FINDING OF NO SIGNIFICANT IMPACT
FINDING OF NO PRACTICABLE ALTERNATIVE

ARMED OVERWATCH ENVIRONMENTAL ASSESSMENT
WILL ROGERS AIR NATIONAL GUARD BASE, OKLAHOMA

BACKGROUND

Will Rogers Air National Guard Base (WRANGB) proposes to beddown new OA-1K aircraft at WRANGB performing close air support, precision strike, and armed Intelligence, Surveillance, and Reconnaissance (ISR) while recapitalizing the current MC-12 aircraft and to implement 23 Armed Overwatch (AO) mission support and general support activities. Up to 28 AO aircraft will replace the current fleet of 13 MC-12 aircraft between Fiscal Year (FY) 2024 and FY 2028.

PURPOSE AND NEED

The purpose of the Proposed Action is three-fold: 1) to beddown new OA-1K aircraft at WRANGB performing close air support, precision strike, and armed ISR while recapitalizing the current MC-12 aircraft, 2) to implement nine AO mission supporting projects at WRANGB responding to operational, maintenance, and physical needs associated with the beddown, and 3) to implement 14 additional actions supporting WRANGB operations satisfying current environmental, safety, and security standards.

The Proposed Action is needed to support the Department of the Air Force's (DAF) directive to establish and maintain an ISR mission. Department of Defense (DoD) Directive (DoDD) 5100.01, *Functions of the Department of Defense and Its Major Components*, directs the DAF to provide a timely, globally integrated ISR capability and capacity from forward-deployed locations and globally distributed centers to support world-wide operations. Core ISR objectives include intelligence gathering and providing direct support to ground force operations. In addition to providing direct support to ground forces, ISR operations are also conducted to inform strategy, planning, and assessment.

Pursuant to the provisions of the National Environmental Policy Act (NEPA) of 1969, as amended (42 United States Code 4321 et seq.), the White House Council on Environmental Quality (CEQ) regulations implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500–1508), and the DAF Environmental Impact Analysis Process (EIAP) (32 CFR Part 989), the Air Force has prepared an Environmental Assessment (EA) that analyzes the potential environmental consequences associated with implementing the Proposed Action. Details of the environmental effects can be found in the *Armed Overwatch at Will Rogers Air National Guard Base Environmental Assessment*, which is included as a reference. This Finding of No Significant Impact (FONSI) summarizes the alternatives considered and explains why the project was designed and sited as proposed.

PROPOSED ACTION

Under the Proposed Action, WRANGB would beddown new OA-1K aircraft performing close air support, precision strike, and armed ISR while recapitalizing the current MC-12 aircraft. Up to 28 OA-1K aircraft would replace the current fleet of 13 MC-12 aircraft between FY 2024 and FY 2028.

Current MC-12 operations include approximately 19 sorties per day; operations would be expanded to approximately 35 OA-1K sorties per day. Flying time for the fleet would increase from approximately 5,500

hours/year to approximately 16,140 hours/year, and a net gain of approximately 150-200 personnel would result.

Maintenance operations associated with the new OA-1K aircraft would be similar to operations associated with the current MC-12 aircraft. Aerospace Ground Equipment (AGE) requirements would be similar between the two aircraft. Aircraft painting would consist of touch-up painting only; whole plane painting operations would be performed at a depot-level maintenance facility. An engine test cell would not be located at WRANGB but would instead be located at a depot-level maintenance facility. Bird/Wildlife Aircraft Strike Hazard (BASH) mitigation strategies would not change from current WRANGB operations.

Additionally, nine AO mission supporting projects are considered as part of the Proposed Action.

- Project 1 – Contract Logistics Support Storage facility.
- Project 2 – AO Aircraft Parking ramp improvements.
- Project 3 – Arm/De-Arm Pad.
- Project 4 – Squad Operations/Hangar.
- Project 5 – R-11 Refueler Parking.
- Project 6 – AeroMedical and Mission Rehearsal Team facility.
- Project 7 – Formal Training Unit Administration and Simulators facility.
- Project 8 – Formal Training Unit Administration facility renovation.
- Project 9 – Munitions Storage Area.

Finally, 14 WRANGB operations supporting projects are considered as part of the Proposed Action.

- Project 10 – Indoor Combat Arms Training and Maintenance facility.
- Project 11 – Fire Department Addition/Alteration.
- Project 12 – Install Backup Generator in Building 1001.
- Project 13 – Gymnasium/Logistics Readiness Squadron facility.
- Project 14 – Modify Entry Control facility.
- Project 15 – Civil Engineering facility renovation.
- Project 16 – Construct Building 1047 loading ramp.
- Project 17 – Building 1043 UST/AST conversion.
- Project 18 – Relocate C-130 training aid.
- Project 19 – Construct Combined Base Supply/Equipment Storage and Hazardous Materials Storage facility.
- Project 20 – Construct Wash Rack.
- Project 21 – Construct Intel facility.
- Project 22 – Renovate Building 1040.
- Project 23 – Construct Remaining MSA projects.

NO ACTION ALTERNATIVE

The No Action Alternative serves as a benchmark against which the effects of the Proposed Action can be evaluated. For this project, the No Action Alternative is defined as not taking any further action with regards to aircraft beddown/recapitalization, AO support projects, or WRANGB support projects. The current ISR mission utilizing MC-12 aircraft would continue until 2027, when the MC-12 aircraft is retired, and the program closes.

The No Action Alternative is not considered a reasonable alternative because it does not meet the purpose of and need for the Proposed Action. However, as required under CEQ regulations (40 CFR 1502.14[c]),

the No Action Alternative does provide a description of the baseline conditions against which the impacts of the Proposed Action can be compared.

SUMMARY OF FINDINGS

The Proposed Action would not involve changes to, or use of, aesthetics, land use, or infrastructure/utilities; therefore, these areas were not carried forward for detailed analysis in the EA. Environmental resource areas fully analyzed in the EA included Airspace, Air Quality and Climate Change; Cultural Resources; Biological and Natural Resources; Water Resources; Floodplains, Wetlands, and Coastal Zone Management; Geology and Soils; Noise and Vibration; Solid and Hazardous Materials/Waste; Transportation and Parking; Safety and Occupational Health; Socioeconomics; Community Services; and Environmental Justice. The analyses of the potential environmental consequences associated with implementing the Proposed Action and the No Action Alternative are presented in Chapter 3 of the EA. Based on the analysis, no significant environmental impacts associated with implementation of the Proposed Action were identified.

AGENCY AND PUBLIC COMMENT

As stated in the DAF's Environmental Impact Assessment Process (EIAP) (32 CFR Part 989), public involvement for an EA may include public engagement during scoping and drafting and finalizing the EA through publication of notices or public meetings. The public involvement process for this EA consisted of availability of a Draft EA, publication of a Notice of Availability (NOA) of the Draft EA, and a public comment period on the Draft EA.

The DAF's EIAP states that the EA process must include at least a 30-day public comment period on the Draft EA, which starts with the publication of a NOA. The NOA of the Draft EA was published in The Oklahoman on March 3 and 4, 2024. A copy of the Draft EA was made available at the Ronald J. Norick Downtown Library from March 3, 2024, to April 2, 2024. An electronic version of the Draft EA was also made available on the 137 SOW public website.

WRANGB consulted with the Oklahoma Historical Society (Oklahoma State Historic Preservation Office), the Oklahoma Archaeological Survey, and 38 federally-recognized tribes that are historically affiliated with the Oklahoma per Section 106 of the National Historic Preservation Act. The Oklahoma Historical Society and the Oklahoma Archaeological Society concurred that Buildings 1007, 1008, 1009, 1010, 1013, 1016, 1020, and 1022 are not eligible for the National Register of Historic Places. The Caddo Nation of Oklahoma, the Cherokee Nation, and the Chickasaw Nation issued findings of no effect. The Quapaw Nation responded declining to comment on the project. The remaining tribes have not yet responded.

FINDING OF NO PRACTICABLE ALTERNATIVE

The Proposed Action would not negatively impact the natural and beneficial value of the floodplain because the structures and site improvements would be designed to ensure that the post-project hydrology mirrors pre-project hydrology to the maximum extent technically feasible with respect to temperature, rate, volume, and duration of flow. Therefore, although being completed in the floodplain, the Proposed Action would have no significant impacts to the floodplain.

FINDING OF NO SIGNIFICANT IMPACT

Based upon my review of the facts and analyses contained in the attached EA, conducted under the provisions of NEPA, CEQ Regulations, and 32 CFR Part 989, I conclude that implementing the Proposed Action to beddown new OA-1K aircraft at WRANGB, to implement nine AO mission supporting projects

at WRANGB, and to implement 14 additional actions supporting WRANGB operations will not have a significant environmental impact, either directly or cumulatively, in conjunction with other projects at WRANGB. Accordingly, an Environmental Impact Statement is not necessary and will not be prepared. The signing of this FONSI/FONPA completes the environmental impact analysis process.

MARK V. HEWETT, P.E., GS-15, DAF
Chief, Asset Management Division

U.S. Army Corps of Engineers, Tulsa District
2488 E. 81st St., Tulsa, OK 74137-4290

DRAFT

Environmental Assessment

Armed Overwatch at Will Rogers Air National Guard Base, Oklahoma

February 2024

Contract Number: W912BV-22-D-0003
Task Order: W912BV22F0115

Prepared by:

Auxilio Management Services
51 West 4th Avenue
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DRAFT

ENVIRONMENTAL ASSESSMENT

Armed Overwatch at Will Rogers Air National Guard Base, OK

Prepared By:

National Guard Bureau

with

Auxilio Management Services

February 2024

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COVER SHEET

Title: Armed Overwatch (AO) Environmental Assessment (EA) for Will Rogers Air National Guard Base (WRANGB), Oklahoma (OK).

Responsible Agency: National Guard Bureau (NGB); WRANGB, 137th Special Operations Wing, Civil Engineering Squadron

Cooperating Agency: Federal Aviation Administration (FAA)

Designation: Draft

Point of Contact: Johnna Scepansky, NGB; Tom Ryan, WRANGB; Dean McMath, FAA

Abstract: NGB/WRANGB prepared this EA to assess the potential environmental impacts associated with the recapitalization of MC-12 Aircraft and the beddown of new OA-1K aircraft at WRANGB in Oklahoma City, OK. FAA is supporting EA preparation as a cooperating agency.

The purpose of the Proposed Action is three-fold: 1) to beddown new OA-1K aircraft at WRANGB performing close air support, precision strike, and armed Intelligence, Surveillance, and Reconnaissance (ISR) while recapitalizing the current MC-12 aircraft, 2) to implement nine mission supporting projects at WRANGB responding to operational, maintenance, and physical needs associated with the beddown, and 3) to implement 14 additional actions supporting WRANGB operations satisfying current environmental, safety, and security standards.

NGB/WRANGB prepared this EA in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code 4321 et seq.), the White House Council on Environmental Quality (CEQ) Regulations Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] 1500–1508, as amended), and the Department of the Air Force (DAF) Environmental Impact Analysis Process (EIAP) (32 CFR Part 989).

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EXECUTIVE SUMMARY

Will Rogers Air National Guard Base (WRANGB), located in Oklahoma County, proposes to beddown new OA-1K aircraft at WRANGB performing close air support, precision strike, and armed Intelligence, Surveillance, and Reconnaissance (ISR) while recapitalizing the current MC-12 aircraft and to implement 23 Armed Overwatch (AO) mission support and general support activities. Up to 28 aircraft will replace the current fleet of 13 MC-12 aircraft between Fiscal Year (FY) 2024 and FY 2028.

The purpose of the Proposed Action is three-fold: 1) to beddown new OA-1K aircraft at WRANGB performing close air support, precision strike, and armed ISR while recapitalizing the current MC-12 aircraft, 2) to implement nine mission supporting projects at WRANGB responding to operational, maintenance, and physical needs associated with the beddown, and 3) to implement 14 additional actions supporting WRANGB operations satisfying current environmental, safety, and security standards.

National Guard Bureau (NGB)/WRANGB prepared this Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code 4321 et seq.), the White House Council on Environmental Quality (CEQ) Regulations Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] 1500–1508, as amended), and the Department of the Air Force (DAF) Environmental Impact Analysis Process (EIAP) (32 CFR Part 989). The Federal Aviation Administration (FAA) is supporting EA preparation as a cooperating agency.

The EA provides sufficient evidence and analysis for determining whether an action would cause significant environmental impacts requiring an Environmental Impact Statement (EIS) or the agency can issue a Finding of No Significant Impact (FONSI) (40 CFR 1508.1(l)). A FONSI is a decision document that briefly presents the reasons why an action would not have a significant effect on the human or natural environment (40 CFR 1508.1(m)). As required by NEPA and the implementing regulations from the CEQ and the Department of the Air Force (DAF), the alternative of taking no action is evaluated, providing a baseline for comparison of potential impacts from the action alternatives. If the selected alternative would include construction activities within a wetland or a floodplain, a Finding of No Practical Alternative (FONPA) would be prepared in conjunction with the FONSI.

Table ES-1 summarizes the anticipated environmental impacts associated with implementation of the Proposed Action. Based on the information and analysis presented in this EA, NGB/WRANGB has determined that there would be no significant environmental impacts associated with implementing the armed overwatch activities at WRANGB. Therefore, this EA concludes that a FONSI/FONPA is appropriate, and that an EIS is not required.

A Notice of Availability (NOA) was published in the Oklahoman on March 3-4, 2024, to initiate the 30-day public review period. The Draft EA was made available from March 3, 2024, to April 2, 2024, at the Ronald J. Norick Downtown Library and on the 137 SOW public website (https://www.137sow.ang.af.mil/).

Table ES-1. Summary of Environmental Effects of the Alternatives

Resource Area	Proposed Action	No Action Alternative
Airspace	Less than significant impact	No impact
Aesthetics	Less than significant impact	No impact
Air Quality and Climate Change (Greenhouse Gas Emissions)	Less than significant impact	No impact
Cultural Resources	Not likely to cause adverse effects	No effect
Biological and Natural Resources	Less than significant impact	No impact
Water Resources	Less than significant impact	No impact
Floodplains, Wetlands, and Coastal Zone Management	Less than significant impact	No impact
Geology and Soils	Less than significant impact	No impact
Noise and Vibration/Acoustic Environment	Less than significant impact	No impact
Land Use	No impact	No impact
Infrastructure and Utilities	Less than significant impact	No impact
Solid and Hazardous Materials/Waste	Less than significant impact	No impact
Transportation and Parking	Less than significant impact	No impact
Safety and Occupational Health	Less than significant impact	No impact
Socioeconomics	Less than significant and potentially beneficial impact	Less than significant impact
Community Services	Less than significant and potentially beneficial impact	No impact
Environmental Justice	No disproportionate impact	No disproportionate impact

1

DRAFT

ENVIRONMENTAL ASSESSMENT

Armed Overwatch at Will Rogers Air National Guard Base, Oklahoma

TABLE OF CONTENTS

Section **Page**

COVER SHEET ..... **I**

EXECUTIVE SUMMARY ..... **III**

CHAPTER 1 PURPOSE OF AND NEED FOR ACTION **1-1**

1.1 INTRODUCTION 1-1
1.2 BACKGROUND 1-1
1.3 PURPOSE OF PROPOSED ACTION 1-2
1.4 NEED FOR PROPOSED ACTION 1-2
1.5 COORDINATION AND CONSULTATIONS 1-5
1.5.1 Cooperating Agencies 1-5
1.5.2 Interagency and Intergovernmental Coordination and Consultations 1-6
1.5.3 Government to Government Consultations 1-6
1.6 PUBLIC AND AGENCY REVIEWS 1-6

CHAPTER 2 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES **2-1**

2.1 DEVELOPMENT OF ALTERNATIVES 2-1
2.1.1 Proposed Action 2-1
2.1.2 No Action Alternative 2-16
2.2 RESOURCE AREAS ELIMINATED FROM DETAILED ANALYSIS 2-17
2.2.1 Aesthetics 2-17
2.2.2 Land Use 2-18
2.2.3 Infrastructure and Utilities 2-19

CHAPTER 3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES OF THE ALTERNATIVES **3-1**

3.1 INTRODUCTION 3-1
3.2 AIRSPACE 3-1
3.2.1 Affected Environment 3-2
3.2.2 Environmental Consequences 3-2
3.2.3 Cumulative Effects 3-4
3.3 AIR QUALITY AND CLIMATE CHANGE (GREENHOUSE GAS EMISSIONS) 3-4
3.3.1 Affected Environment 3-5
3.3.2 Environmental Consequences 3-6
3.3.3 Cumulative Effects 3-8
3.4 CULTURAL RESOURCES 3-9
3.4.1 Affected Environment 3-9
3.4.2 Environmental Consequences 3-11
3.4.3 Cumulative Effects 3-14
3.5 BIOLOGICAL AND NATURAL RESOURCES 3-14

Section **Page**

3.5.1 Affected Environment 3-14
3.5.2 Environmental Consequences 3-17
3.5.3 Cumulative Effects 3-19
3.6 WATER RESOURCES 3-19
3.6.1 Affected Environment 3-19
3.6.2 Environmental Consequences 3-22
3.6.3 Cumulative Effects 3-23
3.7 FLOODPLAINS, WETLANDS, AND COASTAL ZONE MANAGEMENT 3-23
3.7.1 Affected Environment 3-24
3.7.2 Environmental Consequences 3-30
3.7.3 Cumulative Effects 3-31
3.8 GEOLOGY AND SOILS 3-31
3.8.1 Affected Environment 3-31
3.8.2 Environmental Consequences 3-32
3.8.3 Cumulative Effects 3-33
3.9 NOISE AND VIBRATION / ACOUSTIC ENVIRONMENT 3-33
3.9.1 Affected Environment 3-34
3.9.2 Environmental Consequences 3-35
3.9.3 Cumulative Effects 3-36
3.10 SOLID AND HAZARDOUS MATERIALS/WASTE 3-37
3.10.1 Affected Environment 3-37
3.10.2 Environmental Consequences 3-40
3.10.3 Cumulative Effects 3-41
3.11 TRANSPORTATION AND PARKING 3-41
3.11.1 Affected Environment 3-41
3.11.2 Environmental Consequences 3-42
3.11.3 Cumulative Effects 3-43
3.12 SAFETY AND OCCUPATIONAL HEALTH 3-43
3.12.1 Affected Environment 3-44
3.12.2 Environmental Consequences 3-45
3.12.3 Cumulative Effects 3-45
3.13 SOCIOECONOMICS 3-46
3.13.1 Affected Environment 3-46
3.13.2 Environmental Consequences 3-46
3.13.3 Cumulative Effects 3-47
3.14 COMMUNITY SERVICES 3-47
3.14.1 Affected Environment 3-47
3.14.2 Environmental Consequences 3-47
3.14.3 Cumulative Effects 3-48
3.15 ENVIRONMENTAL JUSTICE 3-48
3.15.1 Affected Environment 3-48
3.15.2 Environmental Consequences 3-49
3.15.3 Cumulative Effects 3-49

CHAPTER 4 PERSONS AND AGENCIES CONSULTED/COORDINATED 4-1

Section **Page**

4.1 NEPA Process and Public Involvement 4-1
4.2 Agency Coordination 4-1
4.3 Permits and Approvals 4-4

CHAPTER 5 REFERENCES....5-1

CHAPTER 6 LIST OF PREPARERS....6-1

CHAPTER 7 LIST OF ACRONYMS AND ABBREVIATIONS....7-1

APPENDIX A – INTERAGENCY/INTERGOVERNMENTAL CORRESPONDENCE....A-1

APPENDIX B – AIR QUALITY DETAILED ANALYSIS....B-1

APPENDIX C – BIOLOGICAL ASSESSMENT....C-1

APPENDIX D – BIOLOGICAL EVALUATION....D-1

APPENDIX E – NOISE DETAILED ANALYSIS....E-1

List of Figures

Figure **Page**

Figure 1-1. WRANGB Location....1-3
Figure 1-2. WRANGB General Vicinity....1-5
Figure 2-1. Project 1 Area (Contract Logistics Support Storage)....2-2
Figure 2-2. Project 2 Area (Aircraft Parking)....2-3
Figure 2-3. Project 3 Area (Arm/De-Arm Pad)....2-4
Figure 2-4. Project 4 Area (Squad Operations/Hangar)....2-4
Figure 2-5. Project 5 Area (R-11 Refueler Parking)....2-5
Figure 2-6. Project 6 Area (AeroMedical and Mission Rehearsal Team)....2-6
Figure 2-7. Project 7 Area (Formal Training Unit Administration and Simulators)....2-6
Figure 2-8. Project 8 Area (Formal Training Unit Administration [Building 1052])....2-7
Figure 2-9. Project 9 Area (Munitions Storage Area)....2-8
Figure 2-10. Project 10 Area (Indoor Combat Arms Training and Maintenance Facility)....2-8
Figure 2-11. Project 11 Area (Fire Department Addition/Alteration)....2-9
Figure 2-12. Project 12 Area (Install Backup Generator in Building 1001)....2-10
Figure 2-13. Project 13 Area (Gymnasium/Logistics Readiness Squadron)....2-10
Figure 2-14. Project 14 Area (Modify Entry Control Facility)....2-11
Figure 2-15. Project 15 Area (Civil Engineering)....2-12
Figure 2-16. Project 16 Area (Construct Building 1047 Loading Ramp)....2-12

Figure **Page**

Figure 2-17. Project 17 Area (Building 1043 UST/AST Conversion)....2-13
Figure 2-18. Project 18 Area (Relocate C-130 Training Aid) 2-14
Figure 2-19. Project 19 Area (Construct Combined Base Supply/Equipment Storage and Hazardous Materials Storage) 2-14
Figure 2-20. Project 20 Area (Construct Wash Rack) 2-15
Figure 2-21. Project 21 Area (Intel Facility)....2-15
Figure 2-22. Project 22 Area (Renovate Building 1040) 2-16
Figure 2-23. Project 23 Area (Construct Remaining MSA Projects)....2-17
Figure 2-24. Area Land Uses 2-19
Figure 3-1. WRWA Airport Diagram....3-3
Figure 3-2. Maintenance Hangar (Building 1011) – East Elevation....3-11
Figure 3-3. Regional Surface Waters....3-21
Figure 3-4. Floodplains on WRANGB 3-25
Figure 3-5. Streams and Wetlands on WRANGB 3-26
Figure 3-6. Streams and Wetlands on WRWA (1 of 3) 3-27
Figure 3-7. Streams and Wetlands on WRWA (2 of 3) 3-28
Figure 3-8. Streams and Wetlands on WRWA (3 of 3) 3-29
Figure 3-8. WRANGB Soil Type Distribution 3-32
Figure 3-9. Areas of Environmental Contamination....3-39
Figure 3-10. Area Roadway Usage....3-42

List of Tables

Table **Page**

Table ES-1. Summary of Environmental Effects of the Alternatives iv
Table 3-1. 2018 Emissions for Significant Stationary Sources at WRANGB 3-5
Table 3-2. Estimated Emissions (Maximum Emissions Year by Project) 3-7
Table 3-3. Cold War Era Buildings at WRANGB that could be affected by the Proposed Action 3-10
Table 3-4. Potential effects of the proposed action to historic properties at WRANGB 3-12
Table 3-5. WRANGB Soil Types 3-32
Table 3-6. Socioeconomic Statistics 3-46
Table 3-7. Environmental Justice Statistics 3-49
Table 4-1. Interagency Correspondence List 4-1
Table 4-2. Tribal Correspondence List 4-2
Table 4-3. Environmental Permits and Agreements 4-4

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CHAPTER 1
PURPOSE OF AND NEED FOR ACTION

1.1 INTRODUCTION

Will Rogers Air National Guard Base (WRANGB), located in Oklahoma County, proposes to beddown new OA-1K aircraft at WRANGB performing close air support, precision strike, and armed Intelligence, Surveillance, and Reconnaissance (ISR) while recapitalizing the current MC-12 aircraft, and to implement 23 Armed Overwatch (AO) mission support and general support activities. Up to 28 aircraft will replace the current fleet of 13 MC-12 aircraft between Fiscal Year (FY) 2024 and FY 2028.

This section provides a description of the Proposed Action, a statement of the purpose and need for the Proposed Action, and an overview of the scope of the environmental analysis, regulatory framework, public involvement activities, and other analyses relevant to the action.

1.2 BACKGROUND

The Oklahoma Air National Guard's 137th Special Operations Wing (137 SOW) is located at Will Rogers World Airport (WRWA), approximately 7 miles southwest of Oklahoma City's downtown business district, which is located in central Oklahoma (see Figure 1-1). WRANGB occupies approximately 135 acres on the northwestern corner of the WRWA (see Figure 1-2). WRWA is owned by the City of Oklahoma City. Title to airport property is held in trust for the City by the Oklahoma City Airport Trust, which oversees the management of WRWA for the City. The 137 SOW is a tenant at the airport (the Federal government leases the property from the City and licenses it to the Oklahoma Air National Guard) and is a co-user of the airport's runways, supporting taxiway system, and Federal Aviation Administration (FAA) Air Traffic Control (ATC) Tower. The airport's primary access roadway, Meridian Avenue, is located immediately south of State Highway 152 (Airport Road) and west of U.S. Interstate 44.

The 137 SOW was previously designated the 137 Airlift Wing (AW), which was founded in 1946 as the 137th Fighter Group and was federally recognized the following year. In 1949, the wing moved from its original location at Norman, Oklahoma, to its present location at WRANGB. During the Korean Conflict, the 137 AW performed combat missions. The wing received the C-97E aircraft, also known as the "Talking Bird," during the early 1960s (WRANGB 2023). Special equipment enabled this C-97E aircraft to function as an airborne command post, which transmitted secure communications between Washington, D.C. and President John F. Kennedy when he was traveling abroad. More recently, the 137 AW flew C-130H aircraft, a later version of the C-130 Hercules aircraft that had been assigned to the wing in 1974. Tasks included local disaster relief as well as worldwide counterdrug missions. As a result of Base Realignment and Closure (BRAC) recommendations issued in 2005, a portion of the 137 AW operations and maintenance moved to Tinker Air Force Base (AFB) and manned KC-135 aircraft to undertake air refueling, and the wing was designated the 137 Air Refueling Wing (ARW) (OKANG 2022). MC-12 aircraft were ultimately stationed at WRANGB in support of its ISR mission, and the wing was designated the 137 SOW.

National Guard Bureau (NGB)/WRANGB prepared this Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code 4321 et seq.), the White House Council on Environmental Quality (CEQ) Regulations Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] 1500–1508, as amended), and the Department

of the Air Force (DAF) Environmental Impact Analysis Process (EIAP) (32 CFR Part 989), to evaluate the potential environmental impacts associated with implementation of the Proposed Action. The FAA is supporting EA preparation as a cooperating agency.

The EA provides sufficient evidence and analysis for determining whether an action would cause significant environmental impacts. If significant impacts are identified, an Environmental Impact Statement (EIS) would then be required. If no significant impacts are identified, then the agency may issue a Finding of No Significant Impact (FONSI) (40 CFR 1501.6). A FONSI is a decision document that briefly presents the reasons why an action would not have a significant effect on the human environment (40 CFR 1508.1(l)). As required by NEPA and the implementing regulations from CEQ and DAF, the alternative of taking no action is evaluated, providing a baseline for comparison of potential impacts from the action alternatives.

1.3 PURPOSE OF PROPOSED ACTION

The **purpose** of the Proposed Action is three-fold: 1) to beddown new OA-1K aircraft at WRANGB performing close air support, precision strike, and armed ISR while recapitalizing the current MC-12 aircraft, 2) to implement nine mission supporting projects at WRANGB responding to operational, maintenance, and physical needs associated with the beddown, and 3) to implement 14 additional actions supporting WRANGB operations satisfying current environmental, safety, and security standards.

1.4 NEED FOR PROPOSED ACTION

The Proposed Action is **needed** to support DAF's directive to establish and maintain an ISR mission. Department of Defense (DoD) Directive (DoDD) 5100.01, *Functions of the Department of Defense and Its Major Components*, directs the DAF to provide a timely, globally integrated ISR capability and capacity from forward-deployed locations and globally distributed centers to support world-wide operations (USAF 2015). Core ISR objectives include intelligence gathering and providing direct support to ground force operations. In addition to providing direct support to ground forces, ISR operations are also conducted to inform strategy, planning, and assessment (USAF 2015).

