contractor to permitted municipal landfills.

A long-term minor increase in solid waste is expected under Alternative 1 due to the addition of the MSA administration building, EOD range, and associated facilities. The increase in solid waste would be negligible compared to the amount of solid waste generated at Dobbins ARB and would be handled by the current solid waste management practices.

Potable Water System

No significant impacts to the potable water system on Dobbins ARB are expected under Alternative 1. As the existing potable water system is extended to the new MSA administration building, EOD range, and associated facilities, temporary impacts to the potable water system would occur during construction. These activities could cause temporary disruptions in service to surrounding buildings and facilities. These impacts would be short in duration and would only occur during construction.

The demand for potable water on Dobbins ARB would increase under Alternative 1; however, the impact on the potable water system at Dobbins ARB would be negligible and accommodated by existing capacity.

4.8.2.2 Alternative 2

Under Alternative 2, all components of Alternative 1 would be the same with the exception of the fencing associated with the MSA area and the EOD training area, and the line of sight in the EOD training area. Under these conditions, no significant impacts are anticipated to infrastructure at Dobbins ARB as a result of implementation of this alternative.

4.8.2.3 Alternative 3 (Preferred Alternative)

Under Alternative 3, the MSA and Suspect Vehicle Holding Area construction and operations would be the same as under Alternative 1; however, the EOD Range would be located north of the MSA area. Impacts to infrastructure would be the same as described under Alternative 1. Therefore, no significant impacts are anticipated to infrastructure at Dobbins ARB as a result of implementation of this alternative.

4.8.2.4 No Action Alternative

Under the No Action Alternative, no changes to the Southern Area would occur and the 94 AW would not implement the proposed project components described under the Proposed Action. Infrastructure would be expected to remain as described under affected environment in Section 3.9.2. Therefore, there would be no impacts to infrastructure under the No Action Alternative.

4.9 CULTURAL RESOURCES

4.9.1 METHODOLOGY

Section 106 of the NHPA of 1966 empowers the Advisory Council on Historic Preservation to comment on federally initiated, licensed, or permitted projects affecting cultural sites listed or eligible for inclusion in the NRHP. Once cultural resources have been identified, significance evaluation is the process by which resources are assessed relative to significance criteria for scientific or historic research, for the general public, and for traditional cultural groups. Only cultural resources determined to be significant (i.e., eligible for listing in the NRHP) are protected under the NHPA.

Analysis of potential impacts on cultural resources considers both direct and indirect impacts. Direct impacts may occur by: (1) physically altering, damaging, or destroying all or part of a resource; (2) altering characteristics of the surrounding environment that contribute to resource significance; (3) introducing visual, audible, or atmospheric elements that are out of character with the property or alter its setting; or (4) neglecting the resource to the extent that it deteriorates or is destroyed. Direct impacts can be assessed by identifying the type and location of the proposed action and by determining the exact locations of cultural resources that could be affected. Indirect impacts primarily result from the effects of the use and operation of the facilities, which could disturb, damage, or destroy cultural resources.

4.9.2 IMPACTS

4.9.2.1 Alternative 1

<u>Archaeological Resources</u>

The open areas of Dobbins ARB have been intensively surveyed for archaeological resources and no NRHP-eligible archaeological resources have been identified. The prehistoric isolated find is not located within the area of potential effects for Alternative 1. It is not expected that

undiscovered cultural resources would be found during implementation of Alternative 1 at Dobbins ARB; however, in the event of an inadvertent discovery during ground-disturbing operations, the following specific actions would occur. The Project Manager would cease work immediately and the discovery would be reported to the Base Commander and the Dobbins ARB Cultural Resources Manager. The Cultural Resources Manager would secure the location and ensure that all cultural items are left in place and that no further disturbance is permitted to occur. The Cultural Resources Manager would then notify Security Forces of the discovery and continue to follow the Cultural Discoveries protocol (USAF 2018c). Under these conditions, there would be no significant impacts to archaeological resources with implementation of this alternative.

Architectural Resources

Five buildings (Buildings 1033, 1034, 1035, 1036, and 1037) in the abandoned U.S. Navy MSA at Dobbins ARB are proposed for demolition. These buildings would be demolished, and the area returned to its natural state for potential future use. Buildings 1033, 1034, and 1037 were surveyed as part of the 2012-2016 Integrated Cultural Resources Management Plan update. None of these buildings were recommended eligible for listing in the NRHP (USAF 2018c). Buildings 1035 and 1036 were constructed in 1979 and therefore do not meet the age criteria for evaluation for the NRHP.

Impacts to architectural resources by brief and short-lived noise and vibration could potentially result from EOD activities at Dobbins ARB. As discussed in Section 3.4.2.1, vibration from EOD has the potential to impact architectural resources when it consists of high decibel levels (greater than 140 dB), at close proximity to the structure, and in a low frequency. EOD noise associated with Alternative 1 would be between 62 dB CDNL and 140 dB PK15, the latter occurring infrequently. Building 510, the Bankston Rock House, is the only NRHP-listed architectural resource at Dobbins ARB. It is located outside of the Proposed Southern Area EOD zone and is not in range of the 140 dB PK15 noise levels. Given the largest charges currently used and the projected frequency of events at Dobbins ARB, it is unlikely that historic structures would be impacted.

Under these conditions, it is anticipated there would be no significant impacts to architectural resources as a result of implementation of this alternative.

Traditional Cultural Resources

No traditional cultural resources have been identified at Dobbins ARB and the highly developed nature of the Base makes it unlikely to contain any such resources (USAF 2018c). Government-to-government consultation between the ARB and each federally-recognized tribe associated with Dobbins ARB is being conducted for this action in recognition of their status as sovereign nations, to provide information regarding Tribal concerns per Section 106 of the NRHP as well as information on traditional resources that may be present on or near the Base. An initial

government-to-government consultation letter was sent to the five federally-recognized American Indian Tribes with ancestral ties to Dobbins ARB in January 2020.

To date, the Poarch Band of Creek Indians and Cherokee Nation have responded to Dobbins ARB. The Poarch Band of Creek Indians did not identify any impacts but requested consultation pursuant to 36CFR800. The Poarch Band of Creek Indians also requested copies of previous cultural resources survey reports. These reports indicated that there was no presence of cultural resources related to American Indians. Dobbins ARB provided these documents and did not receive any further comments or questions. The Cherokee Nation did not foresee this project impacting Cherokee cultural resources.

Overall, implementation of Alternative 1 would not result in significant impacts to cultural resources.

4.9.2.2 Alternative 2

Archaeological Resources

Under Alternative 2, all components of Alternative 1 would be the same with the exception of the fencing associated with the MSA area and the EOD training area, and the line of sight in the EOD training area. The prehistoric isolated find is not located within the area of potential effects for Alternative 2. It is not expected that undiscovered cultural resources would be found during implementation of Alternative 2 at Dobbins ARB. In the event of an inadvertent discovery during ground-disturbing operations, the specific actions described under Alternative 1 would be followed. Under these conditions, there would be no significant impacts to archaeological resources with implementation of this alternative.

Architectural Resources

Under Alternative 2, five buildings (Buildings 1033, 1034, 1035, 1036, and 1037) in the abandoned U.S. Navy MSA at Dobbins ARB are proposed for demolition as described under Alternative 1. None of these buildings were recommended eligible for listing in the NRHP (USAF 2018c). Buildings 1035 and 1036 were constructed in 1979 and therefore do not meet the age criteria for evaluation for the NRHP. Under these conditions, it is anticipated there would be no significant impacts to architectural resources as a result of implementation of this alternative.

Traditional Cultural Resources

No traditional cultural resources have been identified at Dobbins ARB and the highly developed nature of the Base makes it unlikely to contain any such resources (USAF 2018c). Government-to-government consultation between the ARB and each federally-recognized tribe associated with Dobbins ARB is being completed as described under Alternative 1. To date, the Poarch Band of Creek Indians and Cherokee Nation have responded to Dobbins ARB. The Poarch Band of Creek Indians did not identify any impacts but requested consultation pursuant to 36CFR800. The Poarch Band of Creek Indians also requested copies of previous cultural resources survey reports. These

reports indicated that there was no presence of cultural resources related to American Indians. Dobbins ARB provided these documents and did not receive any further comments or questions. The Cherokee Nation did not foresee this project impacting Cherokee cultural resources.

Overall, implementation of Alternative 2 would not result in significant impacts to cultural resources.

4.9.2.3 Alternative 3 (Preferred Alternative)

Archaeological Resources

Under Alternative 3, all components of Alternative 1 would be the same with the exception of the 5 lb EOD range north of the MSA. One archaeological site (9CO377) and one prehistoric isolated find are located within the area of potential effects for Alternative 3. However, both resources were not considered eligible for the NRHP and consultation with the Georgia SHPO has been conducted. It is not expected that undiscovered cultural resources would be found during implementation of Alternative 3 at Dobbins ARB. In the event of an inadvertent discovery during ground-disturbing operations, the specific actions described under Alternative 1 would be followed. Under these conditions, there would be no significant impacts to archaeological resources with implementation of this alternative.

Architectural Resources

Under Alternative 3, five buildings (Buildings 1033, 1034, 1035, 1036, and 1037) in the abandoned U.S. Navy MSA at Dobbins ARB are proposed for demolition as described under Alternative 1. None of these buildings were recommended eligible for listing in the NRHP (USAF 2018c). Buildings 1035 and 1036 were constructed in 1979 and therefore do not meet the age criteria for evaluation for the NRHP. Under these conditions, it is anticipated there would be no significant impacts to architectural resources as a result of implementation of this alternative.

In addition, Alternative 3 would include establishment of the 5 lb EOD range north of the MSA. Building 510, the Bankston Rock House, is the only NRHP-listed architectural resource at Dobbins ARB. It is located outside of the area of potential effects for Alternative 3 and is not in range of the 140 dB noise levels. Given the largest charges currently used and the projected frequency of events at Dobbins ARB, it is unlikely that historic structures would be impacted. Under these conditions, it is anticipated there would be no significant impacts to architectural resources as a result of implementation of this alternative.

Traditional Cultural Resources

No traditional cultural resources have been identified at Dobbins ARB and the highly developed nature of the Base makes it unlikely to contain any such resources (USAF 2018c). Government-to-government consultation between the ARB and each federally-recognized tribe associated with Dobbins ARB is being completed as described under Alternative 1. To date, the Poarch Band of Creek Indians and Cherokee Nation have responded to Dobbins ARB. The Poarch Band of Creek

Indians did not identify any impacts but requested consultation pursuant to 36CFR800. The Poarch Band of Creek Indians also requested copies of previous cultural resources survey reports. These reports indicated that there was no presence of cultural resources related to American Indians. Dobbins ARB provided these documents and did not receive any further comments or questions. The Cherokee Nation did not foresee this project impacting Cherokee cultural resources.

Overall, implementation of Alternative 3 would not result in significant impacts to cultural resources.

4.9.2.4 No Action Alternative

Under the No Action Alternative, no changes to the Southern Area would occur and the 94 AW would not implement the proposed project components described under the Proposed Action. Cultural resources would be expected to remain as described under affected environment in Section 3.10.2. Therefore, there would be no impacts to cultural resources under the No Action Alternative.

4.10 HAZARDOUS MATERIALS AND WASTE

4.10.1 METHODOLOGY

The qualitative assessment of impacts from hazardous materials and waste management focuses on how and to what degree the Proposed Action affects hazardous materials usage and management, hazardous waste generation and management, and hazardous waste disposal. A substantial increase in the quantity or toxicity of hazardous substances used or generated would be considered potentially significant. Significant impacts could result if a substantial increase in human health risk or environmental exposure was generated at a level that cannot be mitigated to acceptable standards.