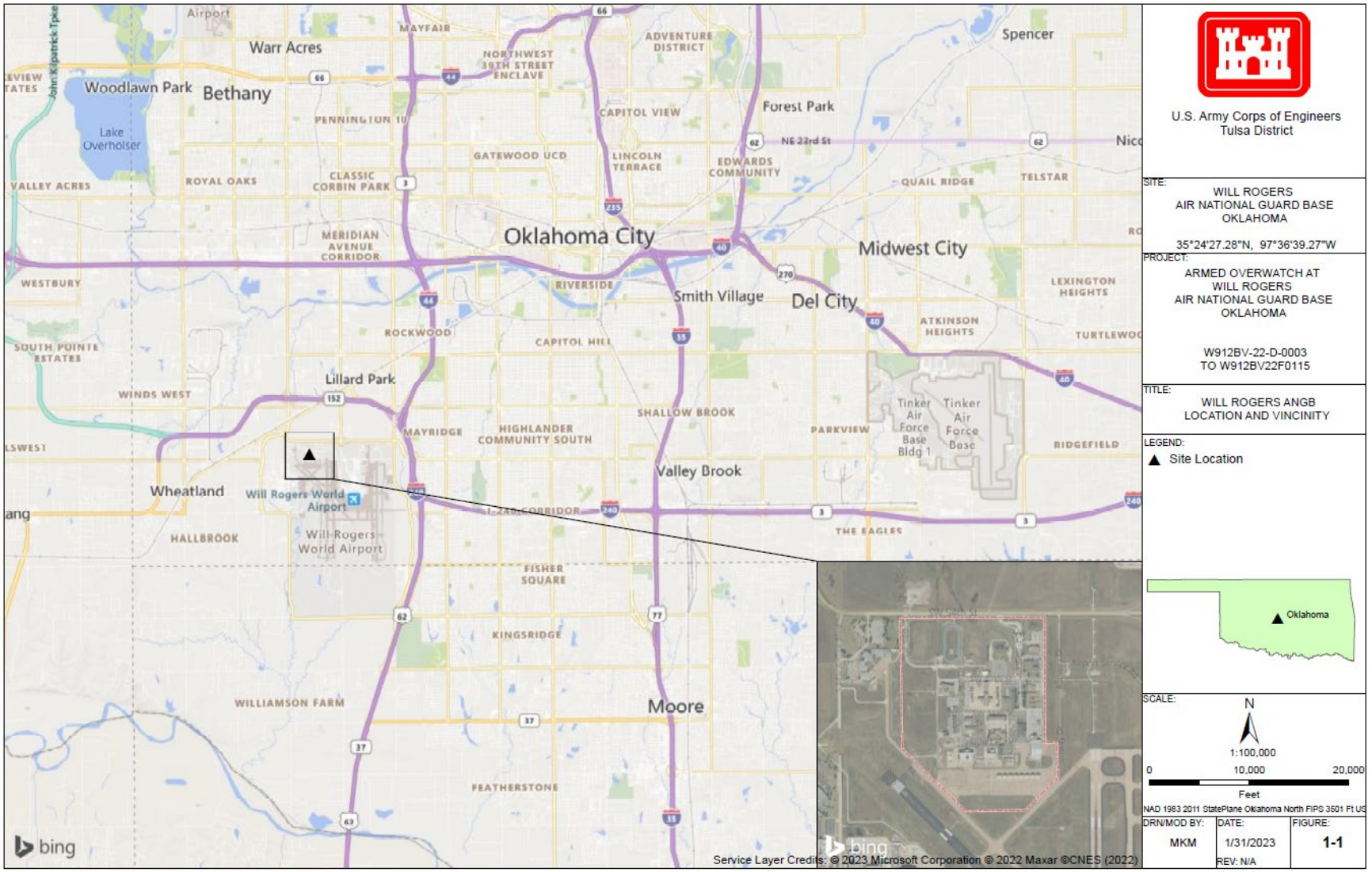

Figure 1-1. WRANGB Location

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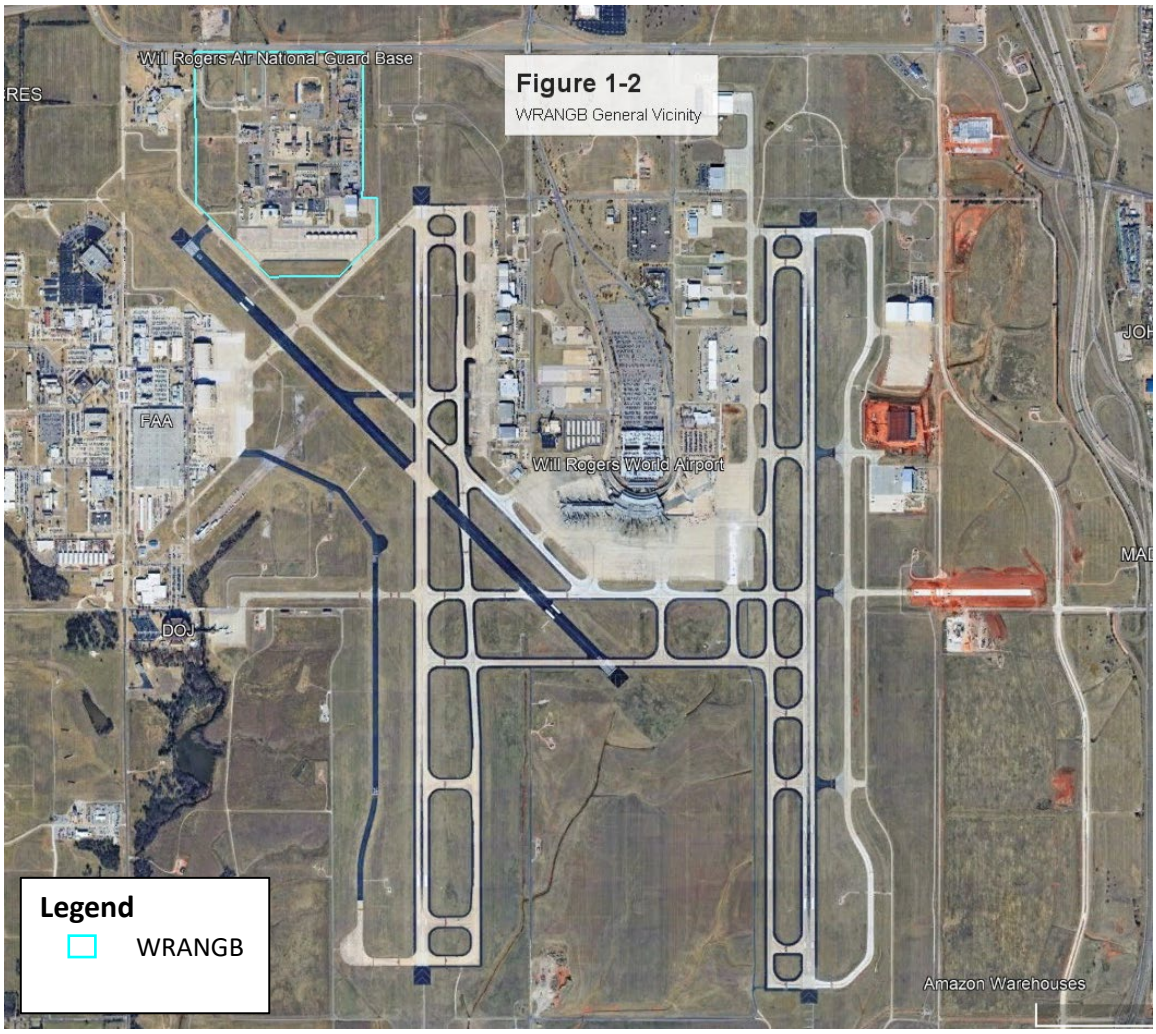

Figure 1-2. WRANGB General Vicinity

1.5 COORDINATION AND CONSULTATIONS

1.5.1 Cooperating Agencies

FAA is serving as a Cooperating Agency for this EA pursuant to 40 CFR § 1501.8. FAA has jurisdiction by law and special expertise relating to the DAF's Proposed Action where there is military use of a civil airport. FAA authorities and special expertise is based on its statutory responsibilities under the Airport and Airway Improvement Act of 1982 (49 U.S.C. § 47101) and relevant implementing regulations, as well as Section 163 of the 2018 FAA Reauthorization Act. In addition, FAA provides leadership in planning and developing a safe and efficient national airport system to satisfy the needs of the aviation interests of the United States, with consideration for economics, environmental issues, local proprietary rights, and safeguarding the public investment.

1.5.2 Interagency and Intergovernmental Coordination and Consultations

In accordance with the Intergovernmental Cooperation Act of 1968 (42 U.S.C. 4231(a)) and Executive Order (EO) 12372, *Intergovernmental Review of Federal Programs*, federal, state, and local agencies with jurisdiction that could be affected by the alternative actions will be notified and consulted during the development of this EA. Through the scoping process, WRANGB provides opportunities for the public to participate in the NEPA process to promote open communication and improve their decision-making process. All persons and organizations identified as having potential interest in the Proposed Action are encouraged to participate in the scoping process.

In accordance with 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 will be included in consultation coordination to the Oklahoma State Historic Preservation Office (SHPO) and the U.S. Fish and Wildlife Service (USFWS), respectively.

Comments and concerns submitted in these processes are subsequently incorporated into the analysis of potential environmental impacts conducted as part of the EA. Chapter 4 and Appendix A of the EA contain the list of agencies consulted during this analysis and copies of correspondence respectively.

NGB, as the responsible agency, is accountable for implementing the scoping and consultation processes. Through this process, NGB notifies relevant federal, state, and local agencies about the Proposed Action and alternatives. This coordination process provides NGB the opportunity to cooperate with and consider state and local views in implementing the Proposed Action or alternatives. As the proposed action may impact operations at WRWA, the FAA is a cooperating agency involved in the preparation of this EA.

1.5.3 Government to Government Consultations

In accordance with Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments*, DoD Instruction 4710.02, *Interactions with Federally-Recognized Tribes*, and Air Force Instruction 90-2002, *Air Force Interaction with Federally-Recognized Tribes*, federally-recognized tribes that are historically affiliated with the WRANGB 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 to all relevant tribes. The timelines for tribal consultation are also distinct from those of other consultations. The NGB point of contact for Native American tribes is the NGB Cultural Resources Program Manager. Chapter 4 and Appendix A of the EA contain the list of tribes consulted during this analysis and copies of correspondence respectively.

1.6 PUBLIC AND AGENCY REVIEWS

NEPA, 40 CFR §1500-1508, and 32 CFR §989 require public and agency review of the EA before approval of a FONSI and implementation of a Proposed Action. Consistent with DAF EIAP (32 CFR Part 989), the public involvement process for this EA will consist of an early public notice announcing the project and upcoming availability of a Draft EA, publication of a Notice of Availability (NOA) of the Draft EA, and a public comment period on the Draft EA. Public comments will be taken into consideration during preparation of the Final EA and FONSI.

The DAF's NEPA guidance states that the EA process must include at least a 30-day public comment period on the Draft EA, which starts with the publication of an NOA. A Notice of Availability (NOA) was published in the Oklahoman on March 3-4, 2024, to initiate the 30-day public review period. The Draft EA was made available from March 3, 2024, to April 2, 2024, at the Ronald J. Norick Downtown Library and on the 137 SOW public website (https://www.137sow.ang.af.mil/).

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CHAPTER 2
DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 DEVELOPMENT OF ALTERNATIVES

This chapter provides information on the Proposed Action and the No Action Alternative. The No Action Alternative serves as the baseline for identifying the impacts from the Proposed Action. NEPA, and the CEQ and DAF Instructions for implementing NEPA, require all reasonable alternatives to be rigorously explored and objectively evaluated. To identify alternatives for the Proposed Action, NGB explored and considered other reasonable alternatives to the Proposed Action. No alternatives to the Proposed Action were identified warranting evaluation in this EA. However, some elements of the Proposed Action have alternate siting locations or implementation requirements that have been taken into consideration.

2.1.1 Proposed Action

There are three primary elements of the Proposed Action: 1) to beddown new OA-1K aircraft at WRANGB performing close air support, precision strike, and armed ISR while recapitalizing the current MC-12 aircraft, 2) to implement nine mission supporting projects at WRANGB responding to operational, maintenance, and physical needs associated with the beddown, and 3) to implement 14 additional actions supporting WRANGB operations satisfying current environmental, safety, and security standards. All projects will be evaluated for potential impacts to WRWA navigational aids (e.g., reflectivity, relocation of cabling, etc.) as well as line of sight impacts to the WRWA air traffic control tower. Any identified impacts will be mitigated prior to the onset of construction activities.

2.1.1.1 Proposed Aircraft Beddown and Recapitalization

Under the Proposed Action, WRANGB would beddown new OA-1K aircraft performing close air support, precision strike, and armed ISR while recapitalizing the current MC-12 aircraft. Up to 28 OA-1K aircraft would replace the current fleet of 13 MC-12 aircraft between FY 2024 and FY 2028.

Current MC-12 operations include approximately 19 sorties per day; operations would be expanded to approximately 35 OA-1K sorties per day. Flying time for the fleet would increase from approximately 5,500 hours/year to approximately 16,140 hours/year, and a net gain of approximately 150-200 personnel would result.

Maintenance operations associated with the new OA-1K aircraft would be similar to operations associated with the current MC-12 aircraft. Aerospace Ground Equipment (AGE) requirements would be similar between the two aircraft. Aircraft painting would consist of touch-up painting only; whole plane painting operations would be performed at a depot-level maintenance facility. An engine test cell would not be located at WRANGB but would instead be located at a depot-level maintenance facility. Bird/Wildlife Aircraft Strike Hazard (BASH) mitigation strategies would not change from current WRANGB operations as current mitigation strategies are proving effective and are expected to remain so despite an increase in flight operations.

2.1.1.2 Mission Supporting Projects

The following nine mission supporting projects are considered as part of the Proposed Action.

Project 1 – Contract Logistics Support Storage

A Contract Logistics Support (CLS) storage facility is required to support operations at WRANGB. Five options for locating the CLS storage facility include: 1) renovate Building 1037, 2) expand/alter Building 1033, 3) renovate Building 1045, 4) renovate Building 1044, and 5) construct a new facility in the western portion of WRANGB (see Figure 2-1). Any of the options would support operations, with options 1 through 4 utilizing existing facilities and option 5 constructing a new facility in a currently undeveloped area. A facility area of approximately 15,000 square feet is required for a new facility, or a facility expansion area of approximately 5,300 square feet is required. The facility would be primarily utilized for parts storage.

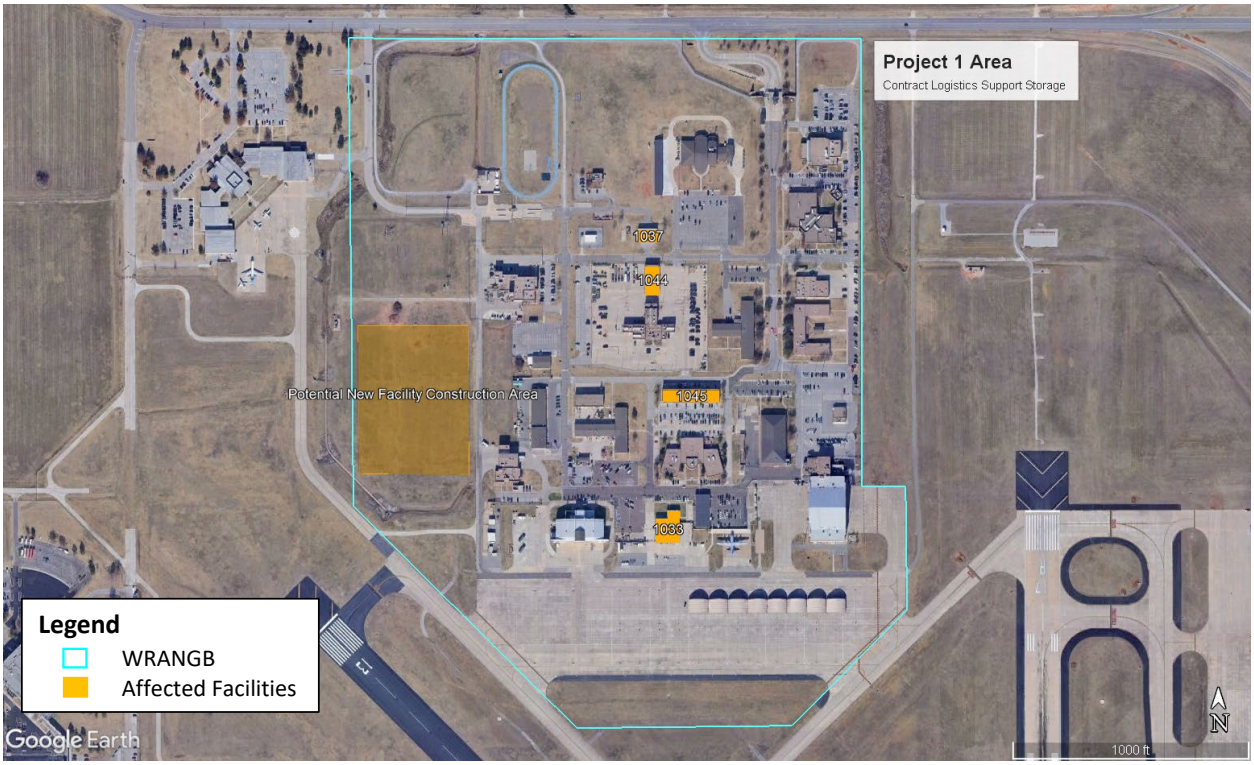


Figure 2-1. Project 1 Area (Contract Logistics Support Storage)

Project 2 – Aircraft Parking

Improvements to the aircraft parking areas are required to support operations at WRANGB (see Figure 2-2). The WRANGB apron will require restriping, installation of tiedowns, grounding, crack seals and spall repairs, installation of new sunshades and relocation or removal of existing sunshades, and installation of an intrusion detection system. Approximately 105,000 square yards of airfield pavements and AGE secondary containment will be repaired.

Project 3 – Arm/De-Arm Pad

An Arm/De-Arm Pad is required to support operations at WRANGB. This feature consists of constructing a location(s) where WRANGB personnel would remove/place pins to render aircraft armaments active/inactive. A forward firing wall could also be constructed at the location(s) for safety purposes. The location(s) would accommodate up to six aircraft at one time. Three potential locations for the Arm/De-Arm Pad include: 1) the WRANGB Apron, provided WRWA acknowledges there may be risk involved with aircraft taxiing from WRANGB to the designated runway(s), 2) a WRWA south airfield site near the approach end of Runway 35L, and 3) a WRWA mid-airfield site near Runway 18 and Taxiway G (see

Figure 2-3). Any of the options would support operations. A facility area of approximately 340,000 square feet is required.

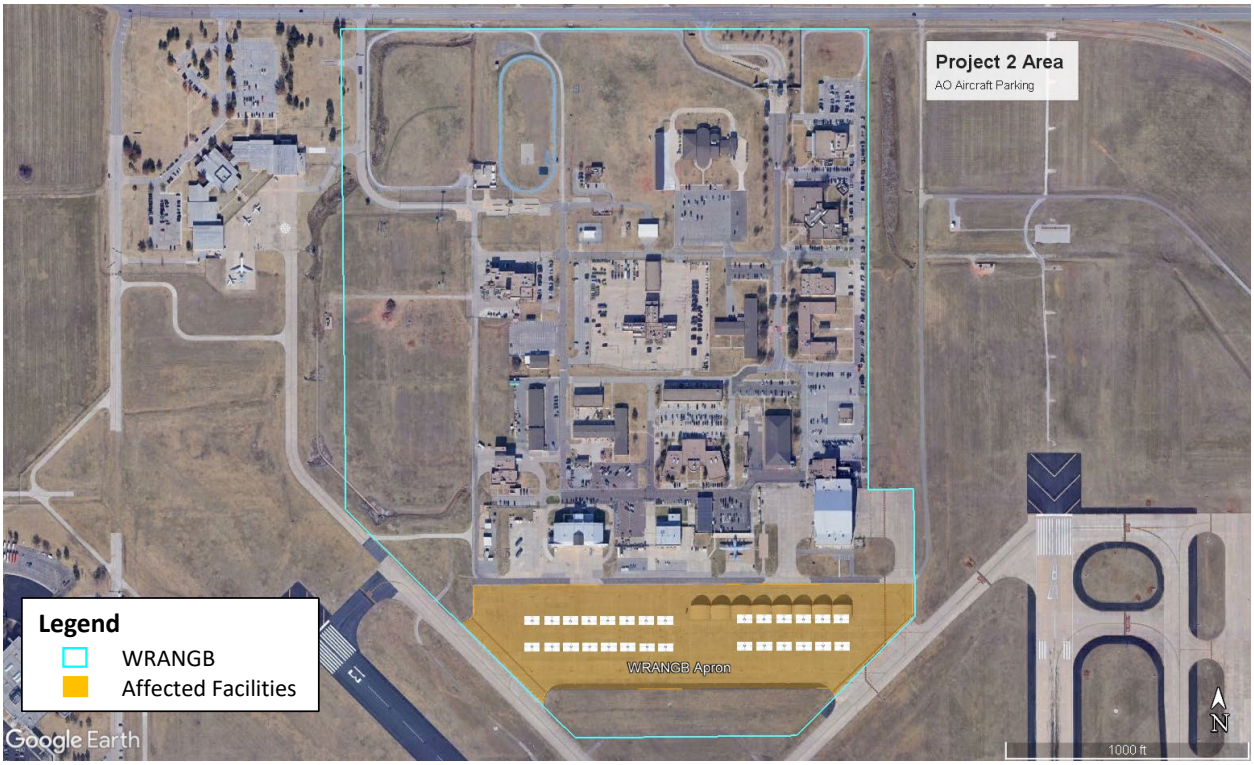


Figure 2-2. Project 2 Area (Aircraft Parking)

Project 4 – Squad Operations/Hangar

A Squad Operations/Hangar facility is required to support operations at WRANGB. Three options for locating the facility include: 1) renovation of Building 1011, 2) renovation of Building 1011 with the addition of a Weapons System Trainer (WST) on the northeast side of the facility, and 3) construction of a new facility in the western portion of WRANGB (see Figure 2-4). Any of the options would support operations. Options 1 and 2 would require the use of a temporary facility while building renovations take place. A facility area of approximately 30,000 square feet is required for a new facility, or a facility expansion area of approximately 7,900 square feet is required.

Project 5 – R-11 Refueler Parking

An expansion to the R-11 Refueler Parking area is required to support operations at WRANGB. The current area west of Building 1013, which can accommodate up to three R-11s, would be expanded to accommodate up to six R-11s (see Figure 2-5). Each R-11 holds approximately 6,000 gallons of fuel. This project is needed to support the increase in fuel usage from the mission, and thereby fuel delivery traffic between WRANGB and the WRWA fuel tanks. An expanded facility area of approximately 4,200 square feet is required.

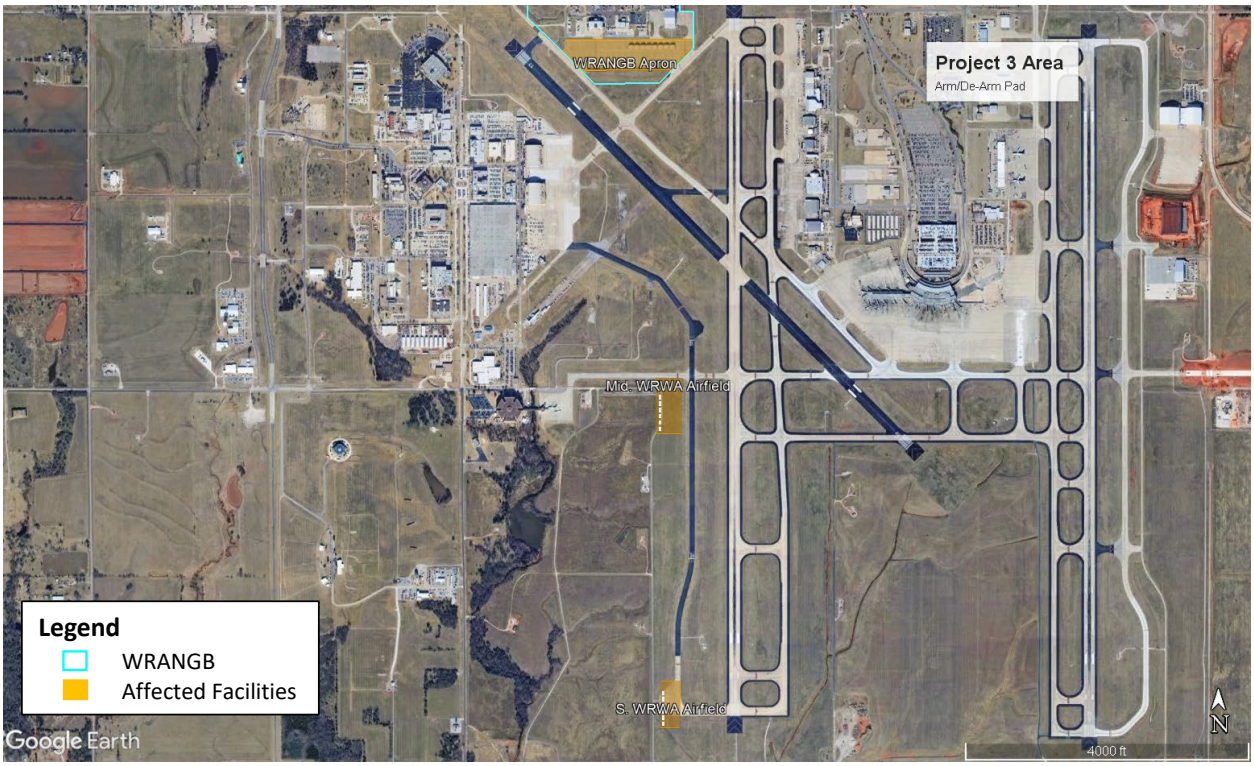


Figure 2-3. Project 3 Area (Arm/De-Arm Pad)

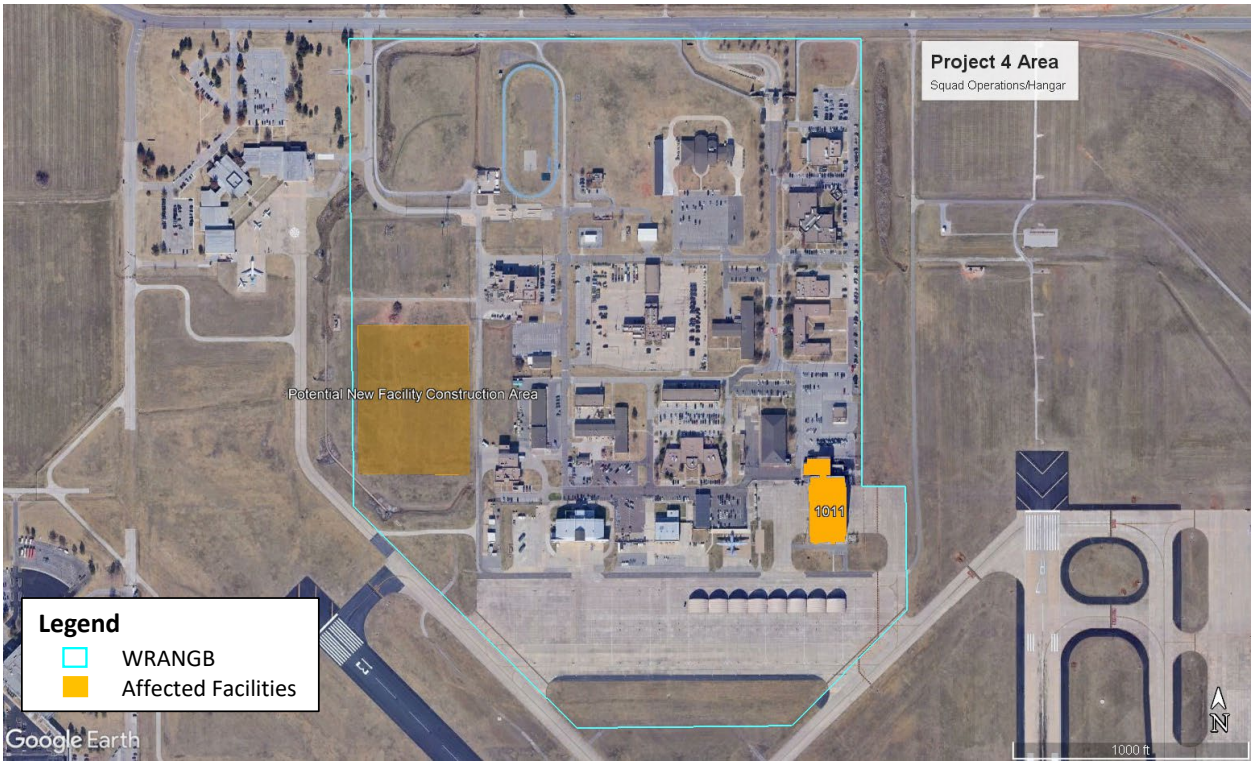


Figure 2-4. Project 4 Area (Squad Operations/Hangar)

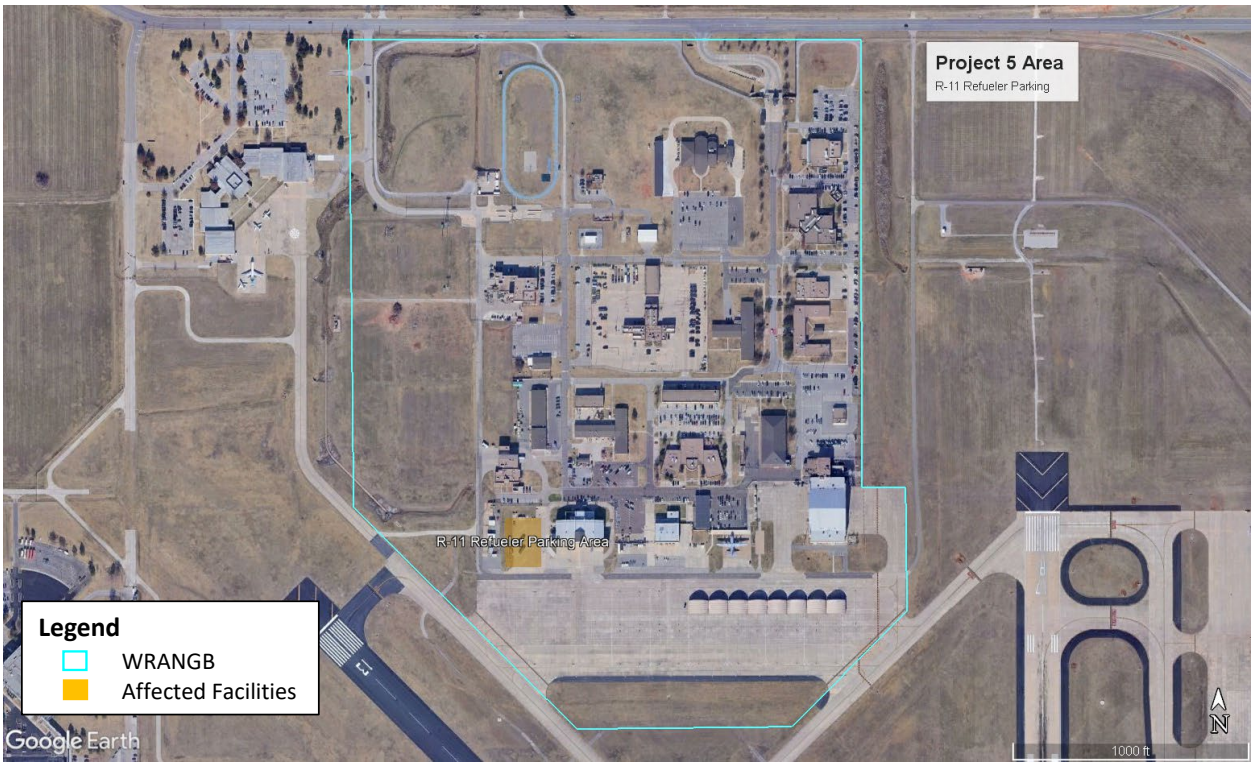


Figure 2-5. Project 5 Area (R-11 Refueler Parking)

Project 6 – AeroMedical and Mission Rehearsal Team

An AeroMedical and Mission Rehearsal Team facility will support operations at WRANGB. Two options for locating the facility include: 1) renovation and/or addition to Building 1001, and 2) construction of a new facility in the western portion of WRANGB (see Figure 2-6). Either of the options would support operations. Option 1 would require the use of a temporary facility while building renovations take place. A facility area of approximately 12,900 square feet is required for a new facility.

Project 7 – Formal Training Unit Administration and Simulators

A facility for Formal Training Unit (FTU) simulators and administrative functions is required to support operations at WRANGB. A simulator facility supporting three WSTs is desired. The following four options are under consideration: 1) construct a new simulator facility near Building 1052, 2) construct a new combined simulator/administrative facility near Building 1052, 3) construct an addition to and alter Building 1052, and 4) construct an addition to and alter Building 1047 (see Figure 2-7). Any of the options would support operations. All options would require the use of temporary facilities for WSTs and FTU administrative functions until facility construction is complete. A facility area of approximately 15,000 square feet is required for a new facility, or a facility expansion area of approximately 9,000 square feet is required.

Project 8 – Formal Training Unit Administration (Building 1052)

FTU administrative functions supporting operations at WRANGB would be located in Building 1052, which will require renovation in order to support these functions (see Figure 2-8). Renovations to Building 1052 would be required in conjunction with all Project 7 options, except Project 7 Option 2, where a new facility housing FTU administrative functions would be constructed.

Figure 2-6. Project 6 Area (AeroMedical and Mission Rehearsal Team)

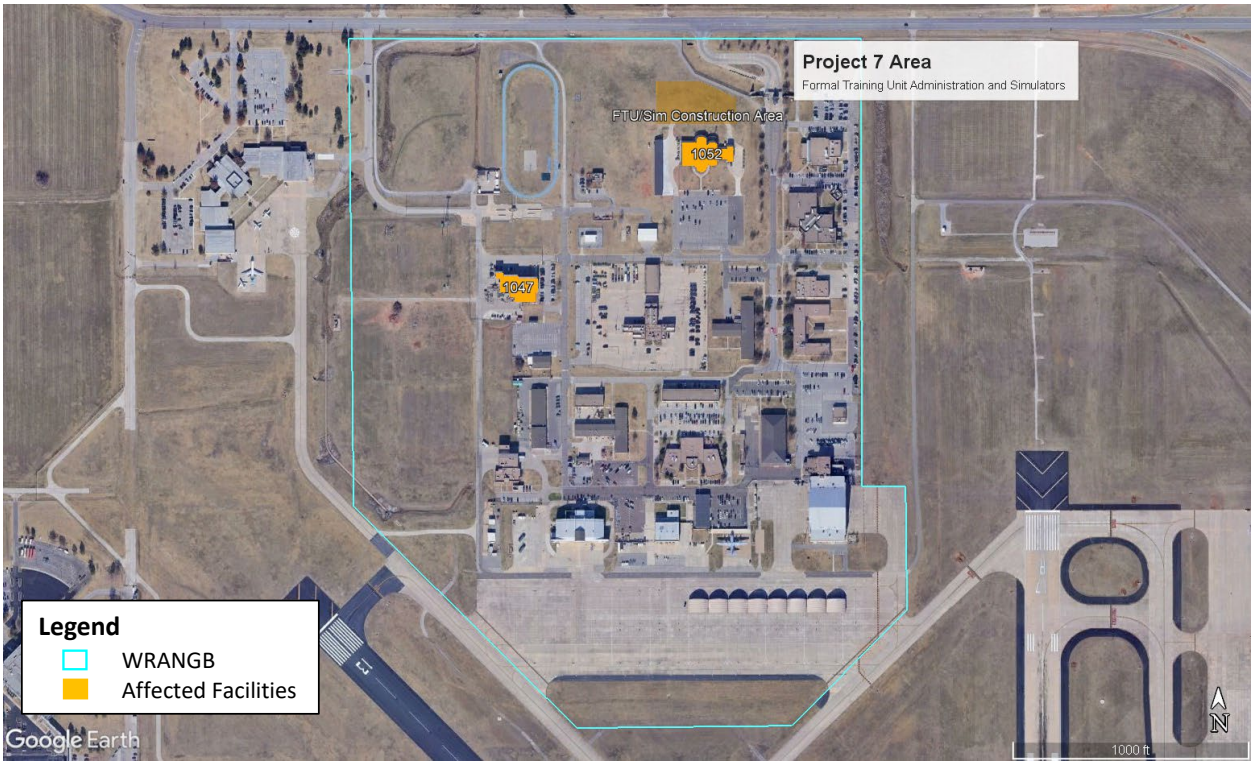


Figure 2-7. Project 7 Area (Formal Training Unit Administration and Simulators)

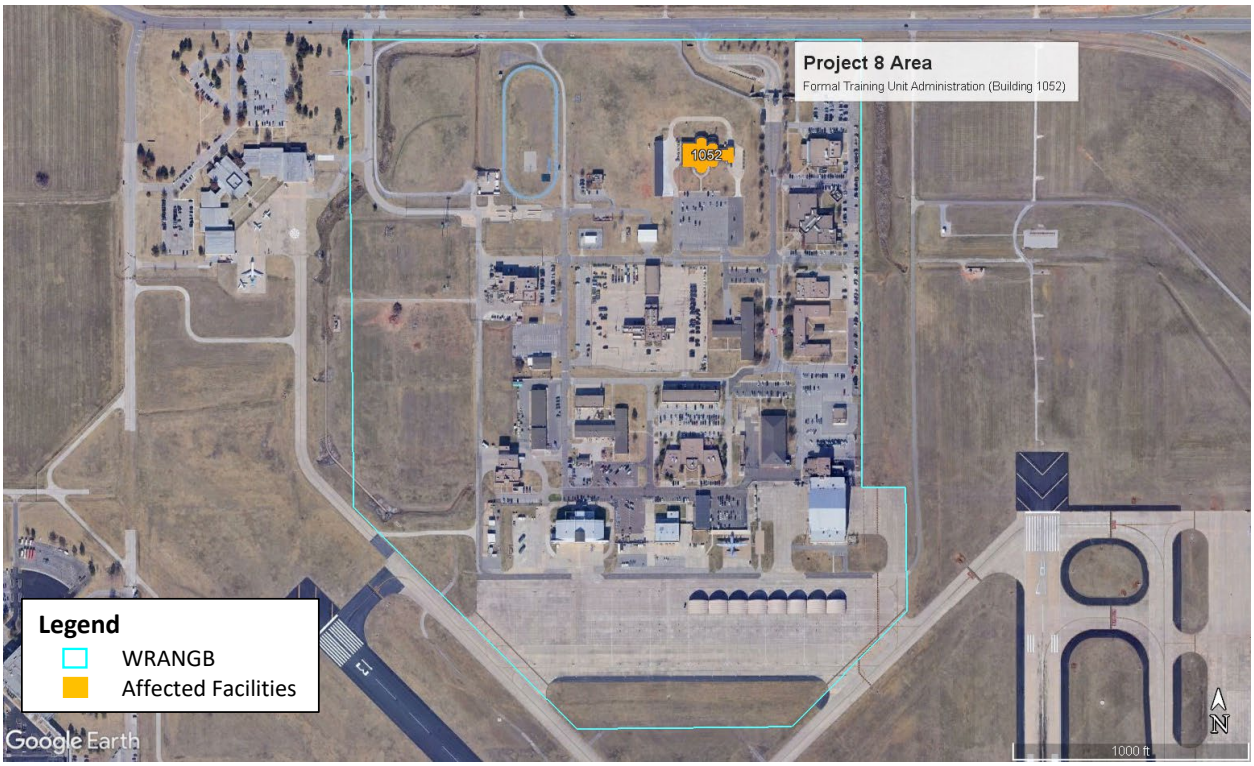


Figure 2-8. Project 8 Area (Formal Training Unit Administration [Building 1052])

Project 9 – Munitions Storage Area

A Munitions Storage Area (MSA) complex is required to support operations at WRANGB. The current munitions storage facility (Building 1010) is not sized/located to support future operations and would be demolished. Three options for siting the new MSA include: 1) an area located in the northwestern portion of WRANGB, 2) a WRWA south airfield site near the south end of Runway 18/36, and 3) a WRWA south airfield site between the south end of Runway 17R/35L and Runway 17L/35R (see Figure 2-9). Options 2 and 3 would each require a new land lease between WRWA and WRANGB. All options would also require the use of a temporary facility, possibly located in the western portion of WRANGB, for Munitions Squadron operations until facility construction is complete. Due to available space limitations for Option 1, MSA facilities would require additional hardening to meet the necessary safety requirements. Additionally, if locating the MSA at Option 1 encroaches on the current West Access Gate location, relocation of the West Access Gate could be required.

2.1.1.3 WRANGB Support Projects

The following 14 WRANGB operations supporting projects are considered as part of the Proposed Action.

Project 10 – Indoor Combat Arms Training and Maintenance Facility

An indoor Combat Arms Training and Maintenance (CATM) facility would be constructed in support of the current WRANGB mission requirements. Two options for siting the new CATM facility include: 1) a location north of Building 1050, and 2) a location northwest of Building 1055 (see Figure 2-10). Either location would support the WRANGB mission. A facility area of approximately 8,800 square feet is required.

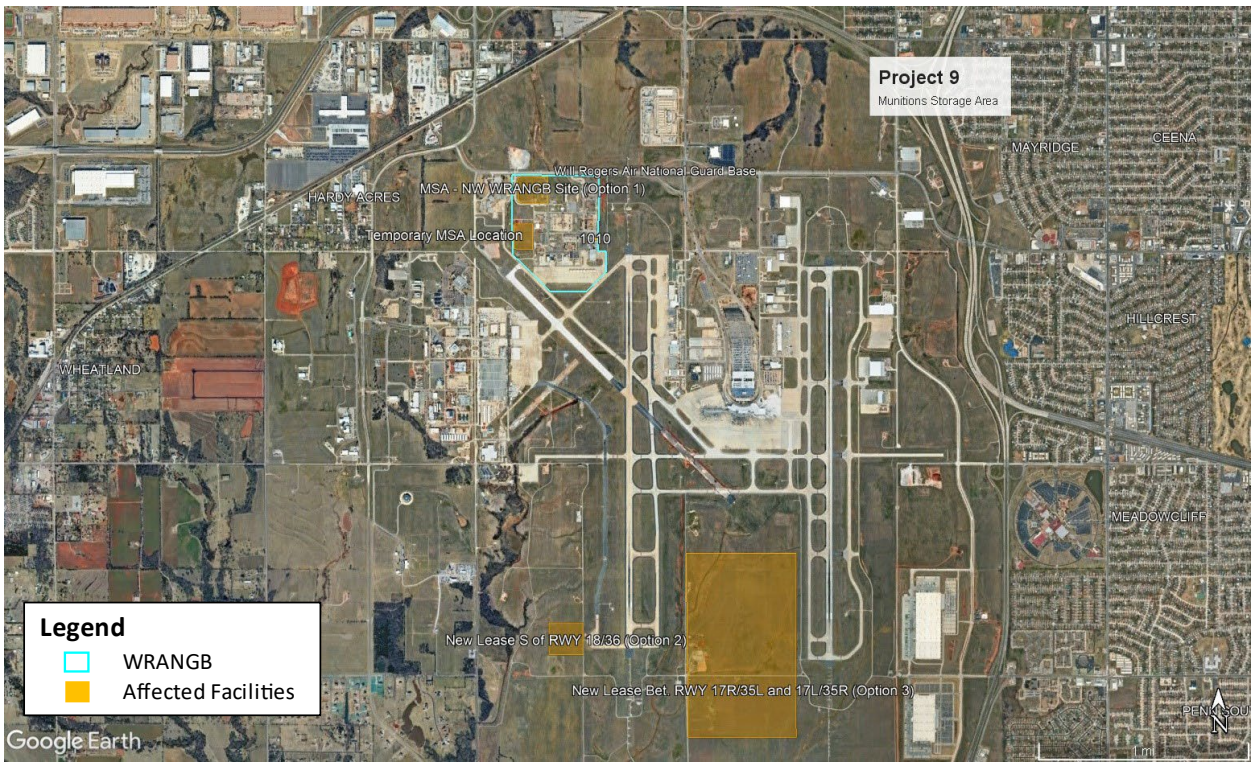


Figure 2-9. Project 9 Area (Munitions Storage Area)

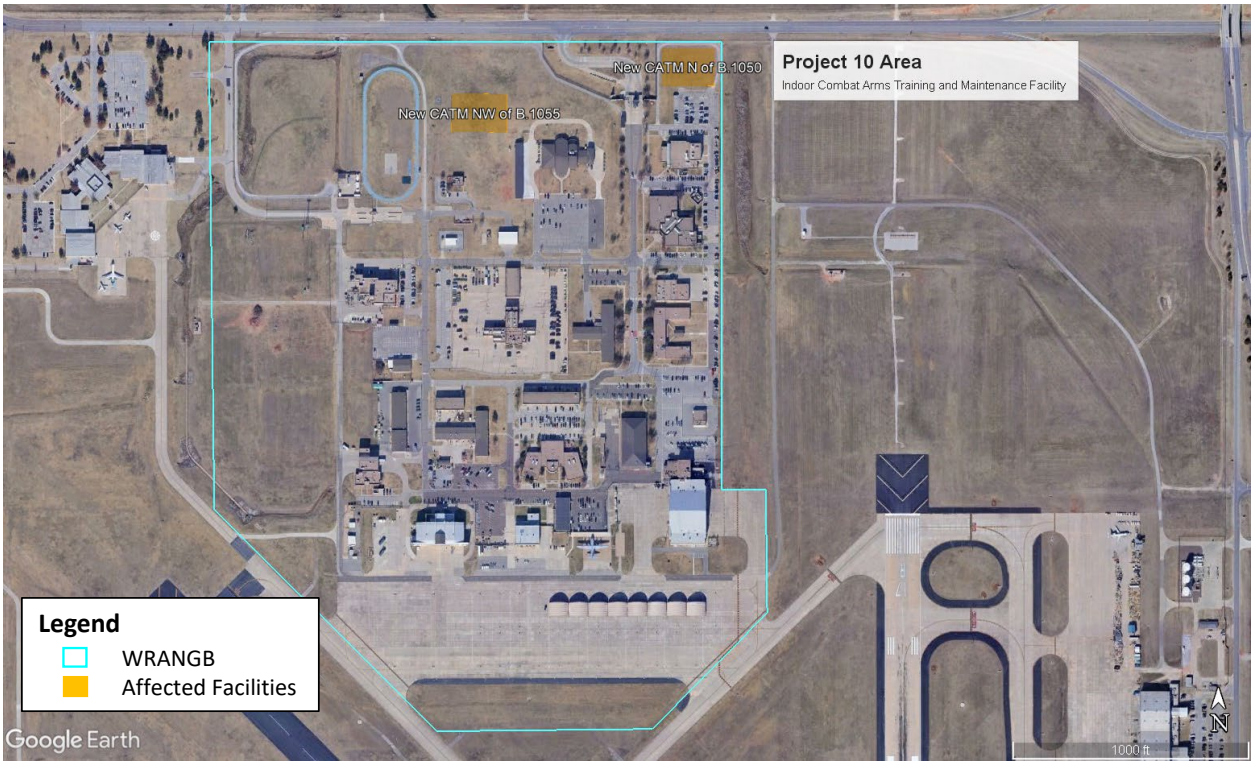


Figure 2-10. Project 10 Area (Indoor Combat Arms Training and Maintenance Facility)

Project 11 – Fire Department Addition/Alteration

An expansion to the current Fire Department facility would be constructed in support of the current WRANGB mission requirements. An addition would be constructed on the eastern side of Building 1048 (see Figure 2-11). Current Fire Department operations would not be materially affected during facility expansion. A facility area of approximately 5,000 square feet is required.

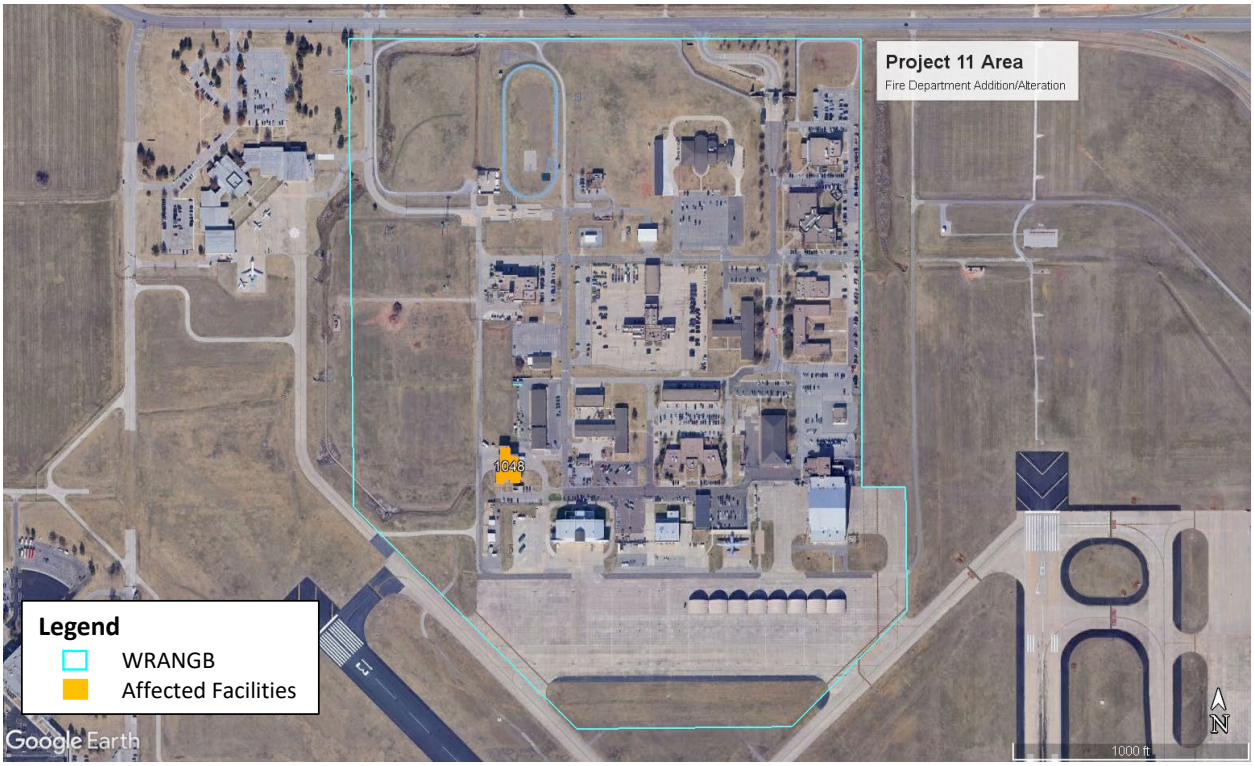


Figure 2-11. Project 11 Area (Fire Department Addition/Alteration)

Project 12 – Install Backup Generator in Building 1001

A backup generator serving Building 1001 activities would be installed in support of the current WRANGB mission requirements (see Figure 2-12). The generator would provide approximately 150 KW of power and would have an integrated 335-gallon (approximate) fuel tank. The generator and associated fuel storage would be subject to air permitting and spill prevention and planning regulations.

Project 13 – Gymnasium/Logistics Readiness Squadron

A gymnasium/Logistics Readiness Squadron (LRS) facility would be constructed in support of the current WRANGB mission requirements. Building 1020 would be renovated to house this facility (see Figure 2-13). The facility is currently an open-sided facility used for equipment storage. Alternatively, Building 1037 could be renovated to house this facility coupled with the demolition of Building 1020.

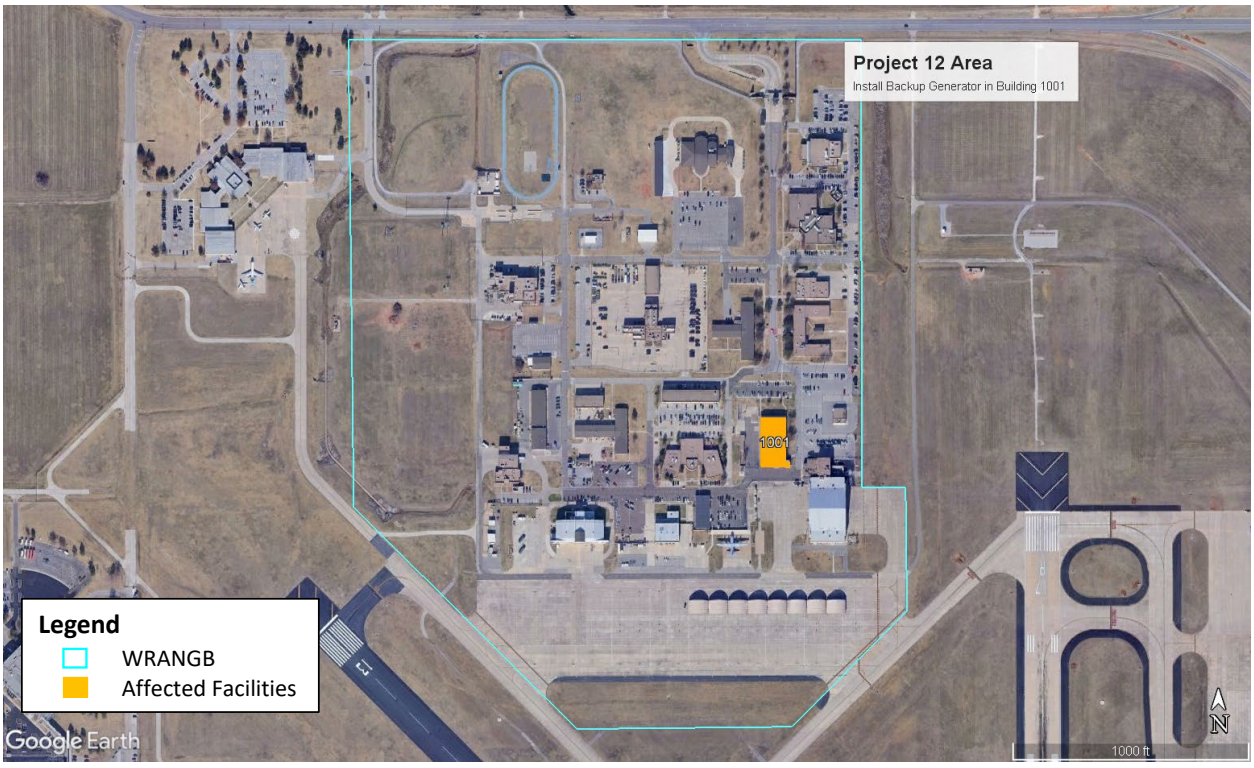


Figure 2-12. Project 12 Area (Install Backup Generator in Building 1001)

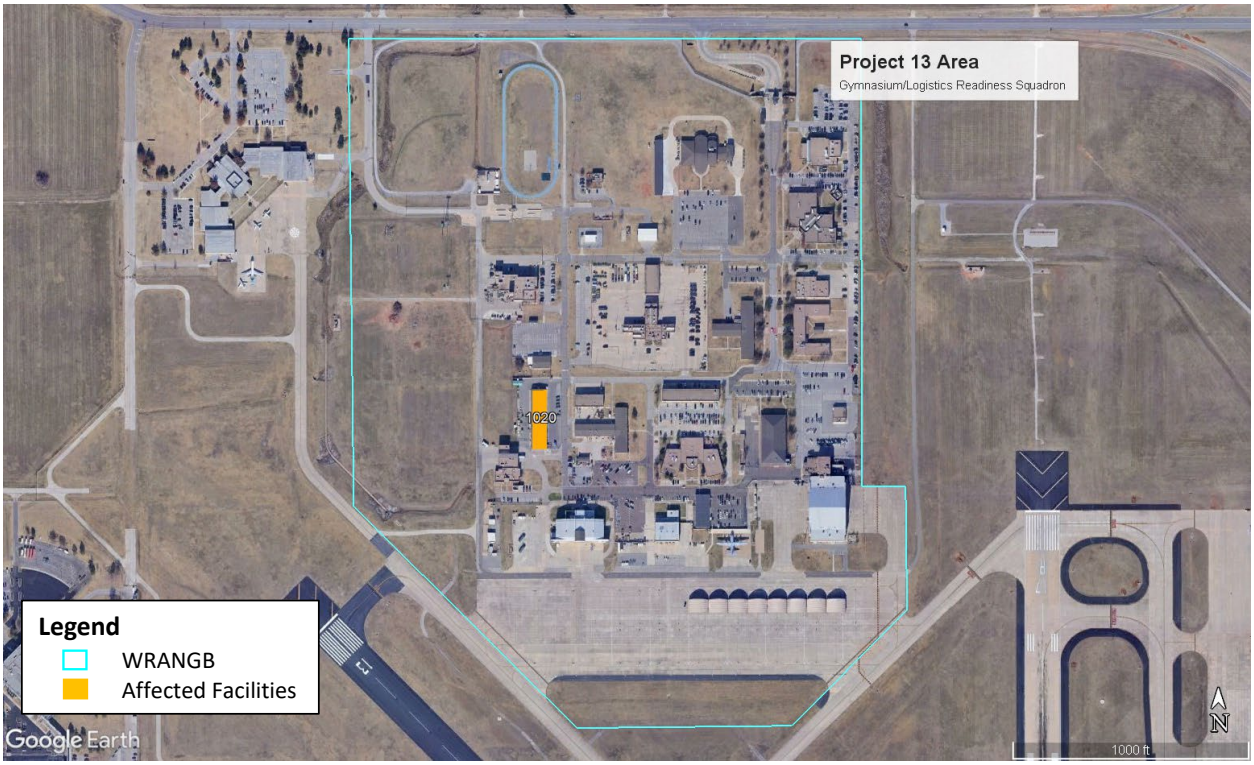


Figure 2-13. Project 13 Area (Gymnasium/Logistics Readiness Squadron)

Project 14 – Modify Entry Control Facility

The WRANGB Entry Control Facility would be modified in support of the current WRANGB mission requirements. The partially covered vehicle inspection facility would be relocated to outside of the entry gate, enabling inspection of vehicles prior to entry onto WRANGB (see Figure 2-14). Other access gate facilities would be renovated to bring them up to date with current Antiterrorism/Force Protection (AT/FP) standards. Upgrades to the alternate west gate (Building 1038), including potential relocation closer to 54th Street, would also be completed.