Regulatory standards and guidelines have been applied in evaluating the potential impacts that may be caused by hazardous materials and wastes. The following criteria were used to identify potential impacts:

- A spill or release of a reportable quantity of a hazardous substance as defined by the USEPA in 40 CFR Part 302.
- Manufacturing, use, or storage of a compound that requires notifying the pertinent regulatory agency according to the Emergency Planning and Community Right-to-Know Act of 1986.
- Exposure of the environment or public to any hazardous material and/or waste through release or disposal practices.

4.10.2 IMPACTS

4.10.2.1 Alternative 1

Hazardous Materials and Petroleum Products

Several new construction projects are proposed: a MSA administrative building with adjacent concrete pad and parking area, five earthen magazine igloos, a 5-lb EOD range and training buildings within the existing training area/safe zone, a suspect vehicle holding area, a Multi-Cube munitions storage facility with associated concrete pads, and fencing.

Short-term, minor, adverse impacts to hazardous materials use would be expected. Construction, demolition, and renovation activities would require the use of certain hazardous materials such as paints, welding gases, solvents, preservatives, and sealants. It is anticipated that the quantity of products containing hazardous materials used during the proposed construction would be minimal and their use would be of short duration. Contractors would be responsible for ensuring that hazardous materials and petroleum products in their use are managed and disposed in accordance with applicable regulations. Compliance with applicable regulations would minimize the potential for releases and associated impacts. No long-term, direct or indirect, adverse impacts would be expected.

There are no known storage tanks in the proposed project areas. However, if aboveground storage tanks or underground storage tanks are inadvertently discovered at the proposed project area during construction or demolition activities, the contractor would be required to coordinate with Dobbins ARB and Georgia's Underground Storage Tank Management Program for their removal, disposal, and remediation, if required. No underground storage tanks or aboveground storage tanks would be installed as part of Alternative 1.

Under Alternative 1, the amount of munitions stored at Dobbins AFB would increase (Dobbins ARB 2019). Activities associated with range operations and munitions storage could potentially introduce hazardous materials in the form of MEC to previously uncontaminated areas since unexploded ordnance, discarded military munitions, and munitions constituents have the potential to contain high explosives, explosives constituents, and potentially leachable compounds. However, training ranges and MSAs would be managed in accordance with DoD and USAF instructions, which are designed to reduce the potential for contamination. Therefore, no significant impacts are anticipated.

Alternative 1 would not introduce new waste streams at Dobbins ARB. There would be no significant increase in the type or quantity of new hazardous materials used or stored at the Base in conjunction with Alternative 1. Therefore, no significant impacts on hazardous materials or petroleum product management would be expected.

Hazardous and Petroleum Wastes

Hazardous and petroleum wastes would be generated in small quantities during construction and would include empty containers, spent solvents, waste paint and solvents, used oil, spill cleanup materials, and lead-acid batteries from construction equipment. These wastes would be stored in appropriate containers in accordance with applicable regulations. Wastes that cannot be recycled would be disposed of by the contractor at licensed facilities in a manner approved by the USEPA. As a result, no significant impacts are anticipated.

Hazardous or petroleum waste in the form of unrecorded storage, spills, or disposal may be encountered during demolition at the former Navy MSA site. In the event unknown material is discovered, work would stop, and the area would be isolated until the suspected material can be tested, the material identified, and the site remediated to acceptable standards for the proposed development. As a result, construction activities would have no significant impacts with regards to hazardous materials and wastes.

Proposed operations would not result in an increase in hazardous waste generation. Military munitions that are used for their "intended purposes" are not considered waste per the MMR (40 CFR 266.202). No change to permits, hazardous waste generator status, or management would be required under Alternative 1. Therefore, no significant environmental impacts with regards to hazardous and petroleum wastes are anticipated.

Toxic Substances

As discussed in Section 3.1.3.4, the presence or absence of LBP, ACM, mercury, and PCBs in buildings slated for demolition (1033-1037) has not been established. Prior to demolition, surveys for these materials would be conducted by trained and certified personnel, as appropriate. If toxic substances are found, they would be removed and disposed of at off-base, licensed facilities in accordance with applicable regulations. Similarly, new construction would not use materials containing toxic substances (ACM, LBP, PCB). Universal wastes would be managed in accordance with applicable regulations. Consequently, there would be beneficial impacts from the removal of potential existing toxic substances.

The MSA administrative building and parking area is being constructed in an area with high radon potential. However, design of the facility would likely include radon mitigations to reduce risk to building occupants. Implementation of appropriate radon management would mitigate any adverse impacts resulting from radon exposure.

Environmental Restoration Program Sites

Only the proposed MSA administrative building and parking area is located near an active ERP site. The proposed site is on unimproved land east of the current administrative complex, adjacent to the Past Base Landfill. The recent remedial investigation found polycyclic aromatic hydrocarbon contamination in surface soil and VOC/heavy metal contamination in groundwater

within 200 ft of the proposed construction area (Dobbins ARB 2018). Although the Past Base Landfill is upslope from the proposed construction area, the rise is likely the result of the material deposited at the landfill and is most likely not a natural grade. Groundwater in the landfill area is expected to follow the natural slope of the area and flow towards Poorhouse Creek located to the south/southwest of the landfill. Therefore, surface soil and groundwater conditions at the landfill are not anticipated to have any impacts on conditions at the proposed construction site.

North of the proposed MSA administrative building and parking area are the Abandoned Drum Site and Small Arms Range. Given the distance between the two areas of concern and the proposed construction, it is unlikely that conditions at either area of environmental concern would impact Alternative 1.

Other hazardous constituents in the form of heavy metals, predominantly lead, may leach from bomb hulls, targets, and small arms ammunition. Lead requires certain chemical conditions to mobilize in the environment, so site-specific conditions (i.e., geochemical properties) must be known in order to assess lead migration.

4.10.2.2 Alternative 2

Under Alternative 2, all components of Alternative 1 would be the same with the exception of the fencing associated with the MSA area and the EOD training area, and the line of sight in the EOD training area. The impacts to hazardous materials and wastes under Alternative 2 are expected to be the same as under Alternative 1.

4.10.2.3 Alternative 3 (Preferred Alternative)

Under Alternative 3, the MSA and Suspect Vehicle Holding Area construction and operations would be the same as under Alternative 1; however, the EOD Range would be located north of the MSA area. Impacts to hazardous materials and waste would be the same as described under Alternative 1. There are no ERP sites located within the footprint of the proposed EOD Range north of the MSA area. Therefore, there would be no significant impacts to infrastructure at Dobbins ARB as a result of implementation of this alternative.

4.10.2.4 No Action Alternative

Under the No Action Alternative, the proposed projects described in this EA would not be implemented. Baseline conditions for hazardous materials, hazardous wastes, and toxic substances, as described in Section 3.11.3, Affected Environment, would remain unchanged. Therefore, no significant impacts would occur under the No Action Alternative.

4.11 SOCIOECONOMICS

4.11.1 METHODOLOGY

Socioeconomic impacts are assessed in terms of direct effects to the local economy and population and related indirect effects on other socioeconomic resources within the ROI. Although economic

or social effects are not intended by themselves to require preparation of an Environmental Impact Statement (Section 1508.14 CEQ Regulations), socioeconomic impacts would be considered significant if the Proposed Action resulted in a substantial shift in population trends or notably affected regional housing or employment and earnings.

The ROI for socioeconomics associated with the alternatives includes the municipalities of Marietta and Smyrna, Georgia as well as Cobb County.

4.11.2 IMPACTS

4.11.2.1 Alternative 1

Population

The population and economic activity within commuting distance of Dobbins ARB includes a large portion of the Atlanta Metropolitan Area. Construction work required under Alternative 1 would likely be conducted by local workers and no immigration to the area would be required. During operations under Alternative 1, there would be no increase in population. Therefore, there would be no impacts to population under Alternative 1.

Housing

Population in the ROI is not expected to increase during construction or operation of Alternative 1, so there would not be an increased demand for housing from increased population.

As described in Sections 4.3 and 4.4, under Alternative 1, some residential areas would have an increased exposure to noise due to the relocation of the EOD training range and its increased maximum explosive weight rating. Approximately 83 acres of residential land would be newly exposed to cumulative noise levels above 62 dB CDNL which is described as "normally not recommended" for noise sensitive land uses such as housing (see Section 4.3 and Appendix B for more details on noise impacts). Figure 4.3-1 shows locations impacted by higher cumulative noise levels. Single Event Peak Sound Levels would also increase for some housing units in the ROI and some housing would be newly exposed to single event noise levels that would increase annoyance. Single event noise levels of 140 dB PK15 or higher are identified as having a risk of physiological damage to unprotected human ears and structural damage claims.

Housing units in the vicinity of Dobbins ARB already are exposed to background noise such as aircraft noise and the existing EOD range; however, marginal increases in noise would occur at some housing units under Alternative 1. Impacts on housing units may lead to the housing being less desirable or even less valuable but would not eliminate any housing from the market or reduce the housing availability in the ROI. Therefore, impacts on housing in the ROI under Alternative 1 would not be significant.

Employment and Income

Under Alternative 1, construction would temporarily increase employment and income by a small amount that would not significantly impact the local economy. No new permanent employment would occur during operations. Therefore, impacts on employment and income would be moderately beneficial in the short term, but would not be significant.

4.11.2.2 Alternative 2

Socioeconomic impacts under Alternative 2 would be the same as described under Alternative 1. All new construction would be totally within the boundaries of Dobbins ARB and the differences in construction activities would not significantly alter socioeconomic impact levels. The additional noise from operations at the new EOD site would be the same as described under Alternative 1. Therefore, there would be no impacts to population and impacts to housing and employment and income would not be significant.

4.11.2.3 Alternative 3 (Preferred Alternative)

Socioeconomic impacts under Alternative 3 would be the same as described under Alternative 1. All new proposed features would be the same except the location of the new EOD Range. The increased noise levels from operations at the new EOD site would be the same as described under Alternative 1 although the EOD site would be in a different location and some of the impacted areas would differ. Under Alternative 3, the EOD Range would be further toward the interior of the Base than under Alternative 1 and the largest noise impacts such as those over 62 dB CDNL or 140 dB PK15 would not occur outside the boundaries of the Base or the Air Force Plant 6 and Lockheed Martin industrial area. Noise impacts to the surrounding neighborhoods would therefore be similar although slightly lower than those under Alternative 1, Alternative 2, or the No Action Alternative. There would be fewer noise impacts to noise sensitive areas than either Alternative 1, Alternative 2, or the No Action Alternative, and no additional lands would become incompatible with the noise environment. There would be no impacts to population and impacts to housing and employment and income would not be significant.

4.11.2.4 No Action Alternative

Under the No Action Alternative, no changes to the Southern Area would occur and the 94 AW would not implement the proposed project components described under the Proposed Action. Population, housing, and employment and income would be expected to remain as described under affected environment in Section 3.12. Therefore, there would be no socioeconomic impacts under the No Action Alternative.

4.12 ENVIRONMENTAL JUSTICE AND THE PROTECTION OF CHILDREN

4.12.1 METHODOLOGY

To evaluate potential effects to low-income and minority populations, children, and the elderly, areas containing relatively high concentrations of these populations were identified and determinations made as to whether adverse human health or environmental effects would occur in those areas. Primary impacts in the surrounding community would be related to increased noise levels associated with the Proposed Action.

Minority and poverty status in census block groups in the vicinity of the proposed alternative locations were examined using information from the U.S. Census Bureau. Any census block group with 50 percent or more of the population identifying as a minority or with a significantly higher minority population than the surrounding area is classified as a minority population area. In this analysis, Cobb County is considered the surrounding area and it is composed of 46.9 percent minority populations; therefore, in this analysis, block groups with minority populations greater than 46.9 percent of the population are classified as a minority population area. Census block groups where the incomes of 20 percent or more of the population were below the poverty level are classified as low-income population areas. Geographic Information System data obtained from the U.S. Census Bureau were used to obtain information on these populations located within the vicinity of the proposed alternative locations. Additional points of interest, such as schools, were considered with respect to other environmental justice populations.

To analyze the impacts on children and the elderly, areas with relatively high concentrations of these age groups were identified. Block groups with a higher proportion of children or elderly than the levels found in the surrounding area of Cobb County were identified and reviewed for adverse impacts related to the alternatives. In addition, sites such as schools, childcare centers, assisted living facilities, and hospitals were evaluated due to the concentrated risk of impact to children and/or the elderly at these locations.

The ROI for environmental justice and the potential effects to children and the elderly includes census block groups that are and will be affected by noise generated at the EOD disposal area.

4.12.2 IMPACTS

4.12.2.1 Alternative 1

Under Alternative 1, construction may cause minor disturbances such as construction traffic and noise. These impacts would be minor and temporary and would not be significant. Increased noise levels due to the relocation of the EOD training range and its increased maximum explosive weight rating would impact communities within the new noise contours (see Section 4.3 and Appendix B for more information on noise impacts).

Minority and Low-Income Populations

Two census block groups would be exposed to cumulative noise levels of 62 dB CDNL or higher under Alternative 1 (Table 4.12-1). Block Group 2 in Census Tract 310.01 is where the Dobbins ARB sits (Figure 4.12-1). This block group is both a minority and low-income population. Under existing conditions, the block group experiences cumulative noise levels of 70 dB CDNL or more although the portions of the block group that would be exposed to these noise levels would be different under Alternative 1. Additionally, the areas that would fall within the 70 dB CDNL contour line are not residential areas and include Base areas, portions of the Fox Creek Golf Course, and a portion of Air Force Plant 6. Block Group 1 in Census Tract 311.08 is a minority population and would be newly exposed to cumulative noise levels between 62 and 70 dB CDNL.

Table 4.12-1. Census Block Groups and Subject Populations Exposed to Cumulative Noise Levels of 70 or 62 dB CDNL Under Alternative 1 Conditions

Area	*Minority Population*	*Poverty Rate*	*Population under the age of 18*	*Population aged 65 or older*	*Newly Exposed to Proposed Contours*
Georgia	46.4%	16.9%	24.5%	12.7%	N/A
Cobb County	46.9%	10.9%	24.4%	11.0%	N/A
Smyrna	51.8%	19.0%	23.1%	12.0%	N/A
Marietta	54.7%	11.9%	22.5%	8.8%	N/A
Noise Contours/Census Block Groups					
70 dB CDNL					
Census Tract 310.01					
Block Group 2	69.0%	36.8%	31.7%	4.5%	No
62 dB CDNL					
Census Tract 311.08					
Block Group 1	67.1%	10.0%	19.9%	4.7%	Yes

Note: See Figure 4.12-1 for block group locations under the cumulative noise level contours.
Percentages that are higher than the Cobb County level are Bolded.
Dobbins ARB is located in Census Tract 310.01, Block Group 2.
Source: U.S. Census Bureau 2017b, 2017c, 2017d.

Additional impacts may occur due to single event peak sound levels. The two census block groups impacted by cumulative noise levels would also be impacted by single event peak sound levels of 140 dB PK15 or higher (Table 4.12-2). Small portions of three additional block groups would also be newly exposed to these levels, all three of which are minority populations and two of which are low income populations. Eight block groups would be exposed to single event peak noise levels of between 130 and 140 dB PK15. Six of these eight block groups are minority populations and four of those are also low-income populations. Single event noise levels of 140 dB PK15 is the threshold where risk of physiological damage to unprotected human ears increases. Single event noise levels between 130 and 140 dB PK15 would be very loud and would have a high risk of noise complaints.

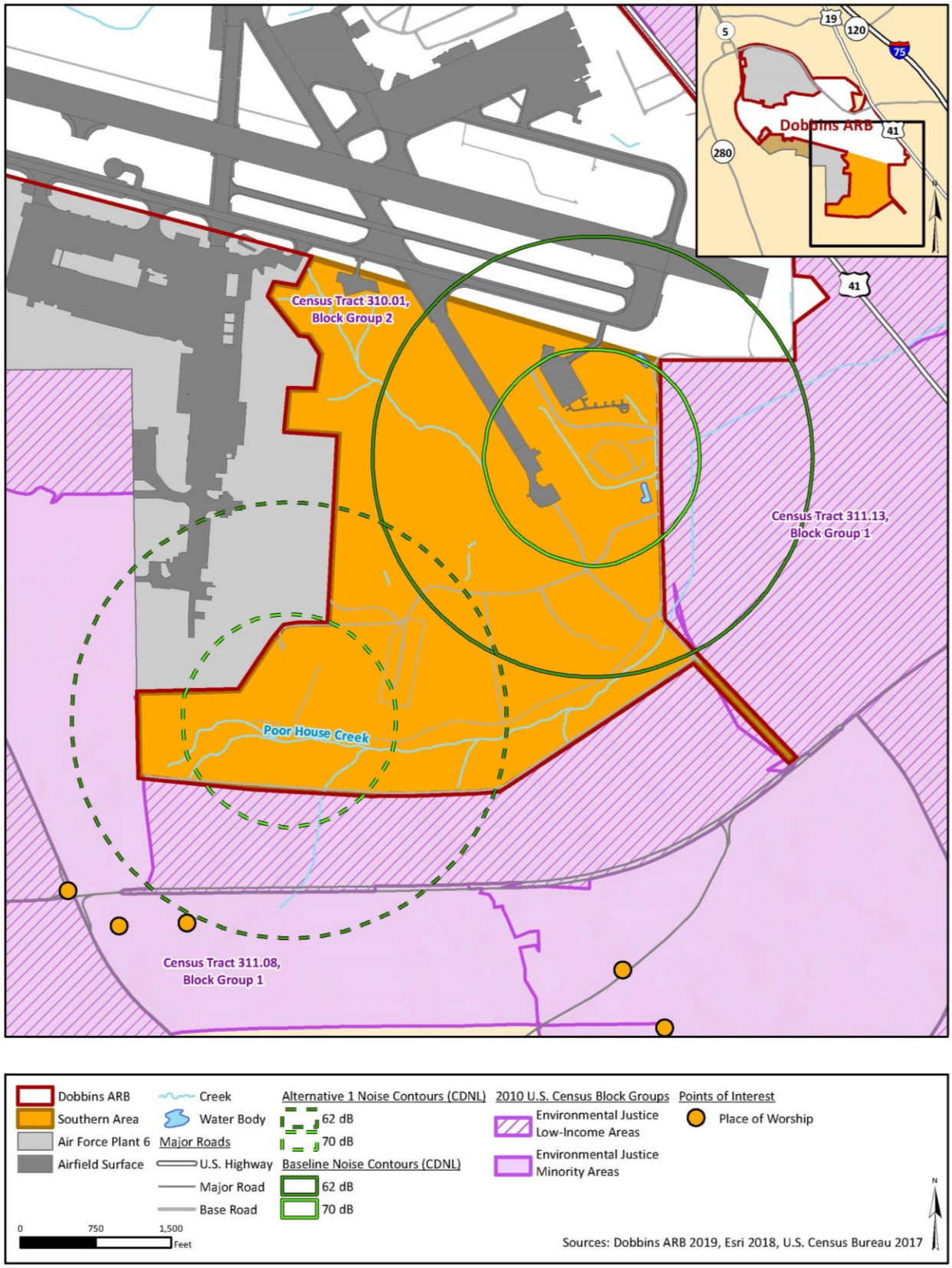


Figure 4.12-1. Cumulative Noise Impacts on Environmental Justice Communities in the ROI Under Alternative 1

Table 4.12-2. Census Block Groups and Subject Populations Exposed to Single Event Peak Sound Levels of 130 or 140 dB PK15 Under Alternative 1 Conditions

Noise Contour/Area	*Minority Population*	*Poverty Rate*	*Population under the age of 18*	*Population aged 65 or older*	*Newly Exposed to Proposed Contours*
Single Event Peak Sound					
140 dB PK15					
Census Tract 310.01					
Block Group 2	69.0%	36.8%	31.7%	4.5%	No
Census Tract 311.01					
Block Group 1	74.0%	25.8%	28.5%	5.8%	Yes
Block Group 2	64.4%	24.0%	32.2%	6.3%	Yes
Census Tract 311.08					
Block Group 1	67.1%	10.0%	19.9%	4.7%	Yes
Block Group 3	51.9%	10.3%	9.4%	6.8%	Yes
130 dB PK15					
Census Tract 311.01					
Block Group 3	57.0%	26.8%	22.8%	11.1%	Yes
Census Tract 311.08					
Block Group 2	19.7%	3.0%	18.4%	11.0%	Yes
Block Group 4	74.3%	15.3%	21.0%	6.8%	Yes
Census Tract 311.10					
Block Group 1	49.7%	23.6%	26.0%	6.1%	Yes
Census Tract 311.11					
Block Group 1	33.5%	2.0%	11.1%	13.1%	Yes
Block Group 2	60.2%	14.3%	24.7%	5.5%	Yes
Census Tract 311.13					
Block Group 1	82.0%	39.6%	22.9%	3.3%	No
Census Tract 311.14					
Block Group 2	58.0%	25.2%	3.9%	3.1%	No

Note: Percentages that are higher than the Cobb County level (see Table 4.12-1) are Bolded.
Dobbins ARB is located in Census Tract 310.01, Block Group 2.
Source: U.S. Census Bureau 2017b, 2017c, 2017d.

Impacts related to the cumulative noise levels would represent marginal increases in noise in an area that already experiences noise impacts from aircraft and the existing EOD range and would be minor. Some areas would be newly exposed to single event peak sound levels of 140 dB PK15 or more, which is the threshold where risk of physiological damage to unprotected human ears increases. This would be a significant impact and the block group that would suffer the largest portion of this impact is Census Tract 311.08, Block Group 1, which is a minority area where 67.1 percent of the population are minorities. Therefore, there would be significant disproportionate impacts to low-income and minority populations.

Protection of Children and the Elderly

Within the census block group that is exposed to cumulative noise levels above 70 dB CDNL, there is a higher proportion of elderly people (31.7 percent) than in Cobb County as a whole (24.4 percent) and a lower proportion of children (see Table 4.12-1). The additional census block group that would be exposed to cumulative noise levels between 62 and 70 dB CDNL has a lower

proportion of elderly people and children than Cobb County. No assisted living facilities, hospitals, schools, or childcare facilities would be exposed to cumulative noise levels of 62 dB CDNL or higher (see Figure 4.12-1).

The largest residential area that would be newly exposed to single event peak sound levels of 140 dB PK15 or higher would be Census Tract 311.08, Block Group 1, which has a lower proportion of children (19.9 percent) and elderly people (4.7 percent) than Cobb County (24.4 percent and 11.0 percent, respectively)(see Table 4.12-2). No assisted living facilities, hospitals, schools, or childcare facilities would be exposed to single event peak sound levels of 140 dB PK15 or higher. Of the 13 block groups that would be newly exposed to single event peak sound levels of 130 dB PK15 or higher, five have a higher proportion of children than Cobb County and two have a higher proportion of elderly people. Campbell High School, Smyrna Elementary School, and Smarter Kids Childcare Learning Center would all also be newly exposed to single event peak sound levels between 130 and 140 dB PK15 which may have impacts on children. The Gardens of Smyrna assisted living facility and the Harold Avenue Personal Care retirement home would also be newly exposed to single event peak sound levels of between 130 and 140 dB PK15, which may have impacts on the elderly. Sounds in this noise range are very loud, may startle people, and would result in a high risk of noise complaints; however, due to the infrequency of use (28 days per year) for the largest explosive charge weight (5 lbs), and the limited number of explosives used, this would not be expected to be significant.