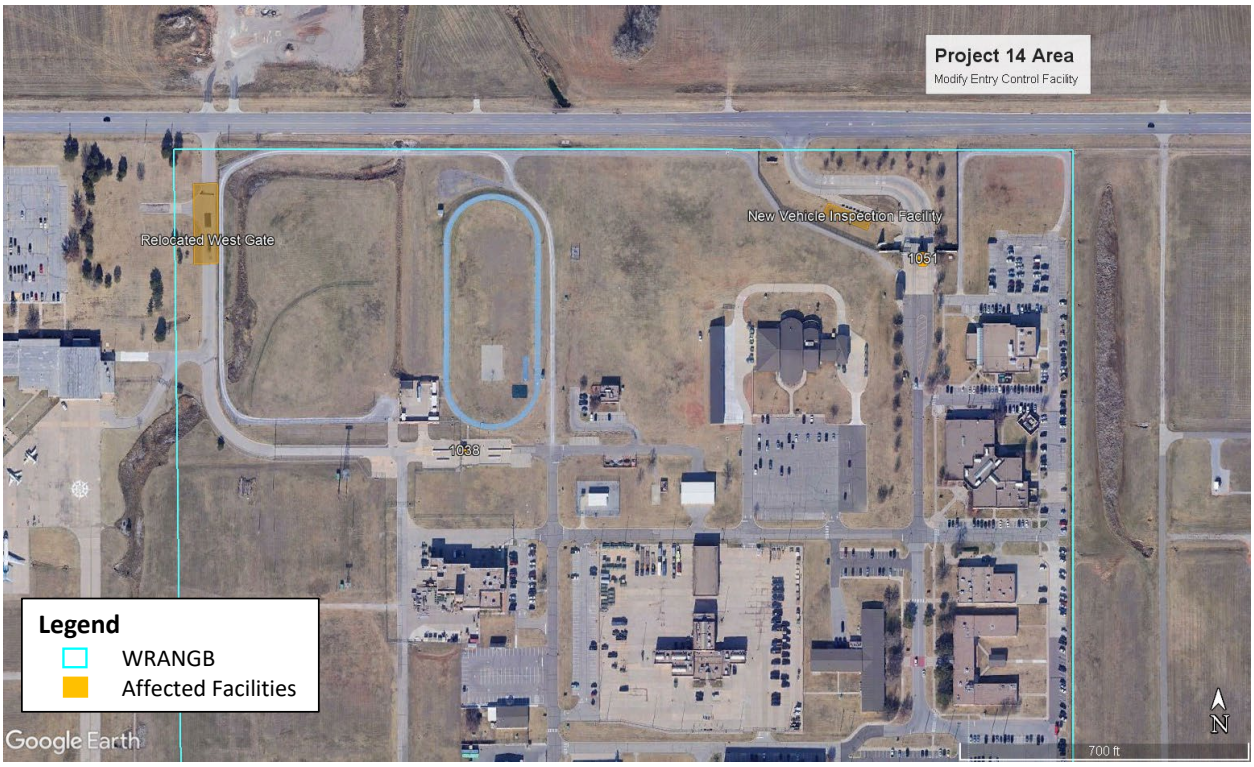


Figure 2-14. Project 14 Area (Modify Entry Control Facility)

Project 15 – Civil Engineering

Building 1007 would be renovated for use by Civil Engineering in support of the current WRANGB mission requirements (see Figure 2-15).

Project 16 – Construct Building 1047 Loading Ramp

A new loading ramp would be constructed at Building 1047 for use by LRS and other base support activities (see Figure 2-16). A facility area of approximately 1,400 square feet is required. The existing loading ramp located at Building 1001 would be demolished.

Project 17 – Building 1043 UST/AST Conversion

Two underground storage tanks (UST) located south of Building 1043 would be removed and replaced with aboveground storage tanks (AST) in the same vicinity (see Figure 2-17). The two 10,000-gallon USTs would be replaced with two 8,000-gallon ASTs. The ASTs would be subject to air permitting and spill prevention and planning regulations.

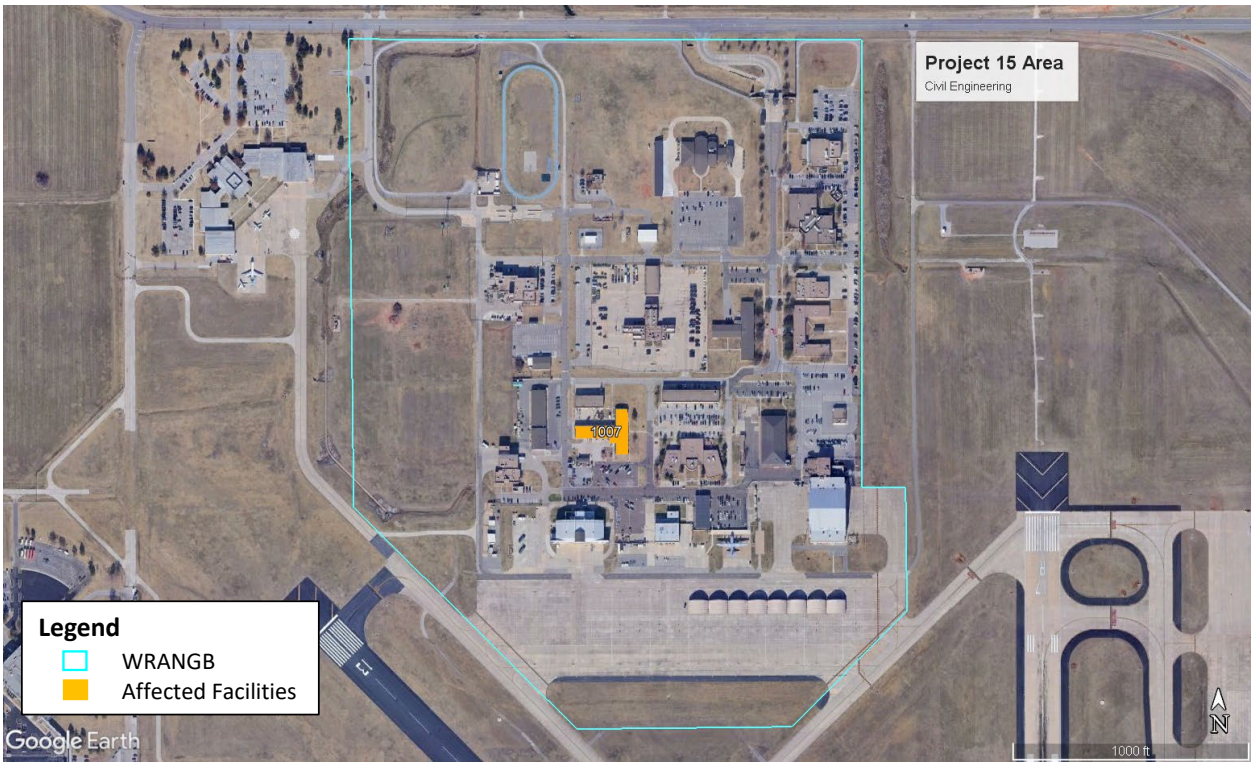


Figure 2-15. Project 15 Area (Civil Engineering)

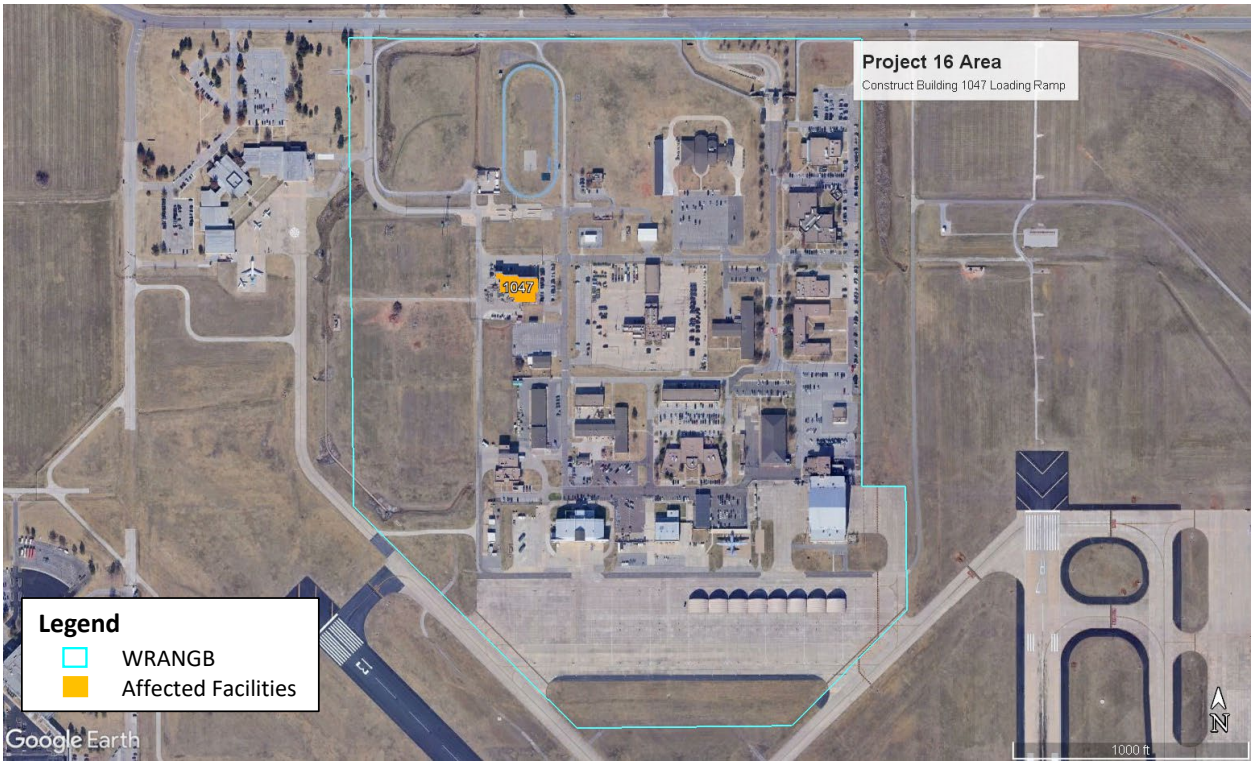


Figure 2-16. Project 16 Area (Construct Building 1047 Loading Ramp)

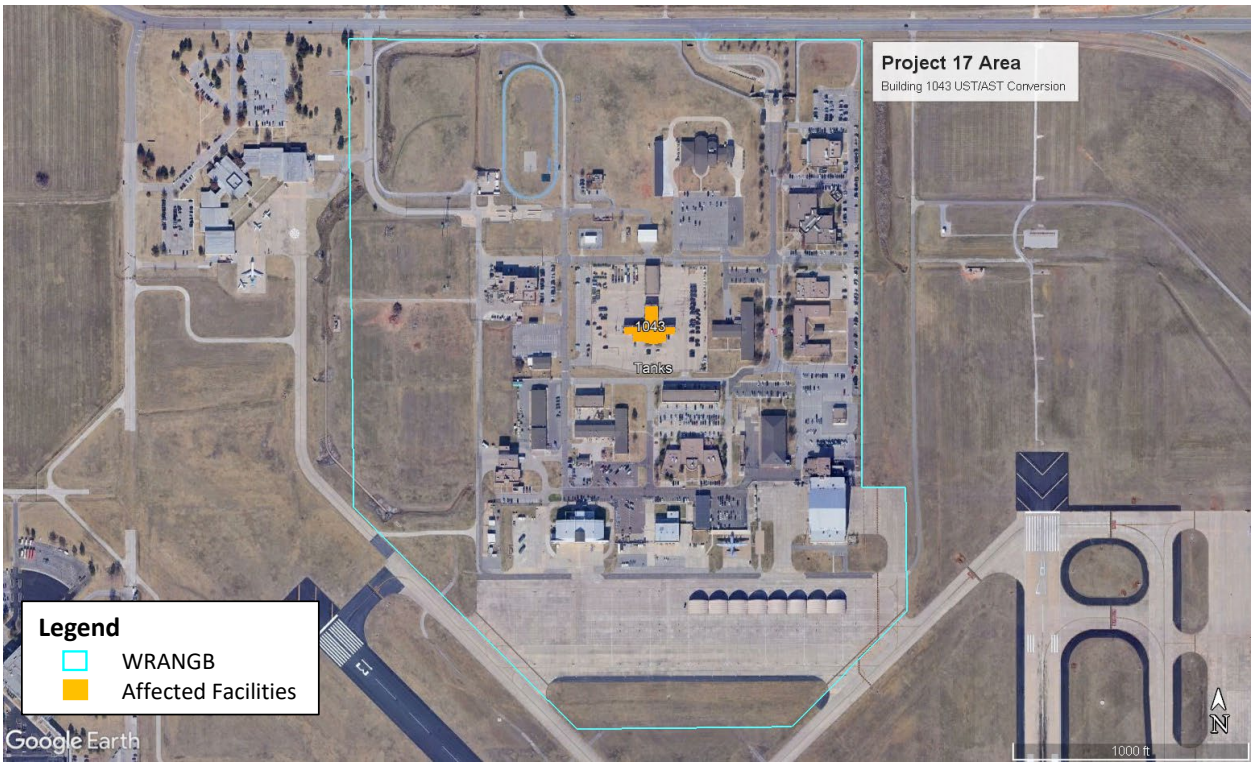


Figure 2-17. Project 17 Area (Building 1043 UST/AST Conversion)

Project 18 – Relocate C-130 Training Aid

The C-130 training aid currently located near Building 1033 would be relocated to an area near the WRANGB Apron or in the western portion of WRANGB (see Figure 2-18). A new concrete pad would be installed at this location.

Project 19 – Construct Combined Base Supply/Equipment Storage and Hazardous Materials Storage

A new combined base supply/equipment storage and hazardous materials storage facility would be constructed to support base operations (see Figure 2-19). Two options exist for locating the facility: 1) a new facility north of Building 1047, and 2) a new facility west of Building 1020. A facility area of approximately 25,000 square feet is required.

Project 20 – Construct Wash Rack

A wash rack supporting base operations would be installed under this project. The wash rack would be constructed west of Building 1011, near the current location of the C-130 Training Aid (see Figure 2-20). A modification to the base National Pollutant Discharge Elimination System (NPDES) permit would be required.

Project 21 – Intel Facility

An Intel facility would be constructed in support of the current WRANGB mission requirements. Two options for siting the new Intel facility include: 1) renovation of Building 1050, and 2) construction of a new facility in the western portion of WRANGB (see Figure 2-21). Either location would support the WRANGB mission. A facility area of approximately 19,300 square feet is required for a new facility.

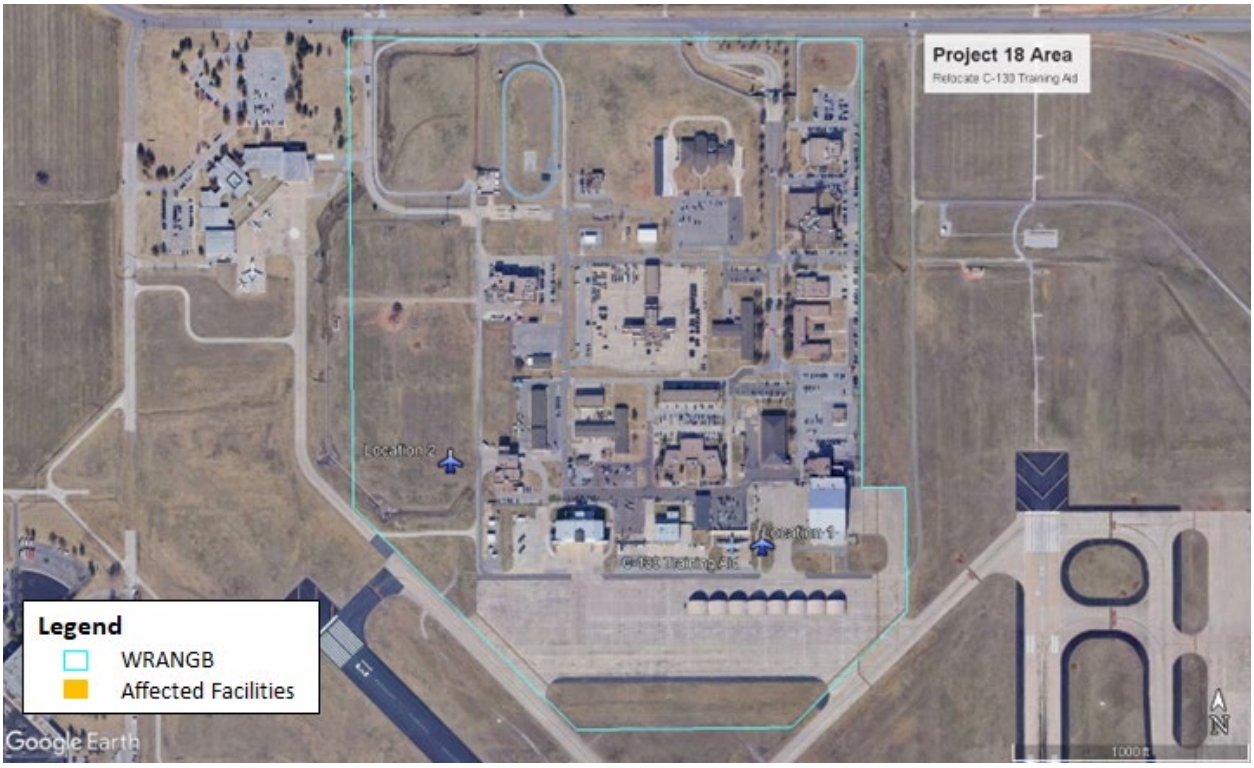


Figure 2-18. Project 18 Area (Relocate C-130 Training Aid)

Figure 2-19. Project 19 Area (Construct Combined Base Supply/Equipment Storage and Hazardous Materials Storage)

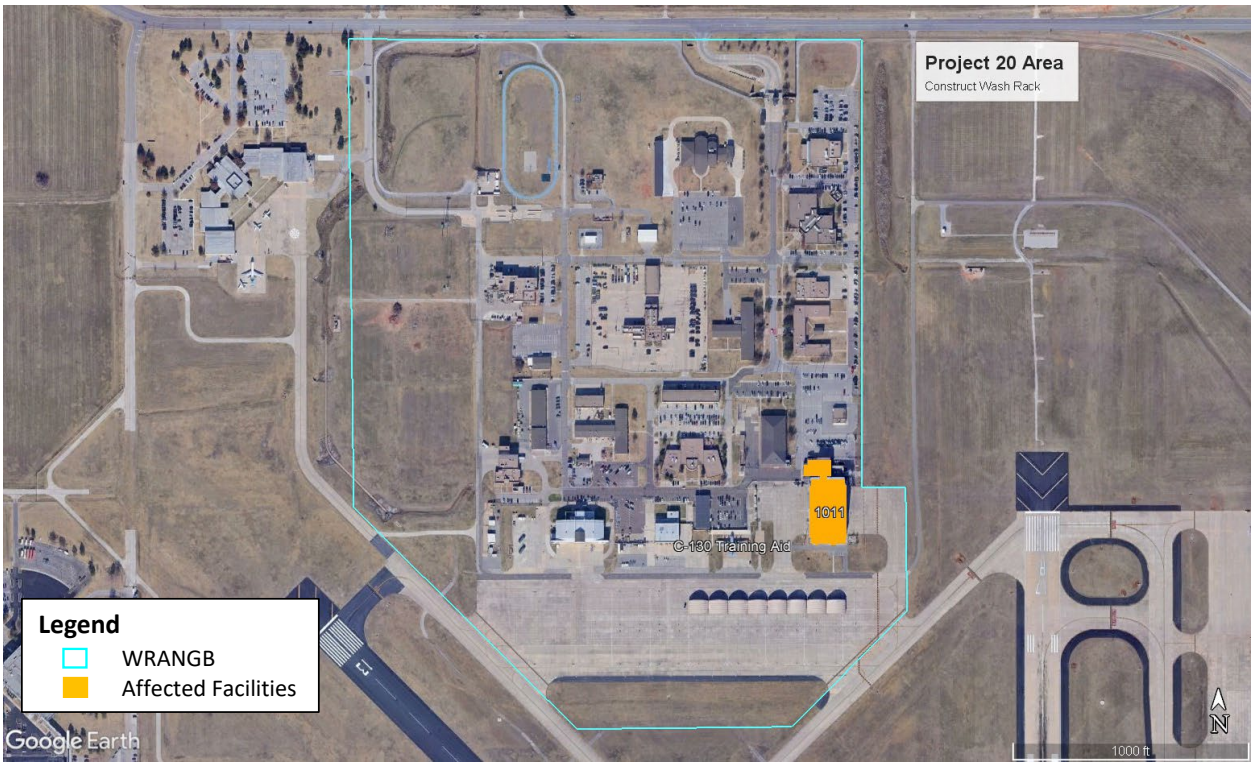


Figure 2-20. Project 20 Area (Construct Wash Rack)

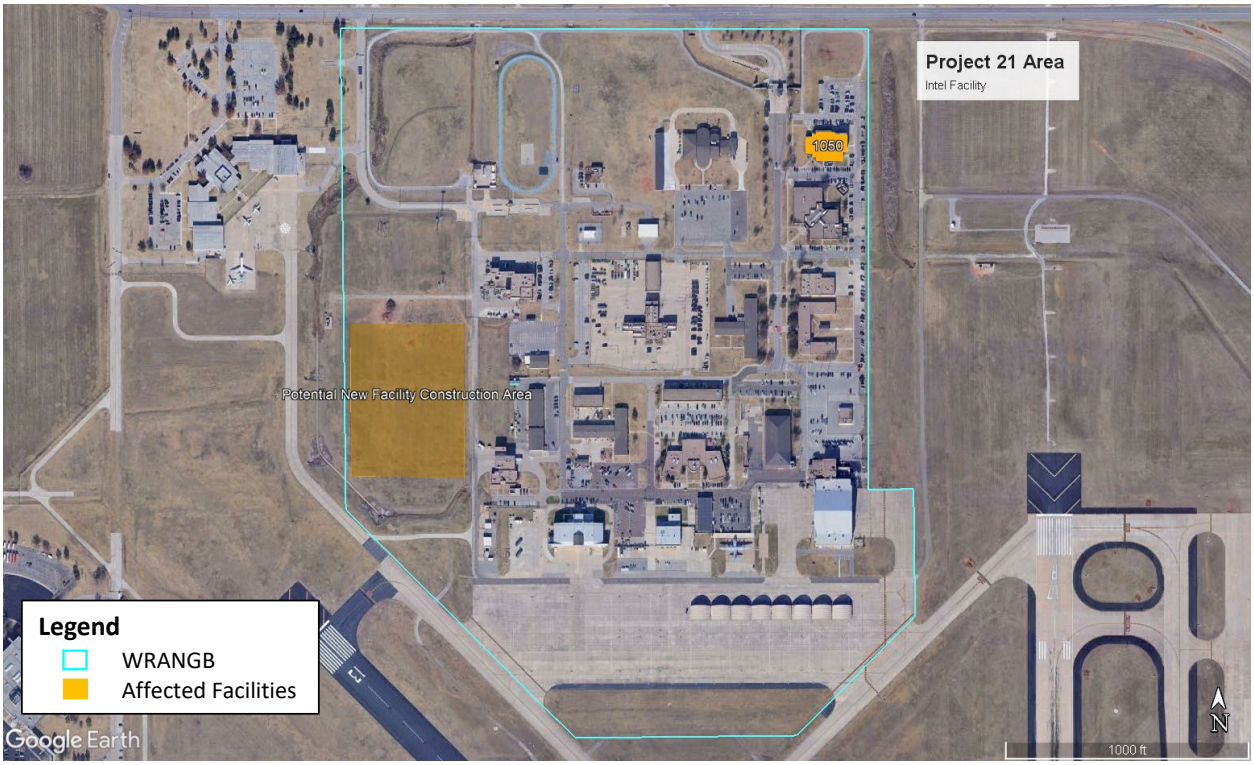


Figure 2-21. Project 21 Area (Intel Facility)

Project 22 – Renovate Building 1040

Building 1040 would be renovated in support of the current WRANGB mission requirements (see Figure 2-22). Building 1040 currently houses squadron operations functions.