4.12.2.2 Alternative 2

Environmental justice impacts would be the same as described under Alternative 1. All new construction would be totally within the boundaries of Dobbins ARB and the differences in construction activities would not significantly alter environmental justice impact levels. The additional noise from operations at the new EOD site would be the same as described under Alternative 1. Residential areas that would be newly exposed to single event peak sound levels of 140 dB PK15 or more, which is the threshold where risk of physiological damage to unprotected human ears increases, are in a minority area. Therefore, there would be a significant disproportionate impact on minority populations. Impacts on low-income populations, children, and the elderly would not be significant.

4.12.2.3 Alternative 3 (Preferred Alternative)

Construction activities would be the same as under Alternative 1 and would not be significant. The increased noise levels from operations at the new EOD site would be the same as described under Alternative 1 although the EOD site would be in a different location and some of the impacted areas would differ. Under Alternative 3, the EOD Range would be further toward the interior of the Base than under Alternative 1 and the largest noise impacts such as the cumulative noise levels over 62 dB CDNL and the single event peak sound levels over 140 dB PK15 would

not occur outside the boundaries of the Base other than in industrial areas adjacent to the Base (Figure 4.12-2).

Minority and Low-Income Populations

Under Alternative 3, the only census block group exposed to cumulative noise levels of 62 dB CDNL or higher would be Census Tract 310.01, Block Group 2 (Table 4.12-3). While this block group has a higher proportion of minority residents (69.0 percent) and residents in poverty (36.8 percent) than the surrounding area of Cobb County, this block group is already experiencing these noise levels under current conditions and the areas that would experience these noise levels under Alternative 3 are not residential.

Table 4.12-3. Noise Exposure Levels of Census Block Groups and Subject Populations Under Alternative 3 Conditions

Noise Contour/Area	*Minority Population*	*Poverty Rate*	*Population under the age of 18*	*Population aged 65 or older*	*Newly Exposed to Proposed Contours*
Cumulative Noise					
62 and 70 dB CDNL					
Census Tract 310.01					
Block Group 2	69.0%	36.8%	31.7%	4.5%	No
Single Event Peak Sound					
140 dB PK15					
Census Tract 310.01					
Block Group 2	69.0%	36.8%	31.7%	4.5%	No
Census Tract 311.08					
Block Group 1	67.1%	10.0%	19.9%	4.7%	Yes
Census Tract 311.13					
Block Group 1	82.0%	39.6%	22.9%	3.3%	No
130 dB PK15					
Census Tract 304.12					
Block Group 3	46.8%	37.5%	20.2%	8.2%	Yes
Census Tract 304.14					
Block Group 1	79.2%	22.5%	21.2%	1.2%	No
Block Group 2	83.7%	22.4%	28.3%	0.9%	No
Census Tract 308					
Block Group 2	64.0%	39.8%	15.4%	1.7%	Yes
Census Tract 311.01					
Block Group 1	74.0%	25.8%	28.5%	5.8%	Yes
Census Tract 311.08					
Block Group 3	51.9%	10.3%	9.4%	6.8%	No
Census Tract 311.14					
Block Group 2	58.0%	25.2%	3.9%	3.1%	No

Note: Percentages that are higher than the Cobb County level (see Table 4.12-1) are Bolded.
Dobbins ARB is located in Census Tract 310.01, Block Group 2.
Source: U.S. Census Bureau 2017b, 2017c, 2017d.

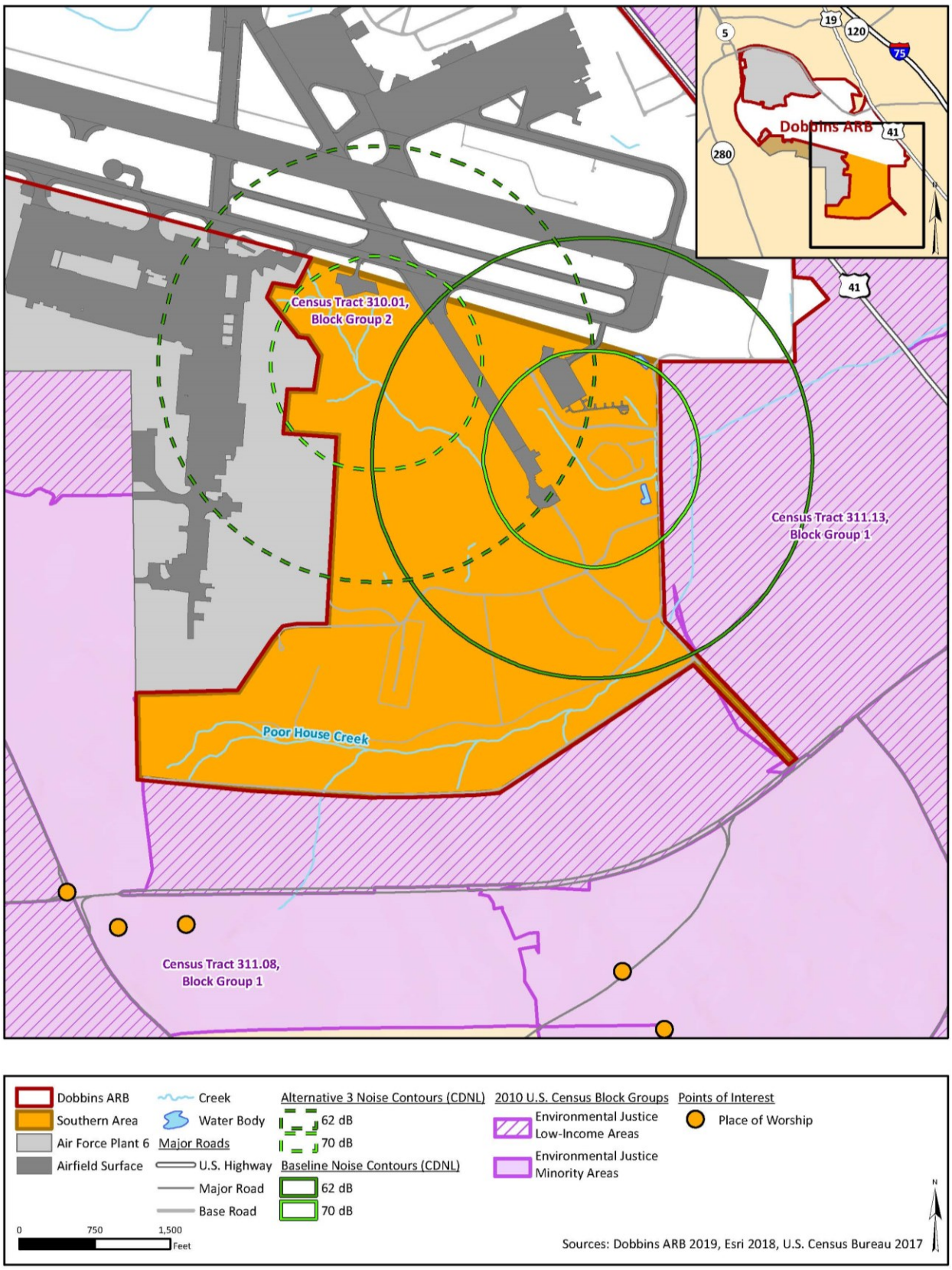


Figure 4.12-2. Cumulative Noise Impacts on Environmental Justice Communities in the ROI Under Alternative 3

Three block groups would be exposed to single event peak sound levels of 140 dB PK15 or higher. These include Census Tract 310.01, Block Group 2, which houses the Base, Census Tract 311.08, Block Group 1, and Census Tract 311.13, Block Group 1. No residential areas in these block groups would experience the 140 dB PK15 noise levels as the higher noise levels would be limited to areas of the Base and industrial areas adjacent to the Base. Residential areas of these block groups and seven additional block groups would be exposed to single event peak sound levels between 130 and 140 dB PK15. Only three of these block groups are not currently exposed to those levels of noise under current conditions as the noise contours for Alternative 3 have significant overlap with the noise contours under current conditions. These three block groups include Census Tract 304.12, Block Group 3, Census Tract 308, Block Group 2, and Census Tract 311.01. All three of the block groups have a higher percentage of low-income residents than Cobb County and two of the block groups have a higher percentage of minority residents. Noise levels between 130 and 140 dB PK15 would be very loud and would have a high risk of noise complaints. Minority and low-income populations are disproportionately represented in the block groups potentially impacted by increased noise levels; however, due to the existing noise character of the area under current conditions, the infrequency of use (28 days per year) for the largest explosive charge weight (5 lbs), and the limited number of explosives used, Alternative 3 would not be expected to result in significant impacts.

Protection of Children and the Elderly

Under Alternative 3, areas with cumulative noise levels of 62 dB CDNL or higher would not consist of residential areas and would not contain any assisted living facilities, hospitals, schools, or childcare facilities. Therefore, cumulative noise levels would not result in significant impacts to children or the elderly.

Areas that would see single event peak sound levels of 140 dB or higher would also not consist of residential areas and would not contain any assisted living facilities, hospitals, schools, or childcare facilities. Some residential areas would be newly exposed to single event peak sound levels between 130 and 140 dB PK15. Census Tract 310.01, Block Group 2, Census Tract 304.14, Block Group 2, and Census Tract 311.01 Block Group 1 all contain a higher proportion of children with 31.7 percent, 28.3 percent, and 28.5 percent of the population in each group, respectively, under the age of 18. None of the block groups potentially impacted by increased noise levels has a higher proportion of elderly residents. Out of the 10 potentially impacted block groups, only three of them have a population that is disproportionately represented by children or the elderly which would not constitute a disproportionate impact. Additionally, impacts that would occur to these populations would be in the noise level range between 130 and 140 dB PK15 for single event peak sound levels which would result in a high risk of noise complaints; however, due to the existing noise character of the area under current conditions, the infrequency of use (28 days per year) for the largest explosive charge weight (5 lbs), and the limited number of explosives used, this would not be a significant impact.

4.12.2.4 No Action Alternative

Under the No Action Alternative, no changes to the Southern Area would occur and the 94 AW would not implement the proposed project components described under the Proposed Action. Conditions for low-income and minority populations, children, and the elderly would be expected to remain as described under affected environment in Section 3.13. Therefore, there would be no impacts to environmental justice communities or other sensitive populations under the No Action Alternative.

5.0 CUMULATIVE IMPACTS AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

5.1 CUMULATIVE IMPACTS

5.1.1 PAST, PRESENT AND REASONABLY FORESEEABLE ACTIONS IN THE ROI

Cumulative impacts to environmental resources result from incremental effects of proposed actions when combined with other past, present, and reasonably foreseeable future projects in the ROI. Cumulative impacts can result from individually minor, but collectively substantial, actions undertaken over a period of time by various agencies (federal, state, and local) or individuals. In accordance with NEPA, a discussion of cumulative impacts resulting from projects that are proposed (or anticipated over the foreseeable future) is required. The environmental impacts of these other actions are addressed in this EA only in the context of potential cumulative impacts, if any.

A list of past, present, and reasonably foreseeable actions at Dobbins ARB and its immediate vicinity that could result in cumulative impacts with implementation of this project's Proposed Actions are shown in Table 5.1-1.

Table 5.1-1. Past, Present, and Reasonably Foreseeable Actions

Proponent	*Action Location/Description*	*Timeframe*
Army Reserve Center	Demolition of B1012	TBD
Lockheed Martin	Removal of existing wastewater treatment plant	TBD
Dobbins ARB	Construction of new commercial gate	2020
Dobbins ARB	Small Arms Range upgrades	2019
Dobbins ARB	New Fire Station under construction	TBD

5.1.2 CUMULATIVE IMPACT ANALYSIS

5.1.2.1 Safety

Construction of the new commercial gate would have a positive effect on safety as it would be located away from the main gate and route of travel and where suspect vehicles would not pose a risk to other motorists. The new fire station would also have a long-term positive effect on Safety as it would provide adequate space for operation, maintenance, and training for the firefighting crew and rescue personnel. The new fire station would offer line of sight to the flight line and the communication control center would be on-site that could result in quicker response times for both the main base and Southern training area. Overall, the cumulative effects would have a positive effect on safety.

5.1.2.2 Air Quality

Cumulative air quality impacts from past, present, and future actions within the ROI would have a small impact on air quality. It is highly unlikely that significant impacts to air quality, such as violation of a NAAQS or exceedance of *de minimis* threshold under General Conformity, would result due the minor emissions anticipated under the Proposed Action. It is more likely that the

overall level of criteria pollutant emissions would slightly increase temporarily during construction periods, but at a level that would only generate temporary impacts.

5.1.2.3 Noise

Cumulative impacts to the acoustic environment as a result of the demolition and construction of on-base facilities would not be expected to occur as they are located away from the Southern Area. Upgrades to the small arms range would have no cumulative effects to the noise levels associated with the existing or proposed EOD range. No long-term effects would result from other activities in the area.

5.1.2.4 Land Use

In general, land uses at Dobbins ARB would not be adversely affected by the activities described under the Proposed Action or those activities described in Section 5.1.1. Under Alternative 3, approximately 92 acres off-base would be located within the 62 to 70 dB CDNL contours, all of which are located on Air Force Plant 6 property. Some of the projects described above include measures to improve operations and capabilities for the vicinity. As the proposed structures would not be incongruent with the surrounding buildings or land uses, cumulative impacts to land use would be expected to be negligible.

5.1.2.5 Earth Resources

In addition to the increased impervious surface that would result from implementation of the Proposed Action, additional surface area could be disturbed in the vicinity over the next several years as a result of the projects described in Section 5.1.1. It is expected that any construction activities would adhere to NPDES requirements, including implementation of construction/demolition-specific SWPPPs and associated BMPs would be used for each project, as required, to limit or eliminate soil movement, stabilize runoff, and control sedimentation. These BMPs would include the use of well-maintained silt fences, minimizing surficial area disturbed, stabilization of cut/fill slopes, minimization of earth-moving activities during wet weather, and use of temporary detention ponds. Following construction, disturbed areas not covered with impervious surfaces would be reestablished with appropriate vegetation and managed to minimize future erosion potential. Given the use of engineering practices that would minimize potential erosion, cumulative impacts to earth resources would be expected to be minor.

5.1.2.6 Water Resources

In addition to the increased impervious surface that would result from implementation of the Proposed Action, additional land surface could be disturbed and converted to impervious surface over the next several years as a result of the projects described in Section 5.1.1. It is expected that any construction activities would adhere to NPDES requirements including implementation of construction/demolition-specific SWPPPs and associated BMPs described above under earth resources. No impacts to floodplains, wetlands, or waters of the U.S. are anticipated as a result of

projects described under the Proposed Action or in Section 5.1.1. Cumulative impacts to water resources are expected to be less than significant.

5.1.2.7 Biological Resources

In general, construction activities at Dobbins ARB associated with the Proposed Action or those activities described in Section 5.1.1 would primarily occur on sites that are already highly altered by man. Impacts from the Proposed Action would not be significant on biological resources. Impacts would include the removal of some vegetation and associated wildlife habitat. However, wildlife that use these areas are typical of urban and suburban areas and are not expected to be impacted as a result of these activities. Impacts to biological resources, including special status species, from additional habitat and noise disturbance over the next several years as a result of the projects described in Section 5.1.1 are expected to be similar. Cumulative impacts to vegetation, wildlife, and special status species as a result of the Proposed Action would not be significant.

5.1.2.8 Infrastructure

Cumulative infrastructure impacts from past, present, and future actions within the ROI would create short-term interruptions of service due to construction and demolition activities and have potential for long-term increased demand on utility systems. No significant impacts are anticipated as a result of construction and demolition-related activities that may cause service interruptions as those impacts are short in duration. Past, present, and future actions within the ROI would not result in significant impacts to the transportation system at Dobbins ARB as the past, present, and future actions within the ROI would not result in an increase in personnel.

The potential removal of the existing Lockheed Martin Wastewater Treatment Plant would create a subsequent need for rerouting wastewater to another facility and would impact the wastewater treatment system at Dobbins ARB. However, additional wastewater generated by the Preferred Alternative and other past, present, and future actions detailed in Table 5.1-1 would be a negligible increase to the amount of wastewater currently generation by Dobbins ARB regardless of the potential need to reroute wastewater to another treatment facility.

Long-term cumulative impacts on the electrical system, natural gas system, water supply system, sewer and wastewater systems, stormwater systems, and solid waste management at Dobbins ARB would result from increased demand on those services but that increase would be negligible and accommodated by existing capacities of those systems.

5.1.2.9 Cultural Resources

In the event of unanticipated discoveries of cultural resources during construction under the Proposed Action or those activities described in Section 5.1.1, work would halt at that specific location and the resources would be managed in compliance with federal law and DoD regulations. There are no NRHP-listed resources identified at the project site; therefore, no impacts are anticipated from the Proposed Action, and no cumulative impacts are expected.

5.1.2.10 Hazardous Materials and Waste

Under the Proposed Action and those activities described in Section 5.1.1, the quantities of hazardous materials and petroleum substances used throughout the Base would not change over the long term. Construction and demolition activities would cause short-term increases in the quantities of hazardous materials (e.g., paint) and petroleum products (e.g., vehicle fuel) used and stored on-Base, as well as cause short-term increases in the volume of hazardous and petroleum wastes generated. Cumulative impacts as a result of hazardous materials and waste are expected to be minor.

5.1.2.11 Socioeconomics

Economic activity associated with proposed construction activities described as a component of this alternative and those shown in Table 5.1-1, such as employment and materials purchasing, would provide short-term economic benefits to the local economy. However, short-term cumulative beneficial impacts resulting from construction payrolls and materials purchased as a result of implementation of the Proposed Action Alternative and those projects listed in Table 5.1-1 would not be significant on a regional scale.

5.1.2.12 Environmental Justice and the Protection of Children

No significant adverse impacts to minority and low-income populations are anticipated under the Proposed Action or associated with those activities described in Section 5.1.1. There are no known cumulative environmental health or safety risks associated with these activities that may disproportionately affect children. Therefore, there would be no adverse cumulative impact to minority or low-income populations.

5.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

NEPA CEQ regulations require environmental analyses to identify any irreversible and irretrievable commitments of resources that would be involved in the Proposed Action should it be implemented (40 CFR Section 1502.16). Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects the uses of these resources have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable timeframe. Building construction material such as gravel and gasoline usage for construction equipment and use of explosive ordnance would constitute the consumption of nonrenewable resources. None of these activities would be expected to substantially affect environmental resources because the relative consumption of these materials is expected to change negligibly.

The primary irretrievable impacts of the Proposed Action would involve the use of energy, labor, and materials and funds. Irretrievable impacts would occur as a result of construction, facility operation, and maintenance activities. Direct losses of biological productivity and the use of natural resources from these impacts would be inconsequential.

6.0 PERSONS AND AGENCIES CONTACTED

Atlanta Regional Commission, 229 Peachtree St NE, Suite 100, Atlanta, GA 30303
Boyce, Mr. Mike, Cobb County Commission Chairman, 100 Cherokee Street, Marietta, GA 30090
Bruton, Jr., Mr. William, Marietta City Manager, 205 Lawrence Street, Marietta, GA 30060
Bryan, Chairman Stephanie A., Poarch Band of Creek Indians, 5811 Jack Springs Road, Atmore, AL 36502
Buss, Mr. Rich, Director, City of Marietta Parks, Recreation, and Facilities, P.O. Box 609, Marietta, GA 30061
City of Smyrna, 2800 King Street, Smyrna, GA 30080
Cobb Chamber of Commerce, P.O. Box 671868, Marietta, GA 30006-0032
Cobb County Board of Commissioners, 100 Cherokee Street, Marietta, GA 30090
Cobb County Community Development Department, P.O. Box 649, Marietta, GA 30061
Cobb County Department of Transportation, 1890 County Services Parkway, Marietta, GA 30008
Cobb County Soil and Water Conservation District, 678 South Cobb Drive, Suite 150, Marietta, GA 30060
Crass, Dr. David, State Historic Preservation Officer, Georgia Department of Natural Resources, Historic Preservation Division, Jewett Center for Historic Preservation, 2610 Highway 155 SW, Stockbridge, GA 30281
Georgia Environmental Protection Division, Georgia Department of Natural Resources, 2 Martin Luther King Jr. Drive SE, Suite 1456, East Tower, Atlanta, GA 30334
Georgia State Parks and Historic Sites, Georgia Department of Natural Resources, 2600 Highway 155 SW, Stockbridge, GA 30281
Guinn, Ms. Jessica, Director, Cobb County Community Development Department, P.O. Box 649, Marietta, GA 30061
Harris, Chief William, Catawba Indian Nation, 611 East Main Street, Rock Hill, SC 29730
Hosack, Mr. Rob, Cobb County Manager, 100 Cherokee Street, Marietta, GA 30090
Hoskins, Principal Chief Chuck, Cherokee Nation, W.W. Keeler Tribal Complex, 17675 S. Muskogee Ave, Tahlequah, OK 74464
Roth, Mr. Rusty, Director, City of Marietta Department of Planning and Zoning Development Services, P.O. Box 609, Marietta, GA 30061-0609
Sneed, Principal Chief Richard, Eastern Band of Cherokee Indians, 88 Council House Loop, Cherokee, NC 28719
U.S. Army Corps of Engineers, South Atlantic Division, 60 Forsyth Street SW, Atlanta, GA 30303-8801
U.S. Environmental Protection Agency, Region 4, Office of the Regional Administrator, Sam Nunn Atlanta Federal Center, 61 Forsyth Street, SW, Atlanta, GA 30303-3104
U.S. Fish and Wildlife Service, Southeast Region, Region 4, 1875 Century Blvd., Suite 200, Atlanta, GA 30345
Walker, Ms. Mary, Regional Administrator,
Yargee, Chief Tarpie, Alabama-Quassarte Tribal Town, 101 E. Broadway Avenue, Wetumka, OK 74883

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7.0 LIST OF PREPARERS

Katie Briscoe
B.S. History, 2008
M.S. Archaeology, 2010
M.S. Historic Preservation 2012
Years of Experience:

Jackie Clark, Cardno
B.S., Business Administration
Years of Experience: 11

Stephanie Clarke, Cardno
B.S., Biology and Environmental Studies, 2015
Years of Experience: 6

Linda DeVine, Cardno
A.S., Physical Science, 2001
Undergraduate Studies, Environmental Science
Years of Experience: 44

Kate Ferguson, Cardno
M.S., Geology/Earth Science, 2018
B.S., Geology, 2009
Years of Experience: 7

Leah Gonzales, Cardno
M.S. Environmental Science and Management, 2017
B.S. Environmental Systems, 2014
Years of Experience: 5

Lesley Hamilton, Cardno
B.A., Chemistry, 1988
Years of Experience: 30

Mike Harrison, Cardno
M.S., Environmental Science, 2005
B.S., Biology, 2000
Years of Experience: 21

Sarah Howard, Cardno
B.A., Environmental Science and Planning
Masters of Pacific and International Affairs, International Environmental Policy
Years of Experience: 10

Patrick Kester, Cardno
B.S., Mechanical Engineering, 2006
Years of Experience: 11

Amanda Kreider, Cardno
M.S., Fire Ecology, 2002
B.S., Wildlife Ecology, 1998
Years of Experience: 18

John Lowenthal, Cardno
M.S., Plant Ecology, 1989
B.S., Biology, 1985
Years of Experience: 33

Edie Mertz, Cardno
A.A., General Education, 1994
Years of Experience: 29

Isla Nelson, Cardno
B.A., Anthropology, 2001
Years of Experience: 19

Kim Wilson, Cardno
Years of Experience: 40

8.0 REFERENCES

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_____. 2016. U.S. Air Force Integrated Solid Waste Management Plan, Dobbins Air Reserve Base. January 1.