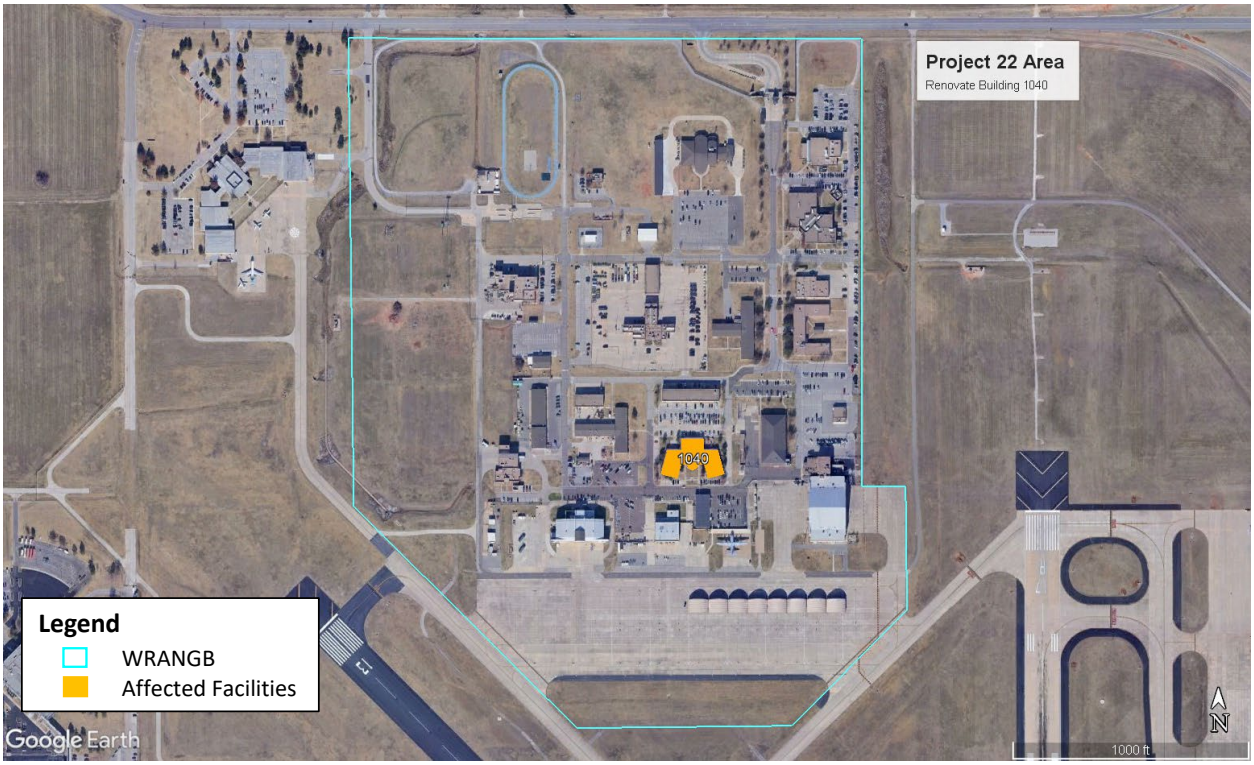


Figure 2-22. Project 22 Area (Renovate Building 1040)

Project 23 – Construct Remaining MSA Projects

The MSA constructed under Project 9 would be built out in its entirety to accommodate a 1.1 Net Explosive Weight (NEW) setting. Build out would be completed in the same area ultimately selected for Project 9 (see Figure 2-23).

2.1.2 No Action Alternative

The No Action Alternative serves as a benchmark against which the effects of the Proposed Action can be evaluated. For this project, the No Action Alternative is defined as not taking any further action with regards to aircraft beddown/recapitalization, support projects, or WRANGB support projects. The current ISR mission utilizing MC-12 aircraft would continue until 2027, when the MC-12 aircraft is retired, and the program closes.

The No Action Alternative is not considered a reasonable alternative because it does not meet the purpose of and need for the Proposed Action. However, as required under CEQ regulations (40 CFR 1502.14[c]), the No Action Alternative does provide a description of the baseline conditions against which the impacts of the Proposed Action can be compared.

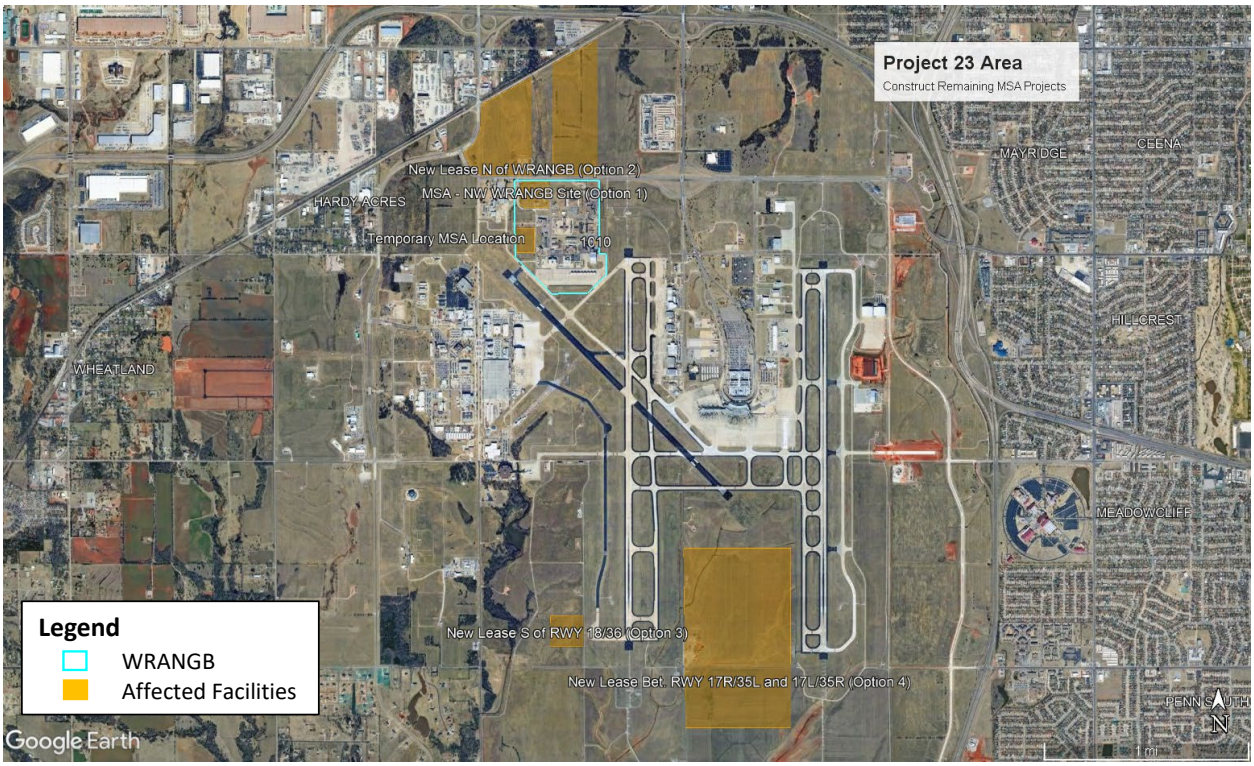


Figure 2-23. Project 23 Area (Construct Remaining MSA Projects)

2.2 RESOURCE AREAS ELIMINATED FROM DETAILED ANALYSIS

Resource areas that are not impacted (40 CFR 1501.9(f)(1)) or that have been covered by prior environmental review (40 CFR 1506.3) have not been carried forward for further environmental review.

The determination of environmental resource areas to be analyzed versus those not carried forward for detailed analysis is part of the EA scoping process. CEQ and DAF regulations (40 CFR §1501.9(f)(1) and 32 CFR 989.18) encourage project proponents to identify and eliminate resource areas from detailed study that are not important or have no potential to be impacted through implementation of their respective proposed actions.

The following environmental resource areas were found to have no applicability to the proposed actions or the No Action Alternatives, because there would be no potential for direct, indirect, or cumulative impacts. Therefore, these environmental resource areas are not carried forward for detailed analysis in this EA.

2.2.1 Aesthetics

The Oklahoma City area is primarily comprised of sprawling urban and suburban development, with the Oklahoma River, which generally flows in an east-west direction, serving the city's dominant natural feature. The region surrounding WRWA is characterized by level terrain comprised of light industrial and commercial uses to the north; sparsely undeveloped lands and a residential neighborhood across Interstate 44 to the east; primarily undeveloped land to the south; and the FAA facilities to the west, surrounded by undeveloped land.

The area surrounding WRANGB to the west, south, and east consists of WRWA property and associated facilities that support airport functions. Land immediately north of the installation consists of open space for approximately one half-mile north. Consequently, views of facilities associated with the installation from surrounding areas are limited and/or experienced for a short duration.

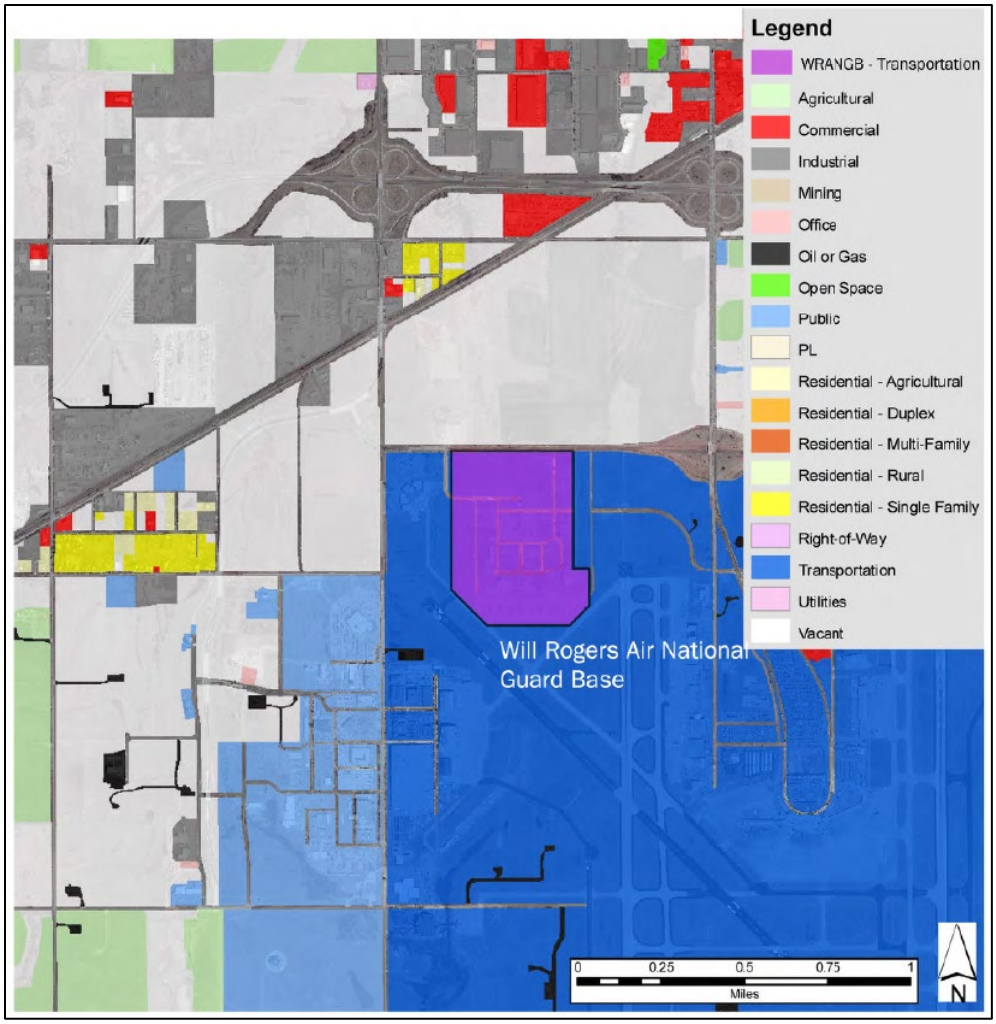
The visual environment at WRANGB is characteristic of a military installation; most structures are one- to two-story buildings constructed primarily of brick and brick-tone masonry or beige corrugated metal with brick-tone trim. Buildings include hangars, administrative offices, and warehouses. Grass lawn areas are prevalent throughout the installation and serve as buffers between buildings, roads, and other developed areas. Overall, the installation and neighboring areas are typical of WRWA and the surrounding region, and do not constitute unique or sensitive viewsheds.

Under the Proposed Action, several WRANGB facilities would be renovated, and others would be demolished. Newly constructed facilities would be designed to match the appearance of existing facilities in keeping with the military characteristic of WRANGB. Therefore, the long-term aesthetics of WRANGB would not be significantly changed from its current condition, and the implementation of Proposed Action would be expected to have less than significant long-term impacts on visual resources.

2.2.2 Land Use

Land use generally refers to the management and use of land by people. The attributes of land use include general land use patterns, land ownership, land management plans, and special use areas. WRANGB is located on 135 acres of land leased from the Oklahoma City Airport Trust. WRANGB is subject to the FAA regulations governing WRWA, including setback and height requirements. The Airport and surrounding property is zoned I-2, Medium Industrial, by the City of Oklahoma City, with special overlay classifications of Airport Environs 1 and Airport Environs 2 surrounding the airport to curb any encroachment on airfield operations. Current land use is noted as transportation uses (Figure 2-24). Aside from Will Rogers World Airport, other uses in the immediate vicinity of WRANGB include the FAA's Mike Monroney Aeronautical Center (MMAC) and Oklahoma City Metro Technology Center's Aviation Career Campus. Other surrounding land is currently primarily used for agriculture. (WRANGB 2013)

There would be no changes in land use resulting from the implementation of the Proposed Action. WRANGB would remain as a Transportation land use, and other neighboring land uses would be unaffected. Therefore, the implementation of Proposed Action would be expected to have no impact on land use.



Source: WRANGB 2013.

Figure 2-24. Area Land Uses

2.2.3 Infrastructure and Utilities

The infrastructure and utility systems considered at WRANGB include potable water, electricity, and natural gas.

2.2.3.1 Potable Water

Potable water service at WRANGB is provided by the Oklahoma City Water Utilities Trust (OCWUT). OCWUT is a major water provider in the area, and infrastructure already exists connecting WRANGB to this service. Local infrastructure improvements would be necessary to connect new facilities but would be relatively minor. Water usage at WRANGB would increase but would not result in the water provider needing to consider construction of new water sources as a result.

2.2.3.2 Electricity

Electricity at WRANGB is provided by Oklahoma Gas and Electric (OG&E). OG&E is a major power provider in the area, and infrastructure already exists connecting WRANGB to this service. Local infrastructure improvements would be necessary to connect new facilities but would be relatively minor.

Electricity usage at WRANGB would increase but would not result in the power provider needing to consider construction of new power generation facilities as a result.

2.2.3.3 Natural Gas

Natural gas at WRANGB is provided by Oklahoma Natural Gas. Oklahoma Natural Gas is a major service provider in the area, and infrastructure already exists connecting WRANGB to this service. Local infrastructure improvements would be necessary to connect new facilities but would be relatively minor. Natural gas usage at WRANGB would increase but would not result in the power provider needing to consider construction of new service facilities as a result.

2.2.3.4 Summary

While utility connections to accommodate newly constructed and renovated facilities at WRANGB would be required, these infrastructure improvements would be localized to WRANGB and would not necessitate improvements to regional infrastructure. Additionally, while utility usage would marginally increase, service providers could accommodate these increases and would not need to consider additional sources to meet demand. Therefore, the implementation of Proposed Action would be expected to have a less than significant impact on infrastructure and utilities.

CHAPTER 3
AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES OF THE ALTERNATIVES

3.1 INTRODUCTION

The following sections of this chapter describe the current conditions of the environmental resources, either man-made or natural, that would be affected by implementing the Proposed Action or the No Action Alternative. The existing conditions for relevant resources are defined to provide a meaningful baseline from which to compare potential future effects. Additionally, the potential environmental consequences that are likely to occur as a result of implementation of alternatives that are being considered and analyzed are described.

Cumulative effects on environmental resources result from the incremental effects of an action when added to the effects of other past, present, and reasonably foreseeable actions in the area. Cumulative effects can result from individually minor but collectively substantial actions taken over a period of time. In accordance with NEPA, a discussion of cumulative effects is required. Past, present, and reasonably foreseeable actions with the potential to contribute to cumulative effects of the Proposed Action have also been evaluated in this section. Future actions that are speculative are not considered in this EA. Actions considered in the analysis of cumulative effects include:

- In 2021, the FAA completed an Environmental Assessment for the rehabilitation of Runway 13/31 at WRWA. The only potential issue noted was potential noise impacts to sensitive land uses (WRWA 2021).
- The WRWA Master Plan Update identifies several airport improvement projects including Runway 17R/35L extension.
- WRWA Terminal Expansion Project (WRWA 2017).
- Lariat Landing area development plan. The Oklahoma City Department of Airports and the Oklahoma City Airport Trust have designated approximately 1,000 acres at WRWA for multi-use, multi-industry, business development. The development area, located on the east side of the airport property, will complement the airport's core business of operating a first-class transportation facility (WRWA 2023a).

Section 4.3 presents the environmental permits that may be required prior to implementing the Proposed Action.

3.2 AIRSPACE

Airspace control is defined as "capabilities and procedures used to increase operational effectiveness by promoting the safe, efficient, and flexible use of airspace" (USAF 2021). Airspace control is a broad term used to describe the activities performed and authorities executed by a wide range of entities, both civil and military. Together, executed through a notional airspace control system (ACS), the goal of airspace control operations is to ensure the most effective, efficient, and safe use of airspace to enable achievement of USAF objectives and priorities (USAF 2021).

The objective of airspace management is objective is to provide airspace in which the DAF test and training missions can be conducted as realistically as possible, while maximizing safety and minimizing the impact

on other users, surface activities, and the environment (USAF 2017). There are two categories of airspace or airspace areas: regulatory and nonregulatory. Within these two categories, further classifications include controlled, uncontrolled, special use, and other airspace. The categories and types of airspace are dictated by: (1) the complexity or density of aircraft movements; (2) the nature of the operations conducted within the airspace; (3) the level of safety required; and (4) national and public interest in the airspace.

3.2.1 Affected Environment

WRANGB currently operates its flying mission out of WRWA, which also provides services for commercial and private aircraft. As of July 2023, WRWA supported 56,944 aircraft movements of which 14,910 (26.2%) were military related (WRWA 2023b).

WRWA operates four runways (Figure 3-1). Runway 17R/35L and Runway 17L/35R are both larger runways which are oriented in a north-south direction. Runway 17R/35L is located to the west of the passenger terminal and measures 9,800 feet in length. Runway 17L/35R is located to the east of the passenger terminal, parallel to Runway 17R/35L. It is also approximately 9,800 feet in length. Runway 13/31 is oriented in a northwest-southeast configuration and intersects the northern portion of Runway 17R/35L, in the northwestern portion of WRWA, just south of WRANGB. Runway 13/31 is 7,800 feet in length. Runway 18/36 is located nearly parallel to Runway 17R/35L, just south of where Runway 17R/35L intersects with Runway 13/31. Runway 18/36 is approximately 3,075 feet in length and functions as a taxiway when not in use as a runway.

3.2.2 Environmental Consequences

The significance of potential impacts to airspace management depends on the degree to which the proposed aircraft and their operations would affect the structure, use, or management of the regional military, commercial, and general aviation airspace environment. Significant impacts could result if the action would: 1) impose major restrictions on air commerce opportunities; 2) significantly limit airspace access to a large number of users; or 3) require modifications to ATC systems.

3.2.2.1 Proposed Action

Under the Proposed Action, WRANGB would beddown new OA-1K aircraft performing close air support, precision strike, and armed ISR while recapitalizing the current MC-12 aircraft. Up to 28 aircraft would replace the current fleet of 13 MC-12 aircraft between FY 2024 and FY 2028.

Current MC-12 operations include approximately 19 sorties per day; operations would be expanded to approximately 35 OA-1K sorties per day (184% increase). Flying time for the fleet would increase from approximately 5,500 hours/year to approximately 16,140 hours/year (293% increase). Approximately 50 percent of all sorties would be flown during the day between 0700 and 2200, with the remaining 50 percent flown at night between 2200 and 0700. Each sortie consists of approximately six patterns and may include touch-and-go landings. Approximately two-thirds of approaches are tactical arrivals, with the remaining one-third of approaches being straight-in arrivals. The OA-1K does not have the restrictions concerning proximity to other OA-1K aircraft that the MC-12 aircraft has, which will decrease airspace conflicts.

WRWA operational capacity is such that the increase in WRANGB flight operations would be easily accommodated and would not surpass the ATC capacity of the airport. Additionally, no change to the configuration (i.e., size, shape, or location) of WRWA or surrounding airspace is proposed or would be required to support implementation of the Proposed Action. With respect to regional aircraft activity,

increases in flight activity under the Proposed Action would be minor. Existing scheduling/coordination processes and procedures currently used to manage existing military airspace are well established by and in coordination with the FAA and would require no modification to support the Proposed Action. Ongoing and proposed training activities would therefore not impose any major restrictions on air commerce opportunities, significantly limit access, or require any modifications to ATC systems. Therefore, implementation of the Proposed Action would result in less than significant impacts to airspace management.

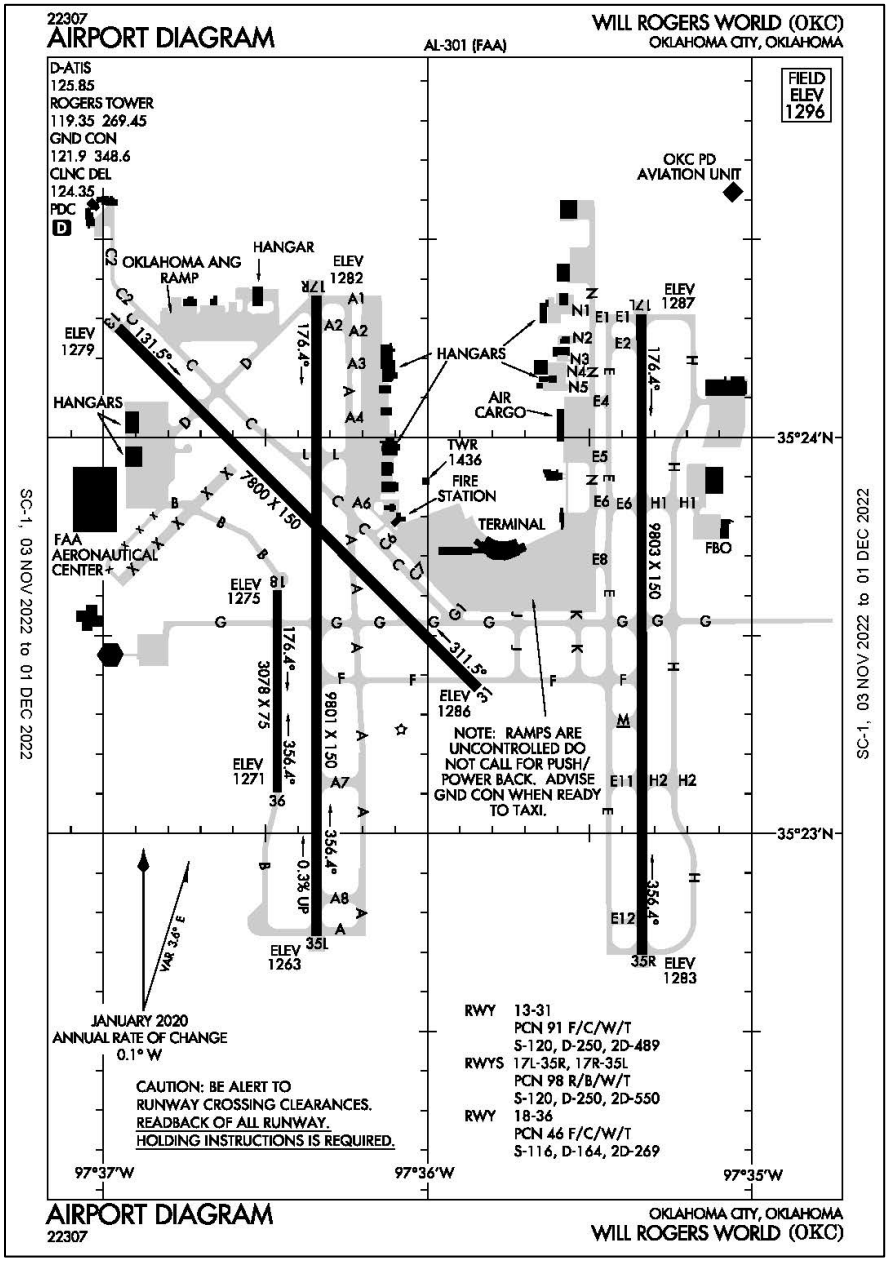


Figure 3-1. WRWA Airport Diagram

3.2.2.2 No Action Alternative

Under the No Action Alternative, WRANGB would not take any further action with regards to aircraft beddown/recapitalization, support projects, or WRANGB support projects. The increase in flight activity would not occur, and current conditions would continue. Therefore, implementation of the No Action Alternative would result in no impact on airspace.

3.2.3 Cumulative Effects

None of the actions considered in the evaluation of cumulative effects are anticipated to have a significant impact on airspace. Some increase in air traffic may result, but WRWA is equipped to handle this increase. Therefore, cumulative impacts to airspace at WRANGB that could result from implementation of the Proposed Action when added to the effects of other past, present, and reasonably foreseeable actions would not be significant.

3.3 Air Quality and Climate Change (Greenhouse Gas Emissions)

Air quality is the degree to which the atmosphere is free of one or more contaminants (e.g., dust, fumes, gas, mist, odor, smoke, and vapor, also known as air pollutants) such as to be injurious to human, plant, or animal life. Air quality as a resource incorporates several components that describe the levels of overall air pollution within a region, sources of air emissions, and regulations covering air emissions.

Under the authority of the Clean Air Act (CAA) and subsequent regulations, the United States Environmental Protection Agency (USEPA) has divided the country into geographical regions known as Air Quality Control Regions (AQCR) to evaluate compliance with the National Ambient Air Quality Standards (NAAQS). The region of influence for the Proposed Action is Oklahoma County within the Central Oklahoma Intrastate AQCR (AQCR 47) (40 CFR 81.47). There are no Prevention of Significant Deterioration (PSD) sites located in the region near WRANGB (40 CFR 81.424).

The CAA of 1970, 42 USC Section 7401 et seq. amended in 1977 and 1990, is the primary federal statute governing air pollution. The CAA establishes NAAQS for criteria pollutants and classifies areas as to their attainment status relative to NAAQS. The six criteria pollutants with promulgated federal NAAQS are: particulate matter (PM_{10} and $PM_{2.5}$), carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), lead (Pb), and ozone (O_3). The State of Oklahoma has accepted the federal standards.

Federal regulations designate air quality control regions in violation of the NAAQS as nonattainment areas (NAA) and areas that meet the NAAQS as attainment areas. An area's attainment status is determined for each of the NAAQS and provides information to evaluate the level of air quality impairment. An area previously designated nonattainment and subsequently re-designated to attainment is termed a maintenance area. A maintenance area has a maintenance plan or revision to the applicable State Implementation Plan (SIP), to ensure sustainment of the air quality standards. The General Conformity Rule (40 CFR Part 93, Subpart B) requires any federal agency responsible for an action in a nonattainment area or maintenance area to determine that action conforms to the appropriate SIP or that the action is exempt from the General Conformity Rule requirements.

Greenhouse gases (GHGs) are generated by both naturally occurring and man-made activities such as normal atmospheric activity, vehicle use, building heating and cooling, electricity generation, and other sources of combustion. Naturally occurring GHGs include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Man-made gases in addition to CO_2, CH_4, and N_2O include hydrofluorocarbons

(HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Each GHG has an estimated global warming potential value that equates the specific GHG to the global warming potential of CO_2, known as CO_2-equivalents (CO_{2e}). The CO_{2e} can be summed to review the cumulative GHG emissions.

3.3.1 Affected Environment

Federal regulations designate areas in violation of the NAAQS as nonattainment and areas with levels below the NAAQS as attainment. Oklahoma County is within Air Quality Control Region 47, which USEPA has designated as an attainment area for all criteria pollutants (USEPA 2023a). The project complies with the General Conformity Rule (40 CFR Part 93) because all areas associated with the Proposed Action are in attainment; no further analysis is required.

WRANGB currently operates under Air Permit No. 2018-0806-O issued by the Oklahoma Department of Environmental Quality (ODEQ 2019). The permit covers air emissions from operation of nine diesel-fired emergency generators, one natural-gas fired emergency generator engine, and a 10,000-gallon gasoline tank (ODEQ 2019).

Air emissions at WRANGB are primarily from the maintenance of aircraft, including the use of solvents, paint stripping, surface coating, fuel dispensing, fuel tanks, external combustion, internal combustion (including emergency generators), and woodworking. Table 3-1 lists WRANGB's facility-wide air emissions from all significant sources (WRANGB 2021; OKANG 2015).

Table 3-1. 2018 Emissions for Significant Stationary Sources at WRANGB

Pollutant	Emissions (tons per year)
CO	315.1
NO_X	362.25
Volatile organic compounds (VOCs) *	0.71
PM_{10} *	0.06
$PM_{2.5}$ *	0.06
SO_X	48.15
Source: Emissions were calculated using the 2021 APIMS (which doesn't contain emissions from aircraft operations) added to the emission estimates from 13 MC-12 aircraft (OKANG 2015) * Emission estimates for MC-12 aircraft did not include VOCs or PM (OKANG 2015).	

Climate and Greenhouse Gasses. WRANGB's average high temperature is 92.9 degrees Fahrenheit (°F) in the hottest month of July, and the average low temperature is 27.1°F in the coldest month of January. WRANGB has an average annual precipitation of 35.6 inches per year. The wettest time of the year is May and June with an average rainfall of 4.6 and 4.9 inches (BestPlaces, 2023).

EO 13834, *Efficient Federal Operations,* outlines policies intended to ensure that federal agencies meet such statutory requirements in a manner that increases efficiency, optimizes performance, eliminates unnecessary use of resources, and protects the environment. The EO specifically requires agencies within the DoD to measure and report their GHG emissions.

3.3.2 Environmental Consequences

3.3.2.1 Proposed Action

Estimated criteria pollutant emissions from the construction and demolition portions of the Proposed Action were calculated using the U.S. Air Force's Air Conformity Applicability Model (ACAM) Version 5.017b. ACAM outputs represent maximum emissions without the implementation of any mitigation measures that might reduce emissions. Appendix B presents the ACAM assumptions, full analysis results, and Record of Conformity Analysis (ROCA). Climate change presents a global problem caused by increasing global atmospheric concentrations of GHG emissions, and the current status of the science surrounding it does not support determining the global significance of local or regional emissions of GHGs from a particular action. Nonetheless, GHGs were quantified for the Proposed Action for purposes of disclosing the local net effects (increase or decrease) and for their potential usefulness in making a reasoned choice among alternatives.

WRANGB would be required to evaluate the Proposed Action for air permitting requirements. PSD permits for individual sources are not expected because no PSD sites are located in the region near WRANGB (40 CFR 81.424). Existing air permits may require revision or new air permits may need to be obtained associated with installation of any new emergency generators and the conversion of two USTs to ASTs.

The potential emissions are estimated and compared to the General Conformity *de minimis* thresholds. The General Conformity *de minimis* threshold values are used as a conservative indicator if a project's emissions within an attainment area would exceed the NAAQS.

Air Quality Analysis

Demolition and Construction

The Proposed Action primarily involves the demolition of old facilities, construction of new facilities, renovation/expansion of existing facilities, or construction of additional infrastructure.

The Proposed Action would produce emissions from mobile sources during demolition and construction activities. Table 3-2 presents the estimated emissions associated with the most intense year of emissions associated with each project and with all projects if they occurred within the same year. It is unlikely construction on the projects would actually occur simultaneously. Appendix B provides detailed information on the construction and demolition elements and quantities associated with each project.

As shown in Table 3-2, the estimated emissions would be below indicators of significance designated as per the Air Force Air Quality EIAP Guide series (i.e., *de minimis* levels) (USAF 2020).

Operations

The Proposed Aircraft Beddown and Recapitalization would increase staffing levels by 150-200 personnel, increasing mobile source emissions. Operational emissions from the increased number of aircraft and flight operations would also increase. Personnel and aircraft emissions were estimated using ACAM and are presented in Table 3-2.

Although some projects involve replacing existing facilities with new larger facilities, the functionality of each operation would essentially remain the same. Therefore, operational emissions from Mission Supporting Projects and WRANGB Supporting Projects would remain similar to baseline emissions for each project. Implementation of Project 17 (Building 1043 UST/AST Conversion) may reduce emissions by a negligible amount by replacing 10,000-gallon USTs with 8,000-gallon ASTs.

Climate Change Considerations

To serve as a reference point, the estimated GHG emissions were compared against the proposed NEPA GHG threshold indicator for quantitative analysis of 25,000 metric tons of CO_2e per year (refer to Table 3-2). Based on the relative magnitude of estimated GHG emissions, a general inference can be drawn regarding whether the Proposed Action would in any way be meaningful with respect to the discussion regarding climate change. As shown, emissions of GHG would be negligible when compared to the proposed NEPA GHG threshold indicator. This demonstrates that in isolation, additional GHG emissions expected as a result of the implementation of the Proposed Action would have a negligible effect on climate change.

Table 3-2. Estimated Emissions (Maximum Emissions Year by Project)

Project	Emissions in Maximum Emission Year (tons/year)[1]							CO_2e (metric tons/year)[2]
	CO	Pb	VOC	NO_x	SO_x	PM_{10}	$PM_{2.5}$	
Aircraft	89.59	0.00	27.76	3.70	1.05	0.85	0.77	3149
Personnel	4.61	0.00	0.30	0.22	<0.01	0.01	0.01	416
Project 1: Contract Logistics Support Storage	0.19	0.00	0.07	0.15	<0.01	0.05	0.01	36
Project 2 – Aircraft Parking	0.08	0.00	1.11	0.06	<0.01	0.00	<0.01	17
Project 3 – Arm/De-Arm Pad	0.11	0.00	0.02	0.10	<0.01	0.78	<0.01	21
Project 4 – Squad Operations/Hangar	0.19	0.00	0.10	0.16	<0.01	0.05	0.01	36
Project 5 – R-11 Refueler Parking	0.03	0.00	0.07	0.02	<0.01	0.01	<0.01	5
Project 6 – AeroMedical and Mission Rehearsal Team	0.11	0.00	0.06	0.09	<0.01	0.03	<0.01	20
Project 7 – Formal Training Unit Administration and Simulators	0.12	0.00	0.07	0.10	<0.01	0.04	<0.01	21
Project 8 – Formal Training Unit Administration (Building 1052)	NA	NA	NA	NA	NA	NA	NA	NA
Project 9 – Munitions Storage Area	0.16	0.00	0.05	0.13	<0.01	0.04	0.01	29
Project 10 – Indoor Combat Arms Training and Maintenance Facility	0.13	0.00	0.06	0.11	<0.01	0.02	<0.01	25
Project 11 – Fire Department Addition/Alteration	0.07	0.00	0.04	0.05	<0.01	0.00	<0.01	14
Project 12 – Install Backup Generator in Building 1001	0.02	0.00	0.01	0.02	<0.01	0.01	0.01	3
Project 13 – Gymnasium/Logistics Readiness Squadron	0.10	0.00	0.03	0.08	<0.01	0.04	<0.01	19
Project 14 – Modify Entry Control Facility	0.05	0.00	<0.01	0.04	<0.01	0.01	<0.01	9
Project 15 – Civil Engineering	0.07	0.00	0.07	0.06	<0.01	0.00	<0.01	16
Project 16 – Construct Building 1047 Loading Ramp	0.02	0.00	<0.01	0.02	<0.01	0.00	<0.01	3
Project 17 – Building 1043 UST/AST Conversion	NA	NA	NA	NA	NA	NA	NA	NA
Project 18 – Relocate C-130 Training Aid	0.06	0.00	0.01	0.05	<0.01	0.11	<0.01	9
Project 19 – Construct Combined Base Supply/Equipment Storage and Hazardous Materials Storage	0.20	0.00	0.10	0.17	<0.01	0.08	0.01	36
Project 20 – Construct Wash Rack	0.02	0.00	<0.01	0.02	<0.01	<0.01	<0.01	3
Project 21 – Intel Facility	0.10	0.00	0.08	0.08	<0.01	0.03	<0.01	21

Project	Emissions in Maximum Emission Year (tons/year)[1]							CO_2e (metric tons/year)[2]
	CO	Pb	VOC	NO_x	SO_x	PM_{10}	$PM_{2.5}$	
Project 22 – Renovate Building 1040	0.29	0.00	0.09	0.24	<0.01	0.01	0.01	53
Project 23 – Construct Remaining MSA Projects	NA	NA	NA	NA	NA	NA	NA	NA
de minimis Indicator of Significance (per year)	100	25	100	100	100	100	100	--
Does any Project exceed *de minimis* indicator	**No**	**No**	**No**	**No**	**No**	**No**	**No**	--
Cumulative Emissions[4] if all project maximums occurred in same year	96.34	0.00	30.11	5.65	1.06	2.17	0.85	3,961
Do Cumulative Emissions exceed *de minimis*?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	--

Notes: [1] Rounded to the nearest tenth.
[2] Rounded to the nearest whole number.
[3] For projects with alternatives, the alternative that would generate the greatest emissions is presented; thus, the other alternative would result in less emissions.
[4] Construction emissions reflect completing all construction in each project within one year. However, it is highly likely that some construction may take multiple years and not all projects would take place in the same year. All emissions are unmitigated, (i.e., no dust control, low volatile organic compound paint, or construction equipment idle controls, etc.).

Summary of Project Emissions and Impact

As shown in Table 3-2 and supported by the detailed calculations in Appendix B, implementation of the proposed Aircraft Beddown and Recapitalization, and construction and demolition activities would generate emissions less than *de minimis* levels. Emissions would not significantly increase from current conditions. Estimated GHG emissions would be well below recognized thresholds. Appendix B provides the Record of Air Analysis (ROAA), demonstrating that no further general conformity review is required. Therefore, implementation of the Proposed Action would result in a less than significant impact to air quality and climate change.

3.3.2.2 No Action Alternative

Under the No Action Alternative, no change to the existing conditions would occur, and air emissions would continue at or near their current levels. Therefore, implementation of the No Action Alternative would result in no impact to air quality and climate change

3.3.3 Cumulative Effects

As shown in Table 3-2, the total annual emissions from the Proposed Action would be below *de minimis* levels and the GHG threshold identified by CEQ in draft guidance for evaluating the significance of GHG emissions. Present and future projects at WRANGB and throughout the Central Oklahoma Intrastate AQCR would contribute criteria pollutant and GHG emissions. As demonstrated by the current attainment status of Oklahoma County for the NAAQS, regional emissions have not resulted in an exceedance of the NAAQS. Therefore, cumulative impacts to air quality at WRANGB that could result from implementation of the Proposed Action when added to the effects of other past, present, and reasonably foreseeable actions would not be significant.

3.4 CULTURAL RESOURCES

3.4.1 Affected Environment

The affected environment (or Area of Potential Effect [APE]) for cultural resources includes three categories of resources: (1) archaeological sites (Native American and/or Euro-American), (2) historic buildings and other facilities of the built-up environment (e.g., taxiway), and (3) Native American traditional cultural properties (TCP), sacred sites, and other properties of religious, cultural, or traditional significance (which may include burials). The significance of archaeological sites and historic structures (i.e., their eligibility for the National Register of Historic Places [NRHP]) is determined by NGB and the Oklahoma Air National Guard in consultation with the Oklahoma SHPO. Native American TCPs, sacred sites, and other properties of religious, cultural, and traditional significance are identified through consultation with Native American Tribes that have a potential historic association with the area occupied by WRANGB.

3.4.1.1 Historic Context for WRANGB

The significance (i.e., eligibility for the NRHP) of archaeological sites and historic structures is evaluated in the context of prehistory and history at the national, state, and local levels. To date, the only cultural resources identified at WRANGB are historic buildings of the Cold War era (1946–1989), which have been evaluated for significance in the context of Cold War history and engineering (U.S. Department of Defense 1994). WRANGB was established in 1948-1949, when an Oklahoma Air National Guard (OKANG) unit was moved to Will Rogers World Airport and performed a number of Cold War missions between 1948 and 1989 (Lindsey, undated; OKANG 2010: 2-10–2-15).

Native American TCPs, sacred sites, and other properties of religious, cultural, and traditional significance are identified and evaluated by tribes that have a potential historic association with the area occupied by WRANGB. NGB and WRANGB currently conduct consultation with 38 federally recognized tribes concerning the presence of these properties on installation land (Baugh 2009; OKANG 2022: 34–35). The tribes include the following (with Tribal Historic Preservation Officers [THPOs]): Absentee Shawnee Tribe, Caddo Nation, Cherokee Nation, Cheyenne & Arapaho Tribes, Choctaw Nation of Oklahoma, Citizen Potawatomi Nation, Comanche Nation, Eastern Shawnee Tribe of Oklahoma, Miami Tribe of Oklahoma, Muscogee (Creek) Nation of Oklahoma, Osage Nation, Otoe-Missouria Tribe of Oklahoma, Ottawa Tribe of Oklahoma, Pawnee Nation of Oklahoma, Ponca Tribe of Indians of Oklahoma, Quapaw Tribe of Oklahoma (O-Gah-Pah), Seminole Nation of Oklahoma, Seneca Cayuga Tribe of Oklahoma, Thlopthlocco Tribal Town, Wichita and Affiliated Tribes, and Wyandotte Nation.

Additional federally-recognized tribes that should be consulted include: Alabama Quassarte Tribal Town, Apache Tribe, Chickasaw Nation, Delaware Nation, Delaware Tribe of Indians, Fort Sill Apache Tribe, Iowa Tribe, Kaw Nation, Kialegee Tribal Town, Kickapoo Tribe, Kiowa Tribe, Modoc Tribe, Otoe-Missouria Tribe, Ottawa Tribe, Peoria Tribe of Indians, Sac and Fox Nation, Shawnee Tribe, Tonkawa Tribe, United Keetoowah Band of Cherokees (OKANG 2022: 35).

3.4.1.2 Cultural Resources at WRANGB

WRANGB has been subject to a comprehensive inventory and evaluation of archaeological sites and historic buildings (associated with the Cold War: 1946-1989) (Brooks 2008; OKANG 2008, 2010, 2022). There are no recorded archaeological sites on WRANGB, and among buildings constructed during the Cold War only one structure (Bldg. 1011) is significant (i.e., officially determined eligible for the NRHP). Native

American tribes with potential historic ties to WRANGB land are being consulted with regarding TCPs, sacred sites, and other properties of religious, cultural, and traditional significance (OKANG 2022: 35).

Archaeological Sites. The Oklahoma Archaeological Survey (OAS) performed a file search for WRANGB and surrounding areas in April 2023. There are no recorded Native American or Euro-American archaeological sites or isolated finds on WRANGB, and it appears that the potential for future discoveries of archaeological remains on the base is low. The low potential for future discoveries is due in large part to the small size of the installation (135 acres) and extensive ground disturbance to most of the area (Brooks 2008).

Both Native American and Euro-American archaeological sites have been recorded in areas near WRANGB; an archaeological inventory and assessment of the installation was performed in 2008 by the Oklahoma State Archaeologist (Brooks 2008). The inventory included field survey and shovel-testing on five acres of the relatively undisturbed northern parcel (added to WRANGB in 1990) but yielded negative results. Several archaeological surveys also have been conducted on or adjacent to Will Rogers World Airport, including a 1990 survey of a DOJ Transfer Center on the west side of the airport (18 acres) that yielded two Native American sites (34OK143, 34OK144) (Friedlander 1991) and three small construction projects (heliport, cell tower, and radar tower) with negative results (OKANG 2022: 30). A large survey for the Mike Monroney Aeronautical Center (570 acres), which is located immediately west of the airport, yielded two Euro-American sites (34OK158, 34OK159) (Briscoe 1998).

Native American TCPs, Sacred Sites, and Other Properties. No Native American TCPs, sacred sites, or other properties of religious, cultural, and traditional significance have been identified on WRANGB (OKANG 2010: 2-25).

Historic Buildings. In 2008, WRANGB conducted an inventory and evaluation of all buildings on the installation constructed during the Cold War (i.e., before 1990) (OKANG 2008). A total of 19 buildings constructed between the years 1953 and 1988 were inventoried and evaluated (both as individual buildings and collectively as a potential historic district) in the context of Cold War history. The Oklahoma SHPO concurred with all eligibility recommendations (Heisch 2008). Ten of the inventoried/evaluated buildings could be affected by the proposed action; these buildings are listed in Table 3-3.

Table 3-3. Cold War Era Buildings at WRANGB that could be affected by the Proposed Action

Building No.	Building Name	Year Built	NRHP Eligibility
Building 1001	Base Supply and Equipment Warehouse	1953	not eligible
Building 1007	Base Civil Engineering	1972	not eligible
Building 1010	AG AB&C Storage Magazine	1959	not eligible
Building 1011	Maintenance Hangar	1960	officially eligible
Building 1013	Fluid Systems Maintenance Dock	1970	not eligible
Building 1020	A/SE Storage Facility/Shop	1972	not eligible
Building 1033	Engine Maintenance Shop	1979	not eligible
Building 1037	SP Operations	1984	not eligible
Building 1038	Traffic Check House	1984	not eligible
Building 1040	Squad Operations	1988	not eligible

Only one of the buildings inventoried in 2008 was officially determined eligible for the NRHP. The Maintenance Hangar (Bldg. 1011) was evaluated as eligible for the NRHP under Criterion A in 36 CFR 60

based on its association with the Miss Oklahoma City aircraft ('Talking Bird'), which provided communications capabilities for operations in areas where communications infrastructure was non-existent or limited during the early 1960s (OKANG 2008) (see Figure 3-2). Building 1011, which was constructed in 1960, was evaluated under Criteria Consideration G ('exceptional importance') because at the time of the building inventory (2008) it was less than 50 years old. The National Guard Bureau re-evaluated Building 1011 in November 2017 and determined that it was not eligible for the NRHP (NGB 2017). The Oklahoma SHPO disagreed with this determination maintaining that Building 1011 is eligible for the NRHP in correspondence dated September 6, 2019.

Source: NGB 2017: 19, Fig. 3.

Figure 3-2. Maintenance Hangar (Building 1011) – East Elevation

During the 2008 Cold War era building inventory and evaluation, all but one of the surveyed structures (Bldg. 1001) were less than 50 years of age and therefore were evaluated for NRHP eligibility under Criteria Consideration G ('exceptional importance') in 36 CFR 60. Since 2008, a number of other inventoried buildings have reached 50 years of age, requiring re-evaluation of NRHP eligibility without application of Criteria Consideration G (OKANG 2022: 39). Among the buildings requiring re-evaluation are four structures that could be affected by the proposed action: Buildings 1007, 1010, 1013, and 1020. As part of this effort, the 137 SOW consulted with the Oklahoma SHPO regarding these and other buildings at WRANGB. On January 19, 2024, the Oklahoma SHPO concurred that Buildings 1007, 1008, 1009, 1010, 1013, 1016, 1020, and 1022 are not eligible for the NRHP (File #0509-24). Further, the Oklahoma SHPO acknowledges that Building 1001 has previously been determined not eligible for the NRHP (File #1653-08).

3.4.2 Environmental Consequences

The significance of potential impacts to cultural resources are based on an evaluation of the context and intensity of impacts to historic properties listed in or eligible for listing in the NRHP that may cause loss or destruction of significant cultural resources. Adverse effects may directly or indirectly alter a characteristic that qualifies a property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

3.4.2.1 Proposed Action

The proposed action would have no effect on Native American or Euro-American archaeological sites, TCPs, sacred sites, or other properties of religion, cultural, and traditional significance, but could affect Building 1011 from the Cold War era that was officially determined eligible for the NRHP. The potential effects to historic properties of the 23 projects that are subsumed under the proposed action are summarized in Table 3-4.

Table 3-4. Potential effects of the proposed action to historic properties at WRANGB

Project	Description	Effect to Historic Properties
Project 1	Contract Logistics Support Storage (Building 1033, 1037, 1044, 1045, or new facility)	No historic properties affected
Project 2	Aircraft Parking	No historic properties affected
Project 3	Arm/De-Arm Pad	No historic properties affected
Project 4	Squad Operations/Hangar (Building 1011 or new facility)	Potential effect to a historic property
Project 5	R-11 Refueler Parking (west of Building 1013)	No historic properties affected
Project 6	AeroMedical and Mission Rehearsal Team (Building 1001 or new facility)	No historic properties affected
Project 7	Formal Training Unit Administration and Simulators (Building 1047 or 1052)	No historic properties affected
Project 8	Formal Training Unit Administration (Building 1052)	No historic properties affected
Project 9	Munitions Storage Area (Building 1010)	No historic properties affected
Project 10	Indoor Combat Arms Training and Maintenance Facility (north of Building 1050 or northwest of Building 1055)	No historic properties affected
Project 11	Fire Department Addition/Alteration (east side of Building 1048)	No historic properties affected
Project 12	Install Backup Generator in Building 1001	No historic properties affected
Project 13	Gymnasium/Logistics Readiness Squadron (Building 1020)	No historic properties affected
Project 14	Modify Entry Control Facility (Building 1038)	No historic properties affected
Project 15	Civil Engineering (Building 1007)	No historic properties affected
Project 16	Construct Building 1047 Loading Ramp	No historic properties affected
Project 17	Building 1043 UST/AST Conversion	No historic properties affected
Project 18	Relocate C-130 Training Aid (near Building 1033)	No historic properties affected
Project 19	Construct Combined Base Supply/Equipment Storage and Hazardous Materials Storage (north of Building 1047 or west of Building 1020)	No historic properties affected
Project 20	Construct Wash Rack (west of Building 1011)	Potential effect to a historic property
Project 21	Intel Facility (Building 1050 or new facility)	No historic properties affected
Project 22	Renovate Building 1040	No historic properties affected
Project 23	Construct Remaining MSA Projects (see Project 9)	No historic properties affected

The consequences of the proposed action to the three categories of cultural resources are discussed below by individual category.

Archaeological Sites. There are no recorded Native American or Euro-American archaeological sites or isolated finds on WRANGB, and the potential for archaeological remains on the installation is assessed as low (Brooks 2008). In the unlikely event of an unanticipated discovery during ground-disturbing activities of the projects subsumed under the proposed action, WRANGB would follow a Standard Operating Procedure (SOP) for project review and unexpected discoveries.

In the event of an unanticipated archaeological discovery during construction activities related to the proposed action, WRANGB will implement the following SOP: (1) construction activities within 50 feet of the discovery shall cease (work may continue in other areas); (2) the Project Manager shall notify the Environmental Manager (EM); and (3) the EM shall make a field evaluation of the context of the deposit and its probable age and significance and document as appropriate. If disturbance of the archaeological deposits is minimal and the project excavation can be relocated to avoid the remains, the EM will clear the undertaking at the installation level. If the excavation cannot be relocated, the EM shall notify the office of the Oklahoma SHPO to report the discovery and to initiate consultation under Section 106 of the NHPA.

Native American TCPs, Sacred Sites, and Other Properties. No Native American TCPs, sacred sites, or other properties of religious, cultural, and traditional significance have been identified on WRANGB (OKANG 2010: 2-25).

In the event of an unanticipated discovery of Native American remains or objects of potential concern to the tribes during construction activities related to the proposed action, WRANGB will implement the following SOP: (1) construction activities within 50 feet of the discovery shall cease (work may continue in other areas); (2) the Project Manager shall notify the EM; (3) the EM will arrange to visit the site within 24 hours of the discovery, to determine if the remains are associated with a recent crime scene, an archaeological site with human remains (non-Native American), or if the remains are of Native American descent, notice will be made by phone, email, and writing to the concerned tribes; (4) if the remains are human and associated with a crime scene of 75 years old or less, the EM will notify the Project Maintenance Office (PMO) and the Criminal Investigations Department (CID); if the remains are not associated with a crime scene, or if all law enforcement officials have determined that the remains will not be involved in a legal investigation, the EM will contact the Oklahoma SHPO. If the EM receives notification of an inadvertent discovery of Native American human remains and/or cultural objects, immediate telephone notification will be provided to the WRANGB Commander, SHPO, and the concerned tribes (OKANG 2022).

Historic Buildings. The proposed action could affect Building 1011 from the Cold War era that was officially determined eligible for the NRHP. The potential effects to historic properties are described below with reference to specific projects subsumed under the proposed action.

Project 4 (Squad Operations/Hangar): This project has the potential to affect Building 1011, which is officially determined eligible for the NRHP. Two options for location of the Squad Operations/Hangar facility include renovation of Building 1011. If either of these options is selected, WRANGB could have an adverse effect on the building by altering characteristics of the building that affect its eligibility to the NRHP.

Re-evaluation of Cold War Era Buildings. WRANGB has re-evaluated Buildings 1007, 1010, 1013, and 1020 for eligibility to the NRHP under the four Criteria (A, B, C, and D) for structures greater than 50 years

old in 36 CFR 60 and without application of Criteria Consideration G ('exceptional importance'). The Oklahoma SHPO concurred that Buildings 1007, 1010, 1013, and 1020 are not eligible for the NRHP.

Section 106 Consultation for the Proposed Action. If the proposed action includes renovation of Building 1011, which is officially eligible for the NRHP, the consultation submittal would include a list of all proposed alterations to the structure. If the Oklahoma SHPO determines that the proposed action would have an adverse effect on Building 1011, WRANGB would develop a Memorandum of Agreement (MOA) with the SHPO (and the Advisory Council on Historic Preservation [ACHP]) if they decide to participate) to mitigate the effects of the proposed action on Building 1011.

3.4.2.2 No Action Alternative

The no action alternative would have *no effect* on cultural resources. Continued operation of the MC-12 fleet until retirement is not affecting any sites or structures that are either listed on or officially determined eligible for the NRHP and is not affecting any Native American TCPs or sacred sites identified by the concerned tribes.

3.4.3 Cumulative Effects

The Proposed Action is not likely to cause adverse effects on cultural resources at and near WRANGB. No archaeological sites have been observed within the APE. Besides Building 1011, there are no other NRHP eligible resources located within the APE. There are no potential Traditional Cultural Properties that have been identified in the project area. However, any ground disturbing activities could have the potential to adversely impact currently unidentified cultural resources. The Proposed Action would not cause direct or indirect impacts to NRHP-eligible resources; no adverse effects would occur. WRANGB would continue to perform Section 106 consultation for potential impacts to cultural resources for all undertakings as applicable. No effects from other actions or activities have been identified that, when combined with the effects of the Proposed Action, would have a significant effect on cultural resources. Therefore, cumulative impacts to cultural resources at WRANGB that could result from implementation of the Proposed Action when added to the effects of other past, present, and reasonably foreseeable actions would not be significant.

3.5 BIOLOGICAL AND NATURAL RESOURCES

3.5.1 Affected Environment

Vegetation and Wildlife. The multiple project within the Proposed Action occur within three vegetation communities including grassland, wetland, and developed (Ageiss and Seres 2023). Projects 9 and 23 occur within or near wetland habitat, and Projects 1, 3, 6, 9, 14, 21, and 23 occur within the grassland vegetation community. All other projects occur within the developed habitat type. These habitat types were distinguished and characterized by their associated vegetation communities and dominant species as well as their usefulness to wildlife in the area.

Grassland: The grassland habitat is regularly maintained and mowed. The majority of the species within this habitat consist of grasses and forbs with saplings and woody herbs present. The herbaceous species include cheatgrass (*Bromus tectorum*), rescue grass (*Bromus catharticus*), Japanese brome (*Bromus japonicus*), fox sedge (*Carex vulpinoidea*), tufted foxtail (*Alopecurus carolinianus*), buffalograss (*Bouteloua dactyloides*), tall fescue (*Lolium arundinaceum*), purple lovegrass (*Eragrostis spectabilis*), wild onion (*Allium canadense*), purple poppymallow (*Callirhoe involucrata*), field bindweed (*Convolvulus arvensis*), ribwort plantain (*Plantago lanceolata*), spring forget-me-not (*Myosotis macrosperma*), great

plains ragwort (*Packera tampicana*), and common dandelion (*Taraxacum offinale*) (Ageiss and Seres 2023). Woody stemmed and succulent species in this vegetation community include catclaw briar (*Mimosa nuttallii*), wild licorice (*Glycyrrhiza lepidota*), low pricklypear (*Opuntia humifusa*), and Arkansas yucca (*Yucca arkansana*). A small, wooded area occurs in a low-lying area in the southwest portion of the installation. Eastern cottonwood (*Populus deltoides*), black willow (*Salix nigra*), sandbar willow (*Salix interior*), netleaf hackberry (*Celtis laevigata*), poison ivy (*Toxicodendron radicans*), and coralberry (*Symphoricarpos orbiculatus*) occur at this site (Ageiss and Seres 2023).

This vegetation community provides good foraging areas for a variety of bird species from songbirds to raptors, including the grasshopper sparrow (*Ammodramus savannarum*), American pipit (*Anthus rubescens*), upland sandpiper (*Bartramia longicauda*), Baird's sandpiper (*Calidris bairdii*), semipalmated sandpiper (*Calidris pusilla*), savannah sparrow (*Passerculus sandwichensis*), great horned owl (*bubo virginianus*), red-tailed hawk (*Buteo jamaicensis*), Northern harrier (*Circus hudsonius*), American kestrel (*Falco sparverius*), yellow-rumped warbler (*Setophaga coronata*), Eastern bluebird (*Sialia sialis*), and dickcissel (*Spiza americana*). The mammals that occupy this habitat type include white-tailed deer (*Odocoileus virginianus*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), coyote (*Canis latrans*), Virginia opossum (*Didelphis virginiana*), and hispid cotton rat (*Sigmodon hispidus*). The orange sulphur (*Colias eurytheme*) and monarch butterfly (*Danaus plexippus*) are the two invertebrates that occur within this habitat type (Ageiss and Seres 2023).

Wetland: This vegetation community is limited across the landscape and occurs on the northwest portion of WRANGB as well as in the south-central portion of the installation. This habitat type is associated with drainage ditches, small streams, and palustrine emergent pockets where surface water pools. The dominant species within these wetlands include broad-leaved cattail (*Typha latifolia*) and several species of spikerush (*Eleocharis sp.*) (Ageiss and Seres 2023).

Common birds occurring in this habitat type include mallard (*Anas platyrhynchos*), marsh wren (*Cistothorus palustris*), Wilson's snipe (*Gallinago delicata*), Eurasian collared dove (*Streptopelia decaocto*), and Eastern meadowlark (*Sturnella magna*). Raccoon and striped skunk likely use this habitat as well as white-tailed deer and coyote. Additionally, the Blanchard's cricket frog (*Acris blanchardi*), common snapping turtle (*Chelydra serpentina*), and chorus frog (*Pseudacris sp.*) use this habitat type (Ageiss and Seres 2023).

Developed: The developed vegetation community lies within the buildings and human-use areas of the installation. This habitat consists of mowed fields along the airfield, lawns, installation buildings, parking lots, paved roads, and ornamental planted trees. Species occurring in this habitat type's herbaceous strata include bermudagrass (*Cynodon dactylon*) and white clover (*Trifolium repens*). Ornamental tree species within this habitat type include Eastern red cedar (*Juniperus virginiana*), creeping juniper (*Juniperus horizontalis*), crepe myrtle (*Lagerstroemia indica*), Scots pine (*Pinus sylvestris*), Chinese pistache (*Pistacia chinensis*), and Chinese elm (*Ulmus parvifolia*) (Ageiss and Seres 2023).

Common birds in this habitat type include cedar waxwing (*Bombycilla cedrorum*), Canada goose (*Branta canadensis*), killdeer (*Charadrius vociferus*), mourning dove, northern cardinal (*Cardinalis cardinalis*), chimney swift (*Chaetura pelagica*), common nighthawk (*Chordeiles minor*), American crow (*Corvus brachyrhynchos*), blue jay (*Cyanocitta cristata*), house finch (*Haemorhous mexicanus*), Northern mockingbird (*Mimus polyglottos*), brown-headed cowbird (*Molothrus ater*), house sparrow (*Passer domesticus*), common grackle (*Quiscalus quiscula*), Eastern phoebe (*Sayornis phoebe*), chipping sparrow (*Spizella passerina*), Eastern meadowlark (*Sturnella magna*), Western meadowlark (*Sturnella neglecta*), European starling (*Sturnus vulgaris*), American robin (*Turdus migratorius*), scissor-tailed flycatcher

(*Tyrannus forficatus*), Western kingbird (*Tyrannus verticalis*), mourning dove (*Zenaida macroura*), and white-crowned sparrow (*Zonotrichia leucophrys*). One mammal occurs within this habitat type and includes Eastern cottontail (*Sylvilagus floridanus*). Several invertebrate species occur within this habitat type and include orange sulphur, monarch butterfly, funeral duskywing (*Erynnis funeralis*), variegated fritillary (*Euptoieta claudia*), and painted lady (*Vanessa cardui*) (Ageiss and Seres 2023).

Federally Sensitive Species. The list of Endangered and Threatened Species and Birds of Conservation Concern that may occur within the proposed project areas is presented below. This list was obtained from the USFWS Information for Planning and Consultation (IPaC) database mapper (USFWS 2023a). These species include the following:

- Tri-colored bat (*Perimyotis subflavus*) Proposed Endangered
- Piping plover (*Charadrius melodus*) Threatened
- Red knot (*Calidris canutus rufa*) Threatened
- Whooping crane (*Grus americana*) Endangered
- Arkansas River Shiner (*Notropis girardi*) Threatened
- Peppered chub (*Macrhybopsis tetranema*) Endangered
- Monarch butterfly (*Danaus plexippus*) Candidate

Due to the lack of suitable habitat for all but one of the federally sensitive species, the monarch butterfly was the only species identified as potentially occurring in the project areas (Ageiss and Seres 2023). A Biological Assessment is presented in Appendix C which presents each species and their habitat requirements as well as an assessment of their potential to occur within the proposed project area.

Additionally, three Birds of Conservation Concern (BCC) were identified as migratory birds of particular concern either because they occur on the BBC list or warrant special attention in the project area. These species include:

- Chimney swift (*Chaetura pelagica*)
- Lesser yellowlegs (*Tringa flavipes*)
- Black tern (*Chlidonias niger*)

The chimney swift was observed within the developed habitat type during the 2023 surveys (Ageiss and Seres 2023). Neither of the other two species were observed during the 2023 surveys.

A follow-up bird survey of the developed vegetation community should be undertaken to determine if the species occupy this habitat prior to construction activities. Mitigative and conservation measures should be identified and employed if the chimney swift is observed within this habitat type prior to construction.

State Sensitive Species. The list of state sensitive species was obtained from the Oklahoma Department of Wildlife Conservation Database (Oklahoma Department of Wildlife Conservation 2023). These species include the following:

- Blackside darter (*Percina maculata*) State Threatened
- Longnose darter (*Percina nasuta*) State Endangered
- Oklahoma cave crayfish (*Cambarus tartarus*) State Endangered

No habitat for these species is present within the proposed 23 project areas. A Biological Evaluation is presented in Appendix D which presents each species and their habitat requirements as well as an assessment of their potential to occur within the proposed project areas.

No federal or state listed species were documented at WRANGB during the Flora and Fauna Survey (Ageiss and Seres 2023). The monarch butterfly, a federal candidate species, was observed at several locations at WRANGB during the May 2023 surveys (Ageiss and Seres 2023).

Oklahoma Comprehensive Wildlife Conservation Strategy (OCWCS) Species. OCWCS provides guidance for the conservation of rare and declining species in Oklahoma. The OCWCS identifies species of greatest conservation need (SGCN), the habitats they require, and conservation challenges and actions. Some SGCN have an official federal or state protection status as endangered or threatened while others are not listed but may be in decline across the state of Oklahoma. Oklahoma designates SGCN as Tier I, Tier II, or Tier III species. During the 2023 surveys, two SGCN were observed within the base and included Swainson's hawk (*Buteo swainsoni*) and upland sandpiper (*Bartramia longicauda*). The hawk was observed flying over the grassland habitat, and the sandpiper was observed in the grassland habitat (Ageiss and Seres 2023).

A follow-up bird survey of the grassland vegetation community should be undertaken to determine if the species occupy this habitat prior to construction activities. Mitigative and conservation measures should be identified and employed if the Swainson's hawk and/or upland sandpiper are observed using or nesting within this habitat type prior to construction.

3.5.2 Environmental Consequences

To evaluate effects to biological and natural resources, the alternatives are reviewed with respect to a variety of factors including the following:

- Cause displacement of terrestrial or aquatic communities or loss of habitat,
- Diminish the value of habitat for wildlife or plants,
- Interfere with the movement of native resident or migratory wildlife species,
- Conflict with applicable management plans for terrestrial, avian and aquatic species and their habitat,
- Cause the introduction of noxious or invasive plant species,
- Diminish the value of habitat for fish species,
- Affect or displace endangered, threatened, or other special status species, and
- Cause encroachment on or affect designated critical habitat of a federally listed species.

3.5.2.1 Proposed Action

Much of the natural vegetation has been altered and mowed to accommodate the development and maintenance of runways and other facilities at WRANGB (Ageiss and Seres 2023). The Flora and Fauna Survey effort (Ageiss and Seres 2023) identified a total of 148 unique plant species of which 41 were introduced species and four were cultivated species. The grassland and developed habitats supported the most diversity for flora and fauna on the installation.

Direct Effects.

Vegetative Cover and Wildlife Habitat. The Proposed Action would mostly be realized within the developed vegetation community areas. Projects 1, 3, 6, 9, 14, 21, and 23 would occur in grassland habitat. Two projects, 9 and 23, would occur near the wetland habitat. The grassland and developed habitats have been perpetually and frequently disturbed through mowing which limits flowering of forbs and seed development and dispersal by grasses. Any native species that have established within the three habitat types would be lost due to the proposed construction projects occurring in areas not previously developed.

Fifty-three non-native species were identified during the field reconnaissance in 2023, and seven are considered noxious in the state of Oklahoma (Ageiss and Seres 2023). Some weedy species concentrations would be impacted by the surficial soil disturbance involved in construction. Permanent loss of vegetative cover, weedy and non-native as well as native species, would occur under the Proposed Action. Trees, shrubs, and understory vegetation and any habitat, albeit little habitat, will be removed before and during the construction activities. These effects to vegetation and wildlife from the Proposed Action would be minor because the project areas are already disturbed from consistent mowing. The wetland habitat is limited on the landscape, and any impacts to that resource should be delineated and consultation on with the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act. The proposed projects are surrounded by infrastructure and urban and commercial features. The Proposed Action increases the area of hard, impervious surfaces via pavement and gravel, which will reduce the surface area of bare or vegetated soils for wildlife to use for burrowing, digging, nesting, cover, and hunting as well as open soil for native plant establishment.

Displacement of Wildlife. Displacement of wildlife species is likely to occur in the short-term due to noise and human activity and occupation of the open grassland and developed areas outside of the existing buildings and infrastructure. Due to the nature and extent of the mowing and culling of vegetation communities at WRANGB, extensive wildlife populations are not typically using these open sites due to the human activity and occupation across the base. Increased traffic from the construction of the facilities in the open areas may result in an increase in wildlife-vehicle collisions, however, the increase in wildlife mortality due to vehicle collisions would be unlikely to have a significant impact on local wildlife population. After construction is complete, wildlife that will tolerate the new buildings, impervious surfaces, and increased human presence will move back into the greater project areas, but some habitat resources previously present will be gone or reduced.

Sensitive Species and Critical Habitat. No critical habitat for federally protected or state sensitive species occurs in the Proposed Action project areas. Habitat does occur within several of the proposed open area projects for the monarch butterfly, a federal candidate for listing species. The monarch butterfly was observed during the field reconnaissance surveys in 2023. Milkweed populations will be mapped prior to construction and preserved to the extent possible. Milkweed is the host plant for the monarch butterfly. Additionally, surveys in the grassland and developed habitat types should be undertaken prior to construction for occupation and/or nesting of two state concern species, including Swainson's hawk and upland sandpiper, as both were observed during the field reconnaissance. Implementation of the Proposed Action may have an impact on individuals and/or their habitats of monarch butterfly, Swainson's hawk, and/or upland sandpiper. Timing restrictions during breeding and nesting (typically between April and June) as well as pre-construction surveys will eliminate impacts to any of the three species.

Indirect Effects

Indirect effects to vegetation, sensitive species, and general wildlife might occur with the establishment of weedy species after construction due to additional surficial soil disturbance and infiltration by the existing weedy species occurring across the installation. Noxious and invasive plant species may spread and continue to establish at the project sites occurring in open sites in the grassland and developed habitat types and out-compete the native species over time if left unchecked. Weedy species and invasive plants reduce and eliminate native habitat and vegetative species used by wildlife, including sensitive species, causing the displacement of wildlife species.

3.5.2.2 No Action Alternative

The no action alternative would have no direct or indirect effects on vegetation, wildlife, or sensitive species. Continued operation of the MC-12 fleet until retirement is not adversely affecting biological resources at WRANGB or in the general area.

3.5.3 Cumulative Effects

Minimal cumulative effects are expected from the Proposed Action. The Proposed Action would decrease the footprint of open land available for native vegetation and use of this vegetation by wildlife, but within the installation there is currently perpetual and frequent mowing and culling of the vegetation thereby limiting its suitability for use by general wildlife. The Proposed Action also widens the area of human occupation and activity within open sites. Wildlife, including sensitive species, generally avoid human occupation areas due to increased activity, noise, and light pollution.

3.6 WATER RESOURCES

Water resources include groundwater and surface water. Wastewater and stormwater management are also considered as they can potentially impact water resources. Evaluation of water resources examines the quantity and quality of the resource and its demand for various purposes. Groundwater comprises subsurface water resources, which are essential to agricultural and industrial activities. Surface water includes lakes, rivers, and streams, all of which are important for ecological, economical, recreational, and health related reasons.

The Clean Water Act (CWA) of 1972, as amended (33 USC 1251 et seq.), and the Safe Drinking Water Act of 1974, as amended (42 USC 300f et seq.) are the primary federal laws protecting the nation's waters. In addition, several applicable regulations and permits are in place to protect the quality and quantity of water in the U.S. Implementing regulation requirements include NPDES Construction Activity General Permit (40 CFR 122-124); NPDES Industrial Permit and NPDES Municipal Separate Storm Sewer System Permit; USEPA, Subchapter D Water Programs (40 CFR 100-145); and USEPA, Subchapter N Effluent Guidelines and Standards (40 CFR 401-471).

3.6.1 Affected Environment

3.6.1.1 Groundwater

The principal groundwater aquifers that underlie WRANGB occur within the Permian age Hennessey, Gerber, and Wellington Formations. Groundwater within the Gerber and Wellington formations is classified as the Gerber-Wellington aquifer (also known as the Central Oklahoma aquifer). Groundwater is produced in the vicinity of WRANGB from the terrace and alluvium deposits that concentrate along the Canadian and North Canadian Rivers (Science and Technology, Inc., 1989). The formation consists of fine-grained sandstone interbedded with siltstone and shale. Depth to water of the Garber-Wellington aquifer ranges from less than 100 feet to approximately 250 feet (OWRB 2012). The saturated thickness of the aquifer ranges from 150 to 650 feet, and well yields range from 200 to 400 gallons per minute (gpm). The Garber-Wellington aquifer is characterized as a major bedrock aquifer and is also considered to have a very high vulnerability to contamination from surface sources of pollution (OWRB 2012).

The Hennessey aquifer produces groundwater from multiple intervals throughout the Hennessey Formation. The majority of this groundwater concentrates in the weathered zone, which underlies the soil overburden. Additional groundwater is produced from multiple fractured intervals throughout the formation.

3.6.1.2 Surface Water

Water resources in Oklahoma are managed by the Oklahoma Water Resources Board (OWRB). The OWRB manages water resources according to the Oklahoma Comprehensive Water Plan (OCWP), most recently updated in October of 2011. Oklahoma County is located entirely within the Central Watershed Planning Region (CWPR) for the OCWP and crosses six of the nine watersheds in this region: Middle Cimarron (Basin 64), Deep Fork (Basin 60), Lower North Canadian (Basin 50), Middle Canadian (Basin 58), Middle North Canadian (Basin 51), and Little (Basin 62). The northern portion of WRWA is located in the Lower North Canadian watershed while the southern portion is located in the Middle Canadian watershed (OWRB 2012).

The CWPR drains to five major rivers: the Canadian, Cimarron, Little, Deep Fork, and North Canadian (OWRB 2012). The primary river that runs through Oklahoma County is the North Canadian River, which is referred to as the Oklahoma River along a seven-mile section that runs through Oklahoma City. The southern portion of the county primarily drains to this river, while the northwestern portion of the county drains to the Cimarron River and the northeastern portion of the county drains to the Deep Fork River; the Deep Fork River is a tributary to the North Canadian River east of Oklahoma County (OWRB 2012).

The North Canadian River is the longest river in the State of Oklahoma and is one of several water sources for Oklahoma City. This river runs eastward from the northwest corner of the state, crossing through the middle of the CWPR, and terminating east of the CWPR in an arm of Lake Eufaula. The river is impounded at several reservoirs as it traverses the State of Oklahoma, including two reservoirs that are used for Oklahoma City's water supply: Canton Lake in Blaine County, prior to where the river enters Oklahoma County, and Lake Overholser, which is located on the county border in both Canadian and Oklahoma counties. Lake Stanley Draper, located in south Oklahoma County, is another drinking water source for the region Water from the North Canadian River is also routed to Lake Hefner, another water supply reservoir for Oklahoma City, via a five-mile-long canal from Lake Overholser (OWRB 2012).

WRANGB is located in the Lower North Canadian watershed and drains northward toward the Lower North Canadian River. During a Waters of the U.S. study conducted in May 2023, five streams were identified and delineated, two of which were located at WRANGB and three of which were located on WRWA at the potential locations for Project 9 (Munitions Storage Area).

Regional surface waters are shown in Figure 3-3.

3.6.1.3 Wastewater

WRANGB discharges industrial wastewater in accordance with Discharge Permit No. 1558 issued by the City of Oklahoma City Utilities Department (OKCUD 2024). The permit covers Outfall 001 which consists of industrial wastewater from base maintenance, motor pool, aircraft repair, battery shop, medical and dental clinic, and domestic waste from sanitary facilities. Discharge effluent limitations and monitoring requirements are set by the permit.

3.6.1.4 Stormwater

WRANGB is within the North Canadian River watershed. Drainage on the installation is comprised of a system of open channels and underground drainage pipes which discharge to two outfalls. Stormwater Outfall 001 and Outfall 002 discharge to an 'unnamed' tributary to the North Canadian River. The discharge

points are more than a mile away from both the North Canadian River and Cow Creek Tributary; therefore, WRANGB is not considered to be discharging to an impaired waterway. WRANGB does not discharge into High Quality Waters (HQW), Outstanding Resource Waters (ORW), or Sensitive Waters and Watersheds (WRANGB 2022a).

The Water Division of the OKDEQ has issued an OKR05 Multi-Sector General Permit pursuant to the Oklahoma Pollutant Discharge Elimination System (OPDES) for storm water at the installation (Permit No. OKR050513). This permit designates authorized discharges, discharge limitations, and requires monitoring and record keeping. The permit was issued on July 5, 2022, and will expire on July 4, 2027 (WRANGB 2022a).

WRANGB maintains a Stormwater Pollution Prevention Plan (SWPPP), providing engineering and management strategies designed to improve the quality of stormwater runoff from the installation and thereby improve the quality of receiving waters (WRANGB 2022a).

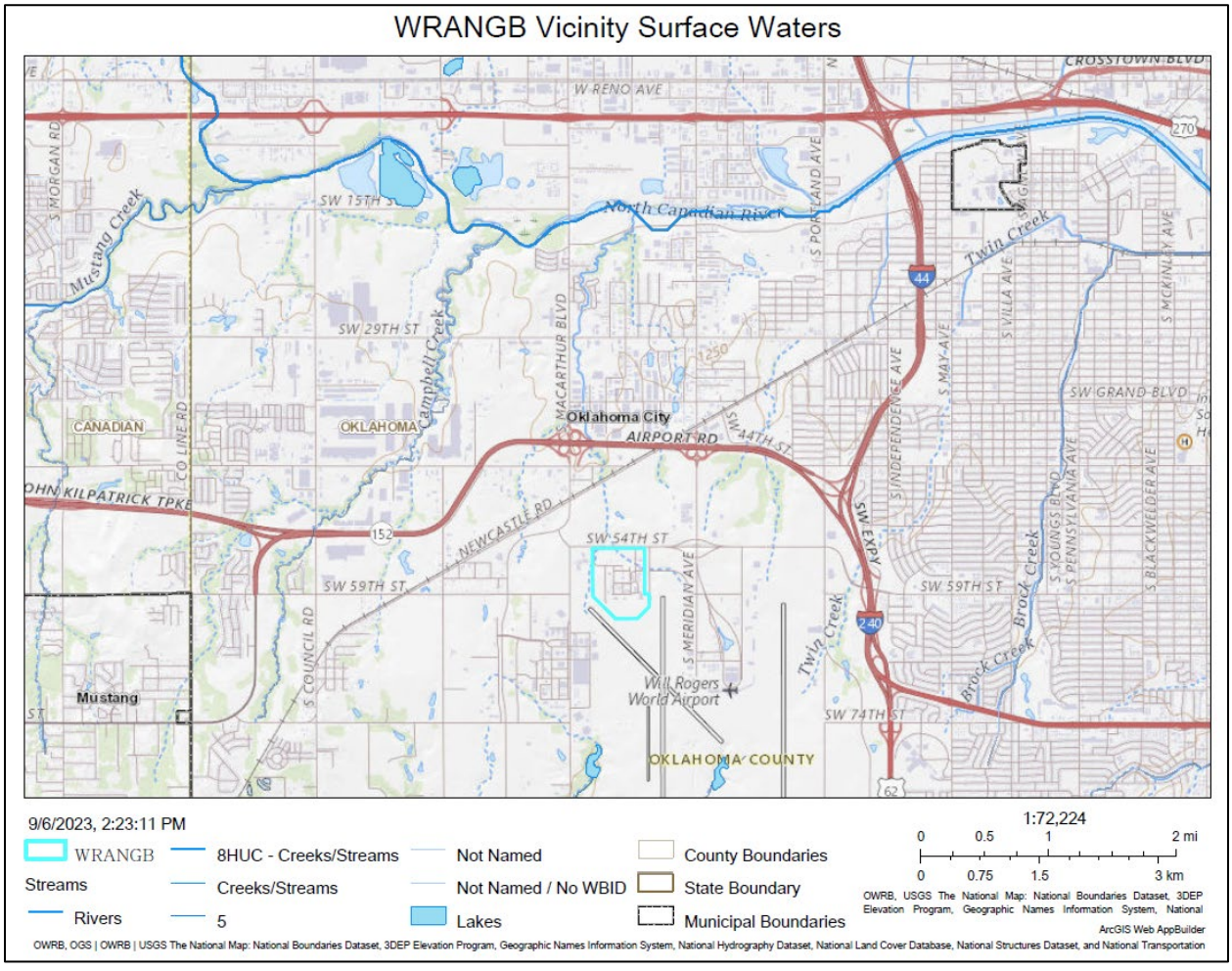


Figure 3-3. Regional Surface Waters

3.6.2 Environmental Consequences

Evaluation criteria for effects on water resources are based on water availability, quality, and use, and associated regulations. A proposed action would have significant effects on water resources if it were to do one or more of the following:

- Substantially reduce water availability or supply to existing users.
- Exceed safe annual yield of water supply sources.
- Substantially adversely affect water quality.
- Endanger public health by creating or worsening health hazard conditions.
- Threaten or damage unique hydrologic characteristics.
- Violate established laws or regulations adopted to protect water resources.

3.6.2.1 Proposed Action

Potential impacts to groundwater include contamination from minor spills or leaks associated with installation and/or maintenance vehicles and machinery. WRANGB is underlain by the Garber-Wellington aquifer, which is considered to have a very high vulnerability to contamination from surface sources of pollution (OWRB 2012). Groundwater contamination is known to occur at several locations on WRANGB (refer to Section 3.10). As such, an increase in personnel and activity at WRANGB has the potential to lead to an increase in potential for groundwater contamination due to releases of hazardous materials on the ground surface. WRANGB has prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan, which addresses the prevention of spills and the rapid and effective response actions performed in the event of inadvertent releases of hazardous materials. Adherence to the spill response measures described in the WRANGB SPCC Plan would minimize the potential for spills and guide the quick clean-up for any spills that could occur. As evidenced by the infrequency of past releases of hazardous materials, the potential for significant impacts to groundwater from the Proposed Action is low. Construction of new facilities and installation of underground utility connections are not anticipated to be deep enough to encounter groundwater.

Implementation of the Proposed Action would result in an increase in impermeable surfaces associated with the construction of new and expanded facilities. Given the potential variability in the Proposed Action projects (renovation vs. new construction), a precise increase in permeable surface area cannot be determined. However, the greatest potential increase in impermeable surface area is estimated at approximately 8 acres. New facility designs will incorporate low impact development (LID) features of stormwater best management practices (BMPs) to satisfy the requirements of Section 438 of the Energy Independence and Security Act (EISA), DoD, and Air Force policy regarding stormwater management. The design objective of LID is to maintain or restore the pre-development hydrology to the Maximum Extent Technically Feasible with regard to the temperature, rate, volume, and duration of stormwater flow (USEPA 2009).

Stormwater volumes and characteristics are not expected to differ significantly from current conditions. WRANGB would continue to operate under their existing OPDES stormwater discharge permit. WRANGB will need to obtain a new ODEQ OPDES General Permit OKR10 for Stormwater Discharges from Construction Activities within the State of Oklahoma for any construction projects that propose to disturb more than one acre of the ground surface. Minor, short-term impacts to the stormwater system could be experienced during the demolition and construction activities associated with the proposed projects. The use of sustainable development techniques and natural retention, infiltration, and absorption features to reduce runoff and delay stormwater discharge may result in minor, long-term, beneficial impacts to the

stormwater system. WRANGB has a SWPPP that describes controls and practices for stormwater management; this document will be revised to reflect changes made as a result of the Proposed Action, thereby reducing potential stormwater impacts. Therefore, impacts to regional groundwater and stormwater are predicted to be less than significant under the Proposed Action.

WRANGB is not located in the vicinity of major surface water features, and construction and operation under the Proposed Action would not impact regional surface water quality.

Wastewater volumes and characteristics generated as a result of operations under the Proposed Action are not expected to differ significantly from current operations. WRANGB would continue to operate under their existing discharge permit. Impacts to wastewater are predicted to be less than significant under the Proposed Action.

3.6.2.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented. Groundwater, surface water, wastewater, and stormwater would continue to be managed in accordance with WRANGB, federal, state, and local regulations. Water resources would not be changed from their current conditions. Therefore, implementation of the No Action Alternative would result in no impact to water resources.

3.6.3 Cumulative Effects

Potential effects to water resources would be from ground-disturbing activities at WRANGB. No effects of other actions or activities have been identified that, when combined with the effects of the Proposed Action, would have significant effects on this resource. Therefore, cumulative impacts to water resources at WRANGB that could result from implementation of the Proposed Action when added to the effects of other past, present, and reasonably foreseeable actions would not be significant.

3.7 FLOODPLAINS, WETLANDS, AND COASTAL ZONE MANAGEMENT

Floodplains

Floodplains are defined by the U.S. Geological Survey (USGS) as, “the flat or nearly flat land along a river or stream or in a tidal area that is covered by water during a flood.” These areas must be reserved to discharge the 100-year flood without cumulatively increasing the water surface elevation more than a designated height. When a floodplain is established, no additional obstruction (e.g., a building) should be placed in the floodplain that will increase the 100-year floodwater surface elevation. EO 11988 requires all Federal agencies to provide leadership and take action to reduce the risk of flood loss; to minimize the impacts of floods on human safety, health, and welfare; and to restore and preserve the natural and beneficial values served by floodplains, specifically the 100-year floodplain, in managing Federal lands and conducting Federal activities and programs affecting land use. Air Force installations have the responsibility to determine if proposed actions will occur in a floodplain, evaluate and document the potential effects, and consider alternatives to avoid these effects and incompatible development in the floodplain.

Wetlands

The USACE defines wetlands as “those areas that are inundated or saturated with ground or surface water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions. Wetlands generally include

swamps, marshes, bogs, and similar areas" (33 CFR 328). Wetlands are an important natural system because of the diverse biological and hydrologic functions they perform. These functions include water quality improvement, groundwater recharge, pollution treatment, nutrient cycling, provision of wildlife habitat and niches for unique flora and fauna, storm water storage, and erosion protection. As a result, wetlands are protected as a subset of the "waters of the United States" under Section 404 of the CWA. The term "waters of the United States" has broad meaning under the CWA and incorporates deep water aquatic habitats and special aquatic habitats (including wetlands). "Jurisdictional" waters of the United States are areas regulated under the CWA and also include coastal and inland waters, lakes, rivers, ponds, streams, intermittent streams, vernal pools, and "other" waters that if degraded or destroyed could affect interstate commerce.

Section 401 of the CWA states that a water quality certification must be issued (or waived) prior to issuance of any permits that may result in a discharge into waters of the U.S. Section 401 of the CWA provides states and authorized tribes with an important tool to help protect the water quality of federally regulated waters within their borders, in collaboration with federal agencies.

Section 404 of the CWA authorizes the Secretary of the Army, acting through the USACE, to issue permits for the discharge of dredged or fill materials into the waters of the United States, including wetlands. Therefore, even an inadvertent encroachment into wetlands or other waters of the United States resulting in displacement or movement of soil or fill materials has the potential to be viewed as a violation of the CWA if an appropriate permit has not been issued by the USACE. In addition, wetlands are protected under EO 11990 (43 Federal Register 6030) the purpose of which is to reduce adverse impacts associated with the destruction or modification of wetlands.

Coastal Zone Management

The Coastal Zone Management Act (CZMA) was promulgated to control nonpoint pollution sources that affect coastal water quality. The CZMA of 1990, as amended (16 USC 1451 *et seq.*) encourages States to preserve, protect, develop, and, where possible, restore or enhance valuable natural coastal resources such as wetlands, floodplains, estuaries, beaches, dunes, barrier islands, and coral reefs, as well as fish and wildlife using those habitats.

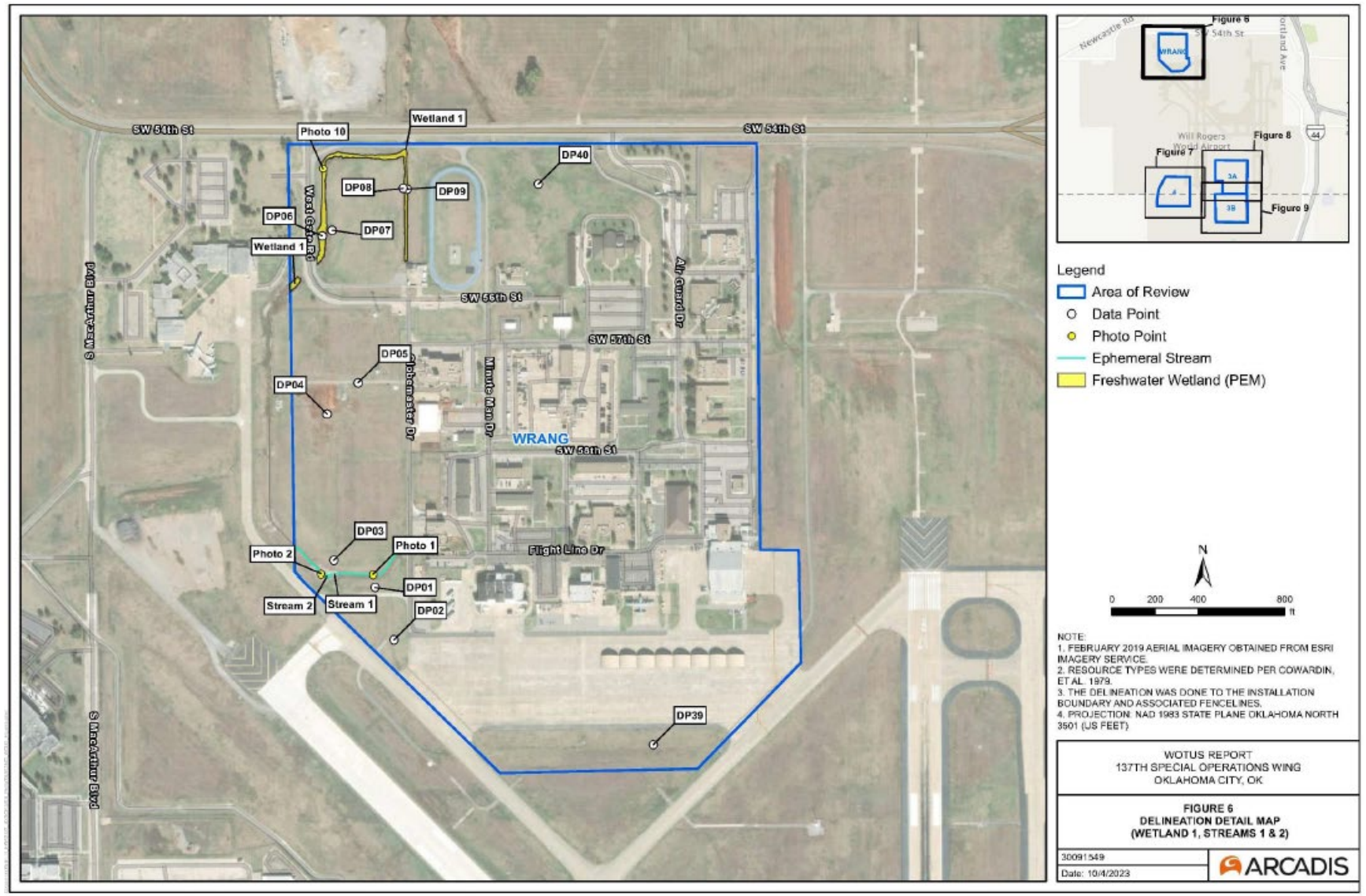
3.7.1 Affected Environment

Floodplains. According to Federal Emergency Management Agency's (FEMA) National Flood Hazard Map (FEMA 2023), several of the proposed projects occur within or adjacent to the 100-year floodplains of drainageways in the area. The associated map includes Flood Insurance Rate Map No. 40109CO290H, Effective 12/18/2009. These areas are primarily located in the northern and western portions of WRANGB (Figure 3-4). No 500-year floodplains are located in the project areas.

Wetlands. During a Waters of the U.S. study conducted in May 2023, five streams were identified and delineated, two of which were located at WRANGB and three of which were located on WRWA at the potential locations for Project 9 (Munitions Storage Area). Additionally, 0.56 acres of wetlands were delineated within WRANGB, and 1.255 acres of wetlands were delineated on WRWA at the potential locations for Project 9. Figures 3-5 through 3-8 depict the streams and wetlands delineated during the study (NGB 2023).

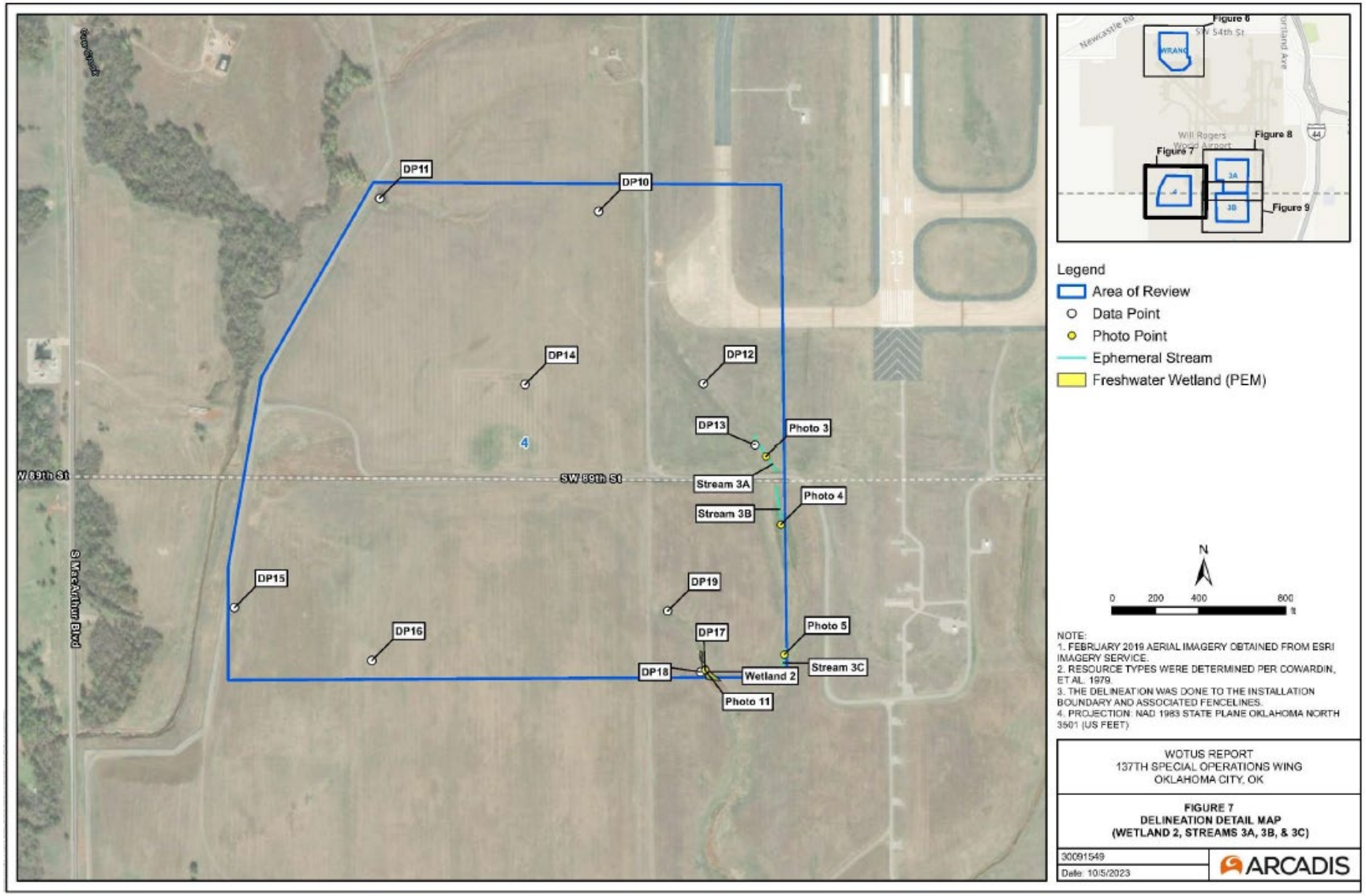
Source: FEMA 2023.

Figure 3-4. Floodplains on WRANGB



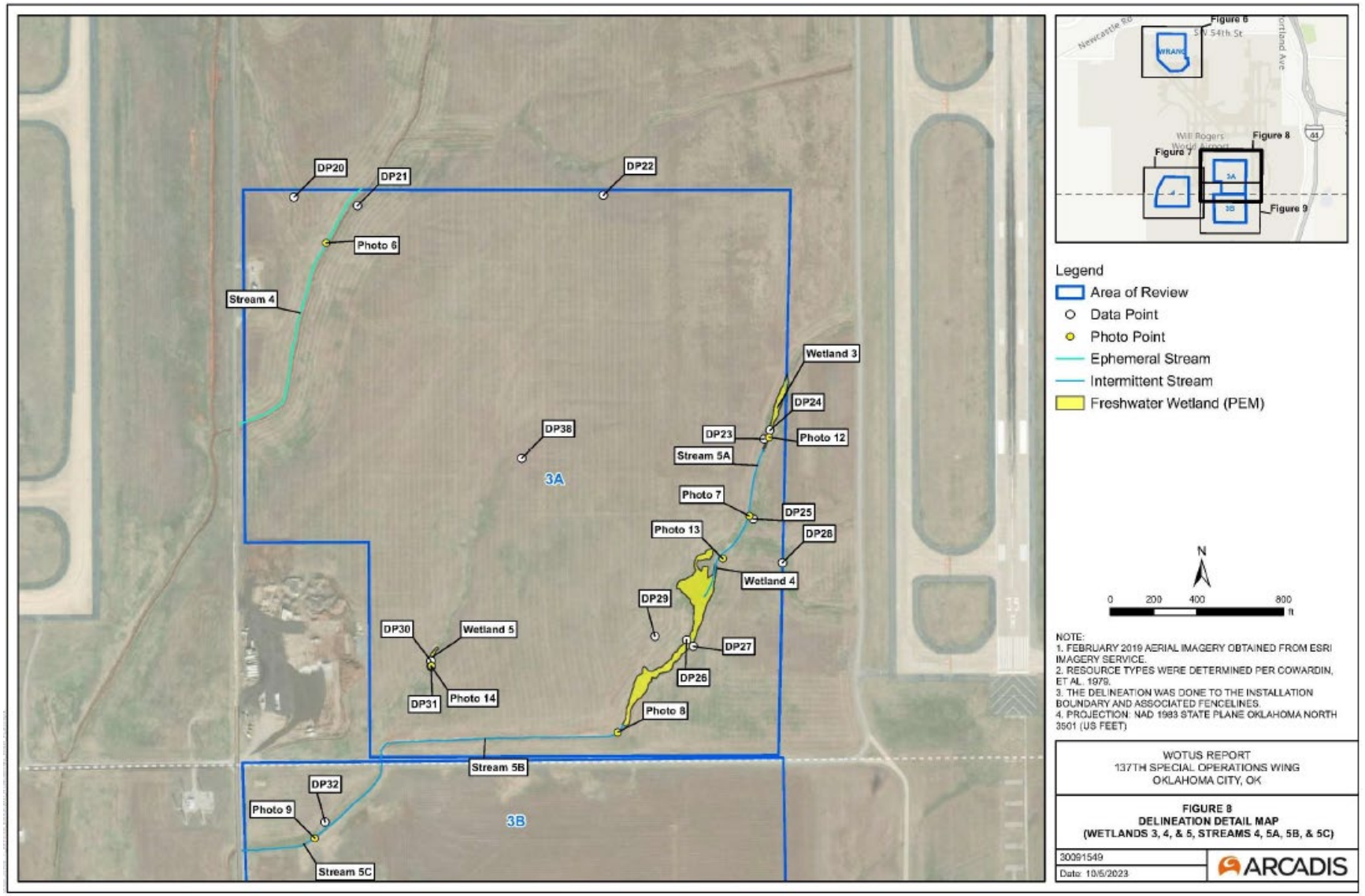
Source: NGB 2023.

Figure 3-5. Streams and Wetlands on WRANGB



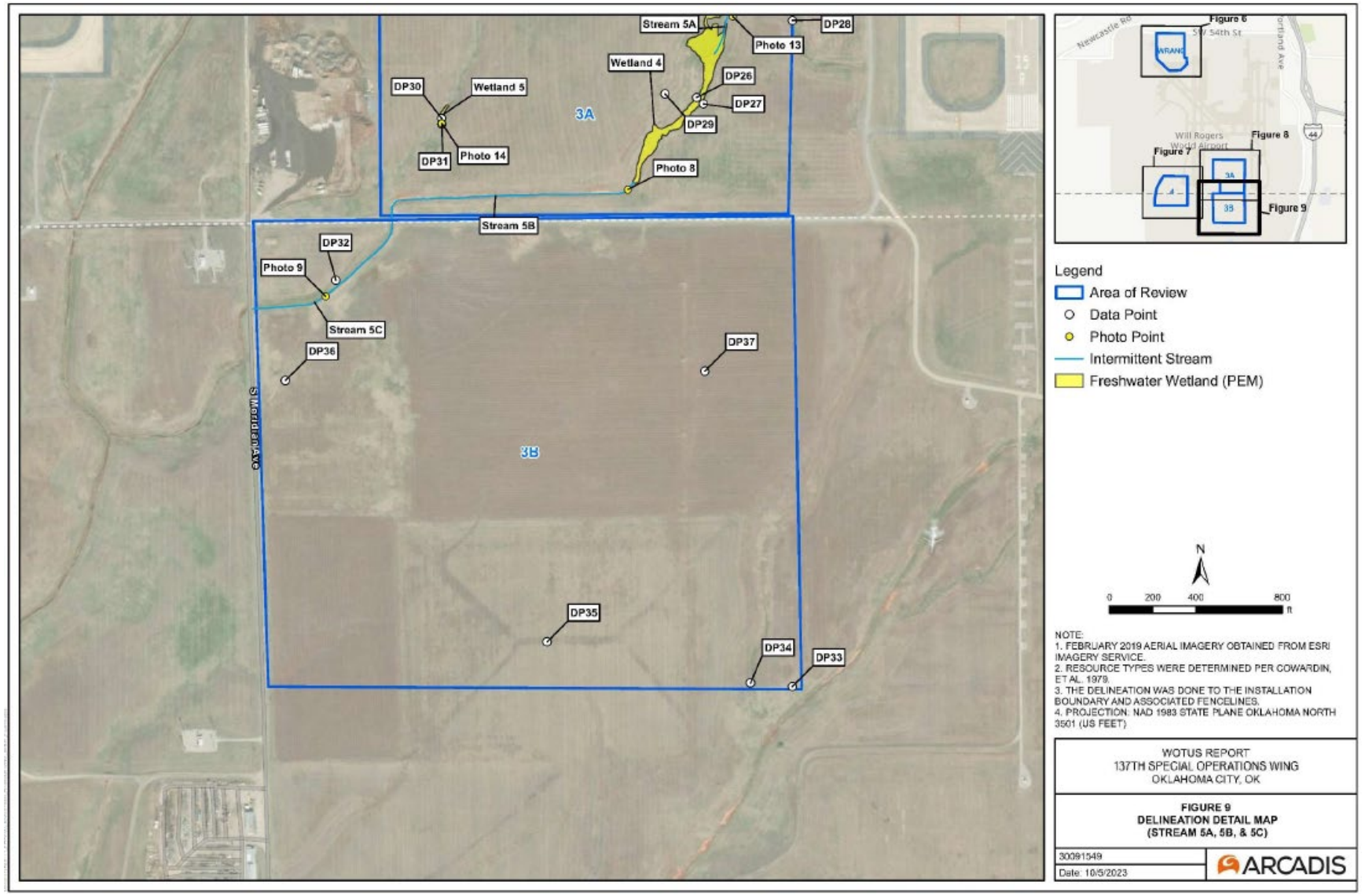
Source: NGB 2023.

Figure 3-6. Streams and Wetlands on WRWA (1 of 3)



Source: NGB 2023.

Figure 3-7. Streams and Wetlands on WRWA (2 of 3)



Source: NGB 2023.

Figure 3-8. Streams and Wetlands on WRWA (3 of 3)

The Oklahoma River lies to the north of WRANGB, and the Canadian River lies to the south of WRANGB. The tributaries to both rivers that lie within the WRANGB boundaries are classified by the USFWS as palustrine and riverine systems. Some are forested with broad-leafed deciduous trees in the canopy and shrub-scrub vegetation in the mid-story, while others are dominated by emergent and persistent vegetation. Some of the drainages are seasonally flooded, while others are temporarily flooded or semi-permanently flooded. Several of the wetland features are diked or impounded which usually depicts a man-made ditch, pond, or lake (USFWS 2023b). The Waters of the U.S., including wetlands, are limited on the landscape, and any impacts to that resource should be delineated and consultation on with the USACE under Sections 401 and 404 of the Clean Water Act.

According to the National Oceanic and Atmospheric Administration (NOAA) Coastal Flood Exposure Mapper Website, there are no coastal zones in or around WRANGB (NOAA 2023).

3.7.2 Environmental Consequences

3.7.2.1 Proposed Action

Direct Effects

The Proposed Action may impact 100-year floodplains or Waters of the U.S., including wetlands. This is particularly the case for any development in the northwestern portion of WRANGB. The need for new facility construction and the design and location of new facilities has not yet been determined. However, the requirements of Executive Order 14030, *Climate-Related Financial Risk*, would be met for all projects impacting floodplains. Any impacts to floodplains will also be addressed with Oklahoma County in the event a permit is needed.

The Waters of the U.S., including wetlands, are limited on the landscape, and facility designs will consider avoidance of wetlands to the greatest extent possible. Any impacts to Waters of the U.S. will be consulted on with the USACE under Section 404 of the Clean Water Act.

The Proposed Action will have no direct impact on coastal zones.

Indirect Effects

Indirect effects to floodplains and Waters of the U.S., including wetlands, may occur with sedimentation transport under the Preferred Action. A Stormwater Management Plan should be prepared for each proposed project occurring in open sites within or near floodplains and Waters of the U.S., including wetlands. Additionally, weedy species encroachment and establishment may occur in wetlands or along drainageways if surficial soil disturbance occurs in those areas. A Weed Management Plan should be prepared as part of the construction plan to control weed encroachment into the disturbed areas during and after construction.

No indirect effects to coastal zones will occur under the Proposed Action.

3.7.2.2 No Action Alternative

The no action alternative would have no direct or indirect effects on floodplains, wetlands, or coastal zones. Continued operation of the MC-12 fleet until retirement is not adversely affecting these resources at WRANGB or in the general area.

3.7.3 Cumulative Effects

No cumulative effects to floodplains, Waters of the United States, including wetlands, or coastal zones would occur under the Proposed Action.

3.8 GEOLOGY AND SOILS

3.8.1 Affected Environment

The majority of Oklahoma County is located on the Cherokee Platform. However, WRWA is located near the structural boundary between the Anadarko Shelf and the Anadarko Basin. The Anadarko Shelf is described as a geologic province of shelves and shallow basins, whereas the Anadarko Basin is described as a deep basin. The Anadarko Basin is located southwest of the Anadarko Shelf and both are located west of the Cherokee Platform (OGS 1995). Geology in the area is dated to the Pennsylvanian age, or approximately 325 to 286 million years old, and is a part of the Marmaton Group, which is described as a 200-foot series of limestone layers (USGS 2003; OGS 1981). Geologic units of the area consist of: Hennessey Shale, Flowerpot Shale, Garber Sandstone/Wellington formation, and both high and low terrace deposits/dune sand (OGS 1954).

The topography of Oklahoma County is predominately level to gently sloping, with more moderately steep soils on escarpments in the central part of the county and some moderately steep sand dunes and stream banks. Topography in the Oklahoma City area ranges from 1,000 to 1,500 feet above mean sea level (amsl) and is part of a mid-state topography which separates higher elevations to the west and lower elevations to the east (OGS 2008). Landforms found in the region include uplands, floodplains, hills, and escarpments.

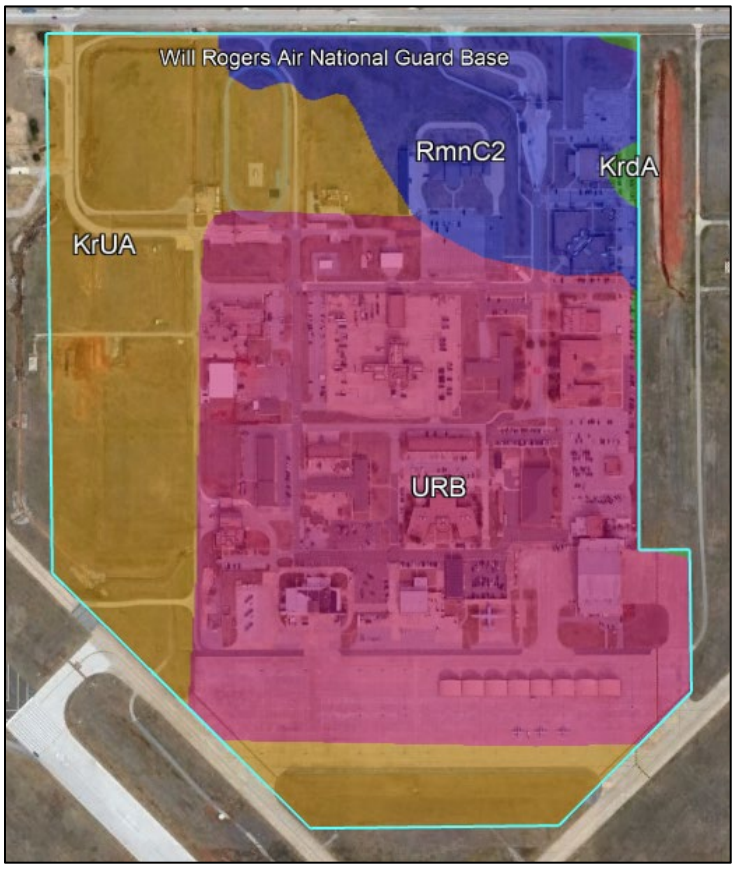
WRANGB is located at an elevation of approximately 1,304 feet amsl. The installation itself is relatively flat, with a topography that slopes slightly from the southeast to northwest. No other distinct topographic features exist on the installation (OGS 1954).

The majority of WRANGB can be described as developed urban land (URB), but the surrounding undeveloped regions consist of eroded Renthin silty clay loam with three to five percent slopes (RmnC2), Kirkland silt loam with zero to one percent slopes (KrdA), and Kirkland-Urban land complex with zero to one percent slopes (KrUA). These soils are well drained with water capacities ranging from moderate (approximately 8.7 inches) to high (approximately 10.0 inches) (USDA 2023).

The majority of the developed portions of the installation are contained within the central and central-southern areas of the installation. The Kirkland-Urban land complex occurs predominantly in the western portion of the installation as well as in a small area near the southern border. Kirkland silt loam occurs intermittently near the eastern boundary and Renthin silty clay loam is located in the northern area of the installation (USDA 2023). Table 3-5 below summarizes the occurrence and general characteristics of soils found on the installation. Figure 3-8 shows the distribution of soil types on the WRANGB. Mapping of soil types for other parcels under consideration for Project 9 (Munitions Storage Area) can be found in the Waters of the U.S. Report (NGB 2023).

Table 3-5. WRANGB Soil Types

Symbol	Name	Acres	Characteristics
KrdA	Kirkland silt loam, 0-1%	0.8	Prime Farmland, well drained
KrUA	Kirkland-Urban land complex, 0-1%	43.5	Not prime farmland, well drained
RmnC2	Renthin silty clay loam, 3-5%	19.8	Not prime farmland, well drained
URB	Urban land	71.0	Not prime farmland
Source: USDA 2023.			



Source: USDA 2023.

Figure 3-8. WRANGB Soil Type Distribution

3.8.2 Environmental Consequences

This section discusses potential impacts to soil resources located within the footprints of the proposed project. Impacts to soils can result from disturbances (e.g., grading during construction activities) that expose soil to wind or water erosion. Protection of unique geological features, minimization of soil erosion, and the siting of facilities in relation to potential geologic hazards are considered when evaluating the potential impacts of a proposed action on geological resources. Generally, adverse impacts can be avoided or minimized if proper construction techniques, erosion-control measures, and structural engineering design are incorporated into project development.

Impacts on geology and soils would be significant if they would substantially alter the geology that controls groundwater quality, distribution of aquifers and confining beds, and groundwater availability; or change the soil composition, structure, or function (including prime farmland and other unique soils) within the environment.

3.8.2.1 Proposed Action

Minor impacts would result from the proposed construction and demolition activities; however, these activities are limited in geographic area, would take place on land that does not contain unique or problematic geologic features and would be capable of supporting such development. Consequently, the Proposed Action would not have significant impacts on sensitive regional geologic or physiographic features.

WRANGB possesses approximately 0.8 acres of prime farmland (Kirkland silt loam). However, due to ownership by Will Rogers World Airport and current use by WRANGB, this area is not available for agricultural purposes. Additionally, this area represents an extremely small percentage of the prime farmland present in the area. As such, impacts to prime farmland under the Proposed Action would be less than significant.

The topography at WRANGB is generally flat, with minor sloping towards surface drainages. Any grading required under the Proposed Action would not significantly alter the dominant topography of the area. Additionally, during construction, implementation of standard BMPs, such as erosion control, would be implemented where needed. Therefore, impacts to topography resulting from implementation of the Proposed Action would be less than significant.

During construction, incorporation of standard BMPs would limit any impacts to soils that may result from construction activities. Fugitive dust from construction activities would be minimized by watering and/or soil stockpiling, thereby reducing the amount of exposed soil to minor levels. As a result, impacts to soils under the Proposed Action would be less than significant.

Long-term operations under the Proposed Action would not materially affect geology and soils at the site. Surface drainage would be considered during design such that long-term erosion potential would be limited.

3.8.2.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented. There would be no change to the existing conditions. Therefore, implementation of the No Action Alternative would result in no impact to geology and soils.

3.8.3 Cumulative Effects

Potential effects to geology and soils would be from ground-disturbing activities at WRANGB. No effects of other actions or activities have been identified that, when combined with the effects of the Proposed Action, would have significant effects on this resource. Therefore, cumulative impacts to geology and soils at WRANGB that could result from implementation of the Proposed Action when added to the effects of other past, present, and reasonably foreseeable actions would not be significant.

3.9 Noise and Vibration / Acoustic Environment

Noise is defined as any sound that is undesired by the recipient and typically includes sounds not present in the natural environment, such as sounds emanating from aircraft; highways; and industrial, commercial,

and residential sources. Noise generally interferes with normal activities or otherwise diminishes the quality of the natural environment. Noise may be intermittent or continuous, steady or impulsive, stationary or transient.

The standard measurement unit of sound is the decibel (dB), which represents the relationship between a measured sound pressure level and the minimum sound