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APPENDIX A

Interagency and Intergovernmental Coordination for Environmental Planning (IICEP)

Agency Coordination and Consultations

U.S. Environmental Protection Agency,
Region 4
Office of the Regional Administrator
Ms. Mary Walker, Regional Administrator
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-3104

U.S. Fish and Wildlife Service
Southeast Region, Region 4
1875 Century Blvd., Suite 200
Atlanta, GA 30345

U.S. Army Corps of Engineers
South Atlantic Division
60 Forsyth Street SW
Atlanta, GA 30303-8801

Georgia Environmental Protection Division
Georgia Department of Natural Resources
2 Martin Luther King Jr. Drive SE
Suite 1456, East Tower
Atlanta, GA 30334

Georgia State Parks and Historic Sites
Georgia Department of Natural Resources
2600 Highway 155 SW
Stockbridge, GA 30281

Georgia Department of Natural Resources
Historic Preservation Division
Dr. David Crass
State Historic Preservation Officer
Jewett Center for Historic Preservation
2610 Highway 155 SW
Stockbridge, GA 30281

Cobb County Community Development
Department
P.O. Box 649
Marietta, GA 30061

Cobb Chamber of Commerce
P.O. Box 671868
Marietta, GA 30006-0032

Cobb County Board of Commissioners
100 Cherokee Street
Marietta, GA 30090

Mr. Mike Boyce
Cobb County Commission Chairman
100 Cherokee Street
Marietta, GA 30090

Mr. Rob Hosack
Cobb County Manager
100 Cherokee Street
Marietta, GA 30090

Ms. Jessica Guinn
Director, Cobb County Community
Development Department
P.O. Box 649
Marietta, GA 30061

Cobb County Soil and Water Conservation
District
678 South Cobb Drive, Suite 150
Marietta, GA 30060

Cobb County Department of Transportation
1890 County Services Parkway
Marietta, GA 30008

Mr. Rusty Roth
Director, City of Marietta Department of
Planning and Zoning Development Services
P.O. Box 609
Marietta, GA 30061-0609

Mr. William Bruton, Jr.
Marietta City Manager
205 Lawrence Street
Marietta, GA 30060

Mr. Rich Buss
Director, City of Marietta Parks, Recreation,
and Facilities
P.O. Box 609
Marietta, GA 30061

City of Smyrna
2800 King Street
Smyrna, GA 30080

Atlanta Regional Commission
229 Peachtree St NE, Suite 100
Atlanta, GA 30303

Tribal Consultation

Chief Tarpie Yargee
Alabama-Quassarte Tribal Town
101 E. Broadway Avenue
Wetumka, OK 74883

Principal Chief Richard Sneed
Eastern Band of Cherokee Indians
88 Council House Loop
Cherokee, NC 28719

Chief William Harris
Catawba Indian Nation
611 East Main Street
Rock Hill, SC 29730

Chairman Stephanie A. Bryan
Poarch Band of Creek Indians
5811 Jack Springs Road
Atmore, AL 36502

Principal Chief Chuck Hoskins
Cherokee Nation
W.W. Keeler Tribal Complex
17675 S. Muskogee Ave
Tahlequah, OK 74464

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

February 19, 2020

William C. Powell, PE, DAF
Chief, Environmental Flight
94 MSG/CE
901 Industrial Drive
Dobbins Air Reserve Base, Georgia 30069
Attn: Douglas White

RE: Dobbins ARB: Modify Southern Training Area, Construct Admin Bldg and Training Area, Add Magazines, Demolish Navy Buildings
Cobb County, Georgia
HP-200203-008

Dear Mr. Powell:

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

Thank you for notifying us of this federal undertaking. We look forward to receiving Section 106 compliance documentation, as appropriate. If the federal agency intends to utilize NEPA to comply with Section 106, in lieu of the procedures set forth in 36 CFR Part 800, the AF should notify HPD and the Advisory Council on Historic Preservation of its intent.

Please refer to project number **HP 200203-008** in future correspondence regarding this project. If we may be of further assistance, please contact me at (770) 389-7851 or Jennifer.dixon@dnr.ga.gov.

Sincerely,

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

JEWETT CENTER FOR HISTORIC PRESERVATION
2610 GA HWY 155, SW | STOCKBRIDGE, GA 30281
770.389.7844 | FAX 770.389.7878 | WWW.GEORGIASHPO.ORG

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Richard E. Dunn, Director

Land Protection Branch
2 Martin Luther King, Jr. Drive
Suite 1054, East Tower
Atlanta, Georgia 30334
404-656-7802

February 19, 2020

Mr. Douglas White
94 MSG/CEV
901 Industrial Drive,
Dobbins ARB, GA 30069

RE: Review of the January 2020, *Description of Proposed Action and Alternatives, Modifications to Southern Training Area, Dobbins Air Reserve Base, Georgia*; Marietta, Georgia; EPA ID. # GA1570024306

Dear Mr. White:

The Land Protection Branch of the Georgia Environmental Protection Division (EPD) has reviewed the above-referenced document as requested in a letter dated January 30, 2020. EPD finds both action alternatives outlined to be acceptable. However, EPD notes the following environmental Areas of Concern (AOC) in Figures 1.1-3, 2.4-1, and 2.4-3.

- **AOC-3 Abandoned Drum Site Southeast End of Taxiway A**. This site is located northeast of the proposed parking lot, across from the road which stems from the runway. This AOC is in Figures 1.1-3, 2.4-1, and 2.4-3 but is not labelled. The site has drums containing asphaltic joint sealing compound, waste solvents and waste contaminated oil. Given that the site is located on the other side of the runway from the proposed parking lot site, it is unlikely that this AOC would impact the proposed action, unless modifications to the proposal were made.

- **Small Arms Range**. This site is located north of AOC-3. This AOC is in Figures 1.1-3, 2.4-1, and 2.4-3 but is not labelled. The site is contaminated with lead shots used while the small arms range was active. Given that the site is located on the other side of the runway from the proposed parking lot site, it is unlikely that this AOC would impact the proposed action, unless modifications to the proposal were made.

- **LF001, Past Base Landfill**. This is the northern-most area in Figures 1.1-3, 2.4-1, and 2.4-3 labelled "environmental remediation site". This site is contaminated with various hazardous materials including domestic-type wastes, industrial wastes, carbon remover, waste oils and solvents, unknown noxious liquids, petroleum sludge, empty paint cans, pesticide containers, fuel foam, mixed waste paints and thinners, and fuel-saturated dirt. Please note that while the boundaries to this landfill are correctly shown in the figures, **the contamination may extend beyond the boundaries of the landfill.** If the parking lot will be constructed in the area outlined in both action alternatives (as shown in Figures 2.4-1 and 2.4-3), **EPD recommends that all workers are equipped with Personal Protective**

Mr. White
February 19, 2020
Page 2

Equipment (PPE) until the proposed parking lot site is cleared of any potential environmental hazards.

- **DA011, Barrel Disposal Site**. This AOC is the southern-most area in Figures 1.1-3, 2.4-1, and 2.4-3 labelled "environmental remediation site". This site contains approximately 25 empty partially-buried barrels, asphalt debris and concrete rubble. Previously conducted investigations have noted the presence of volatile organic compounds (benzene, m,p-xylene, n-propylbenzene, p-isopropyltoluene and toluene), semivolatile organic compounds (butylbenzylphthalate), polychlorinated biphenyls (Aroclor-1260) and pesticides (dieldrin) in the soil near the empty barrels. Given that the site is located on the other side of the Past Base Landfill, it is unlikely that this AOC would impact the proposed action, unless modifications to the proposal were made.

It is recommended that the above outlined AOCs are identified and labelled in all figures to ensure awareness of the locations of all AOCs. Additionally, it is recommended that a brief description of all AOCs noted in this letter, including an outline of known environmental hazards in each AOC, is provided in the Proposed Action and Alternatives document to ensure awareness of all possible environmental risks near the proposed sites. If you have questions, please contact Matthew Wolfsen at (404) 656-2833.

Sincerely,

Kim Hembree, Manager
DoD Facilities Unit
Hazardous Waste Management Program

cc: Douglas White (douglas.white.25@us.af.mil),
Gina Rose (gina.rose@us.af.mil)

File: Dobbins Air Reserve Base (B)

S:\RDRIVE\M Wolfsen\Dobbins\2020\Proposed Action for Modifications to the Southern Training Area Comment Letter

From: Gissentanna, Larry <Gissentanna.Larry@epa.gov>
Sent: Thursday, March 12, 2020 9:20 AM
To: WHITE, DOUGLAS F CIV USAF AFRC 94 CE/CEV <douglas.white.25@us.af.mil>
Cc: Kajumba, Ntale <Kajumba.Ntale@epa.gov>
Subject: [Non-DoD Source] Scoping Comments for the Draft Environmental Assessment for Modifications to the Southern Training Area at Dobbins Air Reserve Base (ARB), GA.

RE: Scoping Comments for the Draft Environmental Assessment for Modifications to the Southern Training Area at Dobbins Air Reserve Base (ARB), GA.

Dear Mr. White,

The EPA is in receipt of the scoping document on the proposed action to modify portions of the southern area of the base. According to the documents provided, the EPA understands that the Dobbins ARB is preparing an Environmental Assessment (EA) to assess the potential environmental consequences of these proposed modifications to the southern area of the base. The southern area contains the Munitions Storage Area (MSA) and Explosives Ordnance (EOD) training area which has limitations to its use and has waivers for facilities within the Explosives Safety Quantity Distance (ESQD) arcs. The proposed modifications to the southern training area would reduce the number of waivers required.

Under the Proposed Action, a new MSA administrative building would be constructed and armored magazines added for storage and maintenance of explosive ordnance. Toward the southeast of the MSA, a new EOD training area would be constructed to provide training and certification in the handling of explosive ordnance up to a 5 pounds. Also ancillary construction, including fencing, land clearing, road improvements, utilities, lighting and water retention/detention ponds would also occur. In addition, a suspect vehicle holding area would be constructed, and various abandoned United States Navy structures within the MSA would be demolished, thus returning the property to its natural state. . The proposed action does not involve an overall increase in personnel.

The proposed action involves a No Action alternative and two action alternatives.

The EPA recommends that the proposed EA address the following environmental issues, e.g., air quality, water, wetlands, noise, energy, and environmental justice. The EA should also consider the following issues: Any planned

1

construction should address potential impacts to streams and waterways, i.e. (Poor House Creek). The site preparation, grading, excavation, and construction plans should include implementable measures to prevent erosion and sediment runoff from the various project sites both during and after grading activities. Local land disturbance and state construction stormwater permit(s) may also be required, and these should be referenced on the plans and in the specifications. The ARB should consult with the State Historic Preservation Office prior to the demolition of the older buildings. The ARB should implement best management practices to divert recyclable materials away from landfills, repurpose the material.

Please keep the local community informed and involved throughout the project process; by having community meetings and updating the community through local and social media outlets. The EPA requests to have at least one hard copy of the draft EA, with an electronic version , i.e. website or CD/DVD. Please forward all hard/ electronic copies to the address below.

Thank you, for the opportunity to comment, If you have any questions, please contact us via email or the information below,

Sincerely,

Larry O. Gissentanna

Project Manager, DoD & Federal Facilities

U.S. Environmental Protection Agency/ Region 4
Strategic Programs Office, NEPA Section
61 Forsyth Street, SW
Atlanta, GA 30303-8960
Office: 404-562-8248
gissentanna.larry@epa.gov

POARCH BAND OF CREEK INDIANS
5811 Jack Springs Road • Atmore, Alabama 36502
Tribal Offices: (251) 368-9136
www.poarchcreekindians-nsn.gov

03/02/2020

94 MSG/CEV
Attention: Doug White
901 Industrial Drive
Dobbins ARB, Georgia 30069

Re: THPO: 2020-03-006: Environmental Assessment (AE) for Modifications to the Southern Training Area, Dobbins Air Reserve Base, Marietta, Georgia

Dear Mr. White,

The Poarch Band of Creek Indians, Tribal Historic Preservation Office has received and reviewed the documentation submitted for the referenced project at Dobbins Air Reserve Base, Marietta, Georgia. The Tribe is interested in consultation pursuant to 36CFR800 on the proposed undertaking.

Thank you for the opportunity to comment on this project. We look forward to working with you in the future. Should further correspondence pertaining to the project be necessary, please reference the above file number when responding. If you have any questions, please do not hesitate to call 251-368-9136 extension 2072.

Sincerely,

Larry D. Haikey

Larry D. Haikey
Tribal Historic Preservation Officer

Seeking Prosperity and Self Determination

ᏣᎳᎩ ᎠᏰᎵ
CHEROKEE NATION®
P.O. Box 948 • Tahlequah, OK 74465-0948
918-453-5000 • www.cherokee.org

Office of the Chief

Chuck Hoskin Jr.
Principal Chief

Bryan Warner
Deputy Principal Chief

March 19, 2020

Doug White
Department of the Air Force
901 Industrial Drive
Dobbins Air Reserve Base, GA 30069

Re: Dobbins Air Reserve Base, Southern Portion Modifications

Mr. Doug White:

The Cherokee Nation (Nation) is in receipt of your correspondence about **Dobbins Air Reserve Base, Southern Portion Modifications**, and appreciates the opportunity to provide comment upon this project.

The Nation maintains databases and records of cultural, historic, and pre-historic resources in this area. Our Historic Preservation Office reviewed this project, cross referenced the project's legal description against our information, and found no instances where this project intersects or adjoins such resources. Thus, the Nation does not foresee this project imparting impacts to Cherokee cultural resources at this time.

However, the Nation requests that the Department of the Air Force halt all project activities immediately and re-contact our Offices for further consultation if items of cultural significance are discovered during the course of this project.

Additionally, the Nation requests that the Department of the Air Force conduct appropriate inquiries with other pertinent Tribal and Historic Preservation Offices regarding historic and prehistoric resources not included in the Nation's databases or records.

If you require additional information or have any questions, please contact me at your convenience. Thank you for your time and attention to this matter.

Wado,

Elizabeth Toombs

Elizabeth Toombs, Tribal Historic Preservation Officer
Cherokee Nation Tribal Historic Preservation Office
elizabeth-toombs@cherokee.org
918.453.5389

17 Sep 2020

Public comments regarding, "Draft Environmental Assessment, Dobbins Air Reserve Base, Georgia, Modifications to the Southern Training Area"

Input from local resident, Aug 9, 2020:

We do not want, nor did we ask for, an EOD training range nor a munitions storage area in our backyard.

We fully understand the mission of the Army National Guard/Air Force Reserves and have lived with the constant helicopter flyovers. However, this EA to modify the Southern Area of Dobbins ARB will not go unchallenged.

Let me be clear, Redstone Arsenal in Huntsville, AL has EOD training facilities for reservists as well as Fort Benning and Fort Stewart if needed. Additionally, the proposed construction activities will certainly cause traffic and/or noise disruptions to local businesses. These businesses are already struggling during this pandemic. Will the Air Force reimburse local businesses impacted by these modifications? You mention notifying Lockheed Martin of the EOD schedule, but what plans are in place to notify the public. There are hundreds of residents who live at the Park on Windy Hill Apartments and in the townhomes at Caswell Overlook. Do you not think these tax paying residents and businesses deserve to be notified?

The base is bordered by major thoroughfares with Windy Hill Road within the 70 DB noise contour (Alternative 1).

Thus, applying a 10 dB adjustment for noise events occurring between 10 p.m. and 7 a.m. is no consensus. Utilizing terms like "C-weighted Day-Night Average Sound Level (CDNL)", "Day-Night Average Sound Level (DNL)", and annoyance is little assurance against decreased property value and added anxiety for all residents; particularly those in nearby senior living facilities. You may have identified assisted living facilities, but did you speak to any Directors at the Gardens of Smyrna or the Harold Avenue Personal Care home?

This money would be better spent on a commissary for the ~ 216,000 veterans in the metro-Atlanta, which was previously proposed in another Environmental Assessment. That EA was another waste of taxpayer funds. Please provide a response and include the cost of this EA and the overall project costs for these modifications.

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

August 31, 2020

William C. Powell, PE, DAF
Chief, Environmental Flight
94 MSG/CE
901 Industrial Drive
Dobbins Air Reserve Base, Georgia 30069
Attn: Parker Johnson

RE: Dobbins ARB: Modify Southern Training Area, Construct Administration Building and Training Area, Add Magazines, Demolish Navy Buildings
Cobb County, Georgia
HP-200203-008

Dear Mr. Powell:

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

Thank you for notifying us of this federal undertaking. We look forward to receiving Section 106 compliance documentation, as appropriate. If the federal agency intends to utilize NEPA to comply with Section 106, in lieu of the procedures set forth in 36 CFR Part 800, the AF should notify HPD and the Advisory Council on Historic Preservation of its intent.

Please refer to project number **HP 200203-008** in future correspondence regarding this project. If we may be of further assistance, please contact me at (770) 389-7851 or Jennifer.dixon@dnr.ga.gov.

Sincerely,

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

JEWETT CENTER FOR HISTORIC PRESERVATION
2610 GA HWY 155, SW | STOCKBRIDGE, GA 30281
770.389.7844 | FAX 770.389.7878 | WWW.GEORGIASHPO.ORG

Brian P. Kemp
Governor

Georgia® Department of Community Affairs

Christopher Nunn
Commissioner

October 26, 2020

William C. Powell
Chief, Environmental Flight
94 MSG/CE
901 Industrial Drive
Dobbins Air Reserve Base, Georgia 30069
Attn: Parker Johnson

RE: Dobbins ARB: Modify Southern Training Area, Construct Administration Building and Training Area, Add Magazines, Demolish Navy Buildings
Cobb County, Georgia
HP-200203-008

Dear Mr. Powell:

The Historic Preservation Division (HPD) has received the information submitted concerning the above referenced undertaking. Our comments are offered to assist the U.S. Department of the Air Force and Dobbins Air Reserve Base (ARB) in complying with provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA).

The subject project consists of modifying the southern training area located within Dobbins ARB to construct a munitions storage area administrative building, armored magazines, and training area, which includes demolishing five (5) Navy buildings. Based on the information provided, HPD concurs that archaeological site 9CO377 and buildings 1033, 1034, 1035, 1036, and 1037 are not eligible for listing in the National Register of Historic Places (NRHP), due to age or a lack of significance. Therefore, HPD concurs that no historic properties that are listed or eligible for listing in the NRHP will be affected by this undertaking, as defined in 36 CFR Part 800.4(d)(1). HPD would like to remind Dobbins ARB that structures should be resurveyed as they become 50 years of age and as a significant amount of time has passed, due to new guidance and documentation available.

This letter evidences consultation with our office for compliance with Section 106 of the NHPA. It is important to remember that any changes to this project as it is currently proposed may require additional consultation. HPD encourages federal agencies to discuss such changes with our office to ensure that potential effects to historic properties are adequately considered in project planning.

Please refer to project number **HP-200203-008** in any future correspondence regarding this project. If we may be of further assistance, please contact me at (770) 389-7851 or Jennifer.dixon@dca.ga.gov.

Sincerely,

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

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MODIFICATIONS TO THE SOUTHERN TRAINING AREA

DRAFT ENVIRONMENTAL ASSESSMENT PUBLIC COMMENT CONSIDERATION/RESPONSE

Comment	*Response*
General	Thank you for your comments and your interest in Dobbins ARB and the Air Force Reserve Mission.
Commenter was concerned that proposed construction activities would cause traffic and noise disruptions to local businesses.	As discussed in Section 4.1, the Air Force recognizes that construction may cause minor disturbances such as construction traffic and noise, but these impacts would be minor and temporary and would not be significant. As discussed in Section 4.3.2, noise resulting from construction activities would be expected to be intermittent and of limited duration. The long-term acoustic environment would not be influenced by construction activities.
Commenter asked if the Air Force would reimburse local businesses impacted by these modifications?	The proposed modifications would be located within the base boundaries and impacts to local businesses would not be anticipated. Should damage occur as a result of training operations at Dobbins ARB, the Public Affairs office should be contacted for information regarding filing of the appropriate claims.
Commenter requested information on plans in place to notify the public of Range use.	Under the proposed action, Dobbins ARB would include notifying the public through their social media (Facebook) and website, when training with high explosives at the proposed 5 lb range is scheduled.
Commenter raised concerns about noise impacts on local residents.	The Air Force acknowledged that noise levels associated with the EOD range location proposed in Alternatives 1 and 2 would have the potential to significantly impact residential and other noise-sensitive land uses southwest of Dobbins ARB and along Atlanta Road. As part of their good-neighbor policy, Alternative 3, the preferred alternative, was developed by Dobbins ARB to minimize impact to off-base civilian populations. Residential areas east of the base, such as Caswell Overlook are currently exposed to noise from the existing EOD Range, and this would not be predicted to change, although those residents may experience fewer noise events.
Commenter questioned the potential for decreases in property values.	As discussed in section 4.11.2.1, under Alternatives 1 and 2, impacts on housing units may lead to the housing being less desirable or even less valuable but would not eliminate any housing from the market or reduce the housing availability in the Region of Influence. Under Alternative 3, the preferred alternative, CDNL above 62 dBC where the DoD recommends land use controls, does not extend into residential areas and effects on property values would not be expected.
Commenter was concerned about contact with identified sensitive land uses.	Dobbins ARB understands the importance of public input into the Environmental Impact Analysis Process and published notices in the *Marietta Daily Journal* and *Atlanta Journal-Constitution* on two occasions. The first publication in January 2020 notified the public of the intent to make modifications to Dobbins Southern Area and requested public input. The second publication ran in the *Marietta Daily Journal* on August 8 and 11, 2020 and in the *Atlanta Journal-Constitution* on August 8 and 9, 2020 notifying the public of availability of the Environmental Assessment and requesting comments on the analysis.

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APPENDIX B

Air Conformity Applicability Model Reports

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF CONFORMITY ANALYSIS (ROCA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Instruction 32-7040, Air Quality Compliance And Resource Management; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: DOBBINS ARB
State: Georgia
County(s): Cobb
Regulatory Area(s): Atlanta, GA

b. Action Title: Modifications to Southern Training Area - Dobbins ARB

c. Project Number/s (if applicable):

d. Projected Action Start Date: 2 / 2021

e. Action Description:

• Alternative 1, Preferred Alternative – This alternative would relocate the MSA administrative building outside of the controlled MSA area, add munitions storage capacity, establish a 5 lb EOD range in the southwest corner of the Southern Area, establish a suspect vehicle holding and Multi-Cube munitions storage facility south of the current MSA, and demolish the five abandoned structures in the Navy MSA.

• Alternative 2, Alternate Fencing – Under Alternative 2, all components of Alternative 1 would be implemented except for the fencing south of the MSA area.

• Alternative 3, all new proposed features described under Alternative 1 would be the same except the location of the new EOD Range, which would be located north of the MSA Area instead of southwest.

f. Point of Contact:

Name: Lesley Hamilton
Title: Sr Assoc
Organization: Cardno
Email:
Phone Number:

2. Analysis: Total combined direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the "worst-case" and "steady state" (net gain/loss upon action fully implemented) emissions. General Conformity under the Clean Air Act, Section 1.76 has been evaluated for the action described above according to the requirements of 40 CFR 93, Subpart B.

Based on the analysis, the requirements of this rule are: _____ applicable
__X__ not applicable

Conformity Analysis Summary:

2021

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Atlanta, GA			
VOC	0.135	100	No

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF CONFORMITY ANALYSIS (ROCA)

NOx	0.219	100	No
CO	0.082		
SOx	0.001		
PM 10	2.053		
PM 2.5	0.007		
Pb	0.000		
NH3	0.001		
CO2e	68.2		

2022 - (Steady State)

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Atlanta, GA			
VOC	0.000	100	No
NOx	0.000	100	No
CO	0.000		
SOx	0.000		
PM 10	0.000		
PM 2.5	0.000		
Pb	0.000		
NH3	0.000		
CO2e	0.0		

None of estimated emissions associated with this action are above the conformity threshold values established at 40 CFR 93.153 (b); Therefore, the requirements of the General Conformity Rule are not applicable.

Lesley Hamilton

Lesley Hamilton, Sr Assoc

5/8/2020

DATE

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Instruction 32-7040, Air Quality Compliance And Resource Management; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: DOBBINS ARB
State: Georgia
County(s): Cobb
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Modifications to Southern Training Area - Dobbins ARB

c. Project Number/s (if applicable):

d. Projected Action Start Date: 2 / 2021

e. Action Description:

• Alternative 1, Preferred Alternative – This alternative would relocate the MSA administrative building outside of the controlled MSA area, add munitions storage capacity, establish a 5 lb EOD range in the southwest corner of the Southern Area, establish a suspect vehicle holding and Multi-Cube munitions storage facility south of the current MSA, and demolish the five abandoned structures in the Navy MSA.

• Alternative 2, Alternate Fencing – Under Alternative 2, all components of Alternative 1 would be implemented except for the fencing south of the MSA area.

• Alternative 3, all new proposed features described under Alternative 1 would be the same except the location of the new EOD Range, which would be located north of the MSA Area instead of southwest.

f. Point of Contact:

Name: Lesley Hamilton
Title: Sr Assoc
Organization: Cardno
Email:
Phone Number:

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

_____ applicable
__X__ not applicable

Total combined direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the "worst-case" and "steady state" (net gain/loss upon action fully implemented) emissions.

"Air Quality Indicators" were used to provide an indication of the significance of potential impacts to air quality. An Air Quality Indicator value of 250 tons/yr is used based on EPA's PSD threshold. Therefore, the worst-case year emissions were compared against the Air Quality Indicator and are summarized below.

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

Analysis Summary:

2021

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.135	250	No
NOx	0.219	250	No
CO	0.082	250	No
SOx	0.001	250	No
PM 10	2.053	250	No
PM 2.5	0.007	250	No
Pb	0.000	25	No
NH3	0.001	250	No
CO2e	68.2		

2022 - (Steady State)

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated emissions associated with this action are above the GCR indicators, indicating no significant impact to air quality; therefore, no further air assessment is needed.

Lesley Hamilton

Lesley Hamilton, Sr Assoc

5/8/2020

DATE

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location

Base: DOBBINS JARB
State: Georgia
County(s): Cobb
Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: Modifications to Southern Training Area - Dobbins ARB

- Project Number/s (if applicable):

- Projected Action Start Date: 2 / 2021

- Action Purpose and Need:

The purpose of the Proposed Action is to provide a new 5-lb Proficiency EOD Range to meet EOD training mission requirements for deployable personnel; and to provide a new Munitions Storage Area (MSA) and associated structures to maintain the Intermagazine (IM) and intraline (IL) separation required by the DDESB needed to protect MSA and non-MSA personnel. It is also proposed to meet the requirements of Air Force Manual (AFM) AFMAN 1991-201, Explosives Safety Standards, and provide additional munitions storage;, and remove existing waivers. In addition, the purpose is to reconfigure the area in a manner that will maximize the usable space and to ensure efficient use of the area for the training and operations for the foreseeable future.

- Action Description:

• Alternative 1, Preferred Alternative – This alternative would relocate the MSA administrative building outside of the controlled MSA area, add munitions storage capacity, establish a 5 lb EOD range in the southwest corner of the Southern Area, establish a suspect vehicle holding and Multi-Cube munitions storage facility south of the current MSA, and demolish the five abandoned structures in the Navy MSA.

• Alternative 2, Alternate Fencing – Under Alternative 2, all components of Alternative 1 would be implemented except for the fencing south of the MSA area.

• Alternative 3, all new proposed features described under Alternative 1 would be the same except the location of the new EOD Range, which would be located north of the MSA Area instead of southwest.

- Point of Contact

Name: Lesley Hamilton
Title: Sr Assoc
Organization: Cardno
Email:
Phone Number:

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Develop MSA area and EOD Range

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Activity Location
County: Cobb
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Develop MSA area and EOD Range

- Activity Description:
- Construct Suspect Vehicle Holding Area and 16-Bay Multi-Cube Munitions Storage Facility
- Construct MSA Administrative Building and Upgrade MSA
- Construct New EOD Range

- Activity Start Date
Start Month: 2
Start Month: 2021

- Activity End Date
Indefinite: False
End Month: 12
End Month: 2021

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.135132
SO_x	0.000590
NO_x	0.219298
CO	0.081744
PM 10	2.053377

Pollutant	Total Emissions (TONs)
PM 2.5	0.006932
Pb	0.000000
NH_3	0.001284
CO_2e	68.2

2.1 Site Grading Phase

2.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 2
Start Quarter: 1
Start Year: 2021

- Phase Duration
Number of Month: 1
Number of Days: 0

2.1.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 204761
Amount of Material to be Hauled On-Site (yd^3): 9769
Amount of Material to be Hauled Off-Site (yd^3): 11538

- Site Grading Default Settings
Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of	Hours Per Day

	Equipment	

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 12
Average Hauling Truck Round Trip Commute (mile): 20

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.273	000.002	000.207	003.148	000.007	000.006		000.023	00320.956
LDGT	000.345	000.003	000.366	004.453	000.009	000.008		000.024	00414.257
HDGV	000.716	000.005	000.988	014.742	000.020	000.017		000.044	00766.469
LDDV	000.103	000.003	000.133	002.604	000.004	000.004		000.008	00312.295
LDDT	000.240	000.004	000.378	004.437	000.007	000.006		000.008	00443.620
HDDV	000.494	000.013	004.839	001.748	000.167	000.153		000.028	01500.756
MC	002.588	000.003	000.723	013.090	000.027	000.024		000.054	00395.915

2.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.2 Trenching/Excavating Phase

2.2.1 Trenching / Excavating Phase Timeline Assumptions

- Phase Start Date
Start Month: 5
Start Quarter: 1
Start Year: 2021

- Phase Duration
Number of Month: 0
Number of Days: 15

2.2.2 Trenching / Excavating Phase Assumptions

- General Trenching/Excavating Information
Area of Site to be Trenched/Excavated (ft^2): 1800
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 0

- Trenching Default Settings

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 12
Average Hauling Truck Round Trip Commute (mile): 20

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.2.3 Trenching / Excavating Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.273	000.002	000.207	003.148	000.007	000.006		000.023	00320.956
LDGT	000.345	000.003	000.366	004.453	000.009	000.008		000.024	00414.257
HDGV	000.716	000.005	000.988	014.742	000.020	000.017		000.044	00766.469
LDDV	000.103	000.003	000.133	002.604	000.004	000.004		000.008	00312.295
LDDT	000.240	000.004	000.378	004.437	000.007	000.006		000.008	00443.620
HDDV	000.494	000.013	004.839	001.748	000.167	000.153		000.028	01500.756
MC	002.588	000.003	000.723	013.090	000.027	000.024		000.054	00395.915

2.2.4 Trenching / Excavating Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)

2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.3 Building Construction Phase

2.3.1 Building Construction Phase Timeline Assumptions

- Phase Start Date

Start Month: 4
Start Quarter: 1
Start Year: 2021

- Phase Duration

Number of Month: 9
Number of Days: 0

2.3.2 Building Construction Phase Assumptions

- General Building Construction Information

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Building Category: Office or Industrial
Area of Building (ft^2): 33546
Height of Building (ft): 10
Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips
Average Vendor Round Trip Commute (mile): 40

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

2.3.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.273	000.002	000.207	003.148	000.007	000.006		000.023	00320.956
LDGT	000.345	000.003	000.366	004.453	000.009	000.008		000.024	00414.257
HDGV	000.716	000.005	000.988	014.742	000.020	000.017		000.044	00766.469
LDDV	000.103	000.003	000.133	002.604	000.004	000.004		000.008	00312.295
LDDT	000.240	000.004	000.378	004.437	000.007	000.006		000.008	00443.620
HDDV	000.494	000.013	004.839	001.748	000.167	000.153		000.028	01500.756
MC	002.588	000.003	000.723	013.090	000.027	000.024		000.054	00395.915

2.3.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment

WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = BA * BH * (0.42 / 1000) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.4 Architectural Coatings Phase

2.4.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date
Start Month: 8
Start Quarter: 1
Start Year: 2021

- Phase Duration
Number of Month: 1
Number of Days: 0

2.4.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information
Building Category: Non-Residential
Total Square Footage (ft^2): 9671
Number of Units: N/A

- Architectural Coatings Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.4.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.273	000.002	000.207	003.148	000.007	000.006		000.023	00320.956
LDGT	000.345	000.003	000.366	004.453	000.009	000.008		000.024	00414.257
HDGV	000.716	000.005	000.988	014.742	000.020	000.017		000.044	00766.469
LDDV	000.103	000.003	000.133	002.604	000.004	000.004		000.008	00312.295
LDDT	000.240	000.004	000.378	004.437	000.007	000.006		000.008	00443.620
HDDV	000.494	000.013	004.839	001.748	000.167	000.153		000.028	01500.756
MC	002.588	000.003	000.723	013.090	000.027	000.024		000.054	00395.915

2.4.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase
$VMT_{WT} = (1 * WT * PA) / 800$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)

WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
$VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0$

VOC_{AC}: Architectural Coating VOC Emissions (TONs)
BA: Area of Building (ft^2)
2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)
0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

2.5 Paving Phase

2.5.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 7
Start Quarter: 1
Start Year: 2021

- Phase Duration
Number of Month: 1
Number of Days: 0

2.5.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 12300

- Paving Default Settings
Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.5.3 Paving Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.273	000.002	000.207	003.148	000.007	000.006		000.023	00320.956
LDGT	000.345	000.003	000.366	004.453	000.009	000.008		000.024	00414.257
HDGV	000.716	000.005	000.988	014.742	000.020	000.017		000.044	00766.469
LDDV	000.103	000.003	000.133	002.604	000.004	000.004		000.008	00312.295
LDDT	000.240	000.004	000.378	004.437	000.007	000.006		000.008	00443.620
HDDV	000.494	000.013	004.839	001.748	000.167	000.153		000.028	01500.756
MC	002.588	000.003	000.723	013.090	000.027	000.024		000.054	00395.915

2.5.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
$VOC_P = (2.62 * PA) / 43560$

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / acre)^2 / acre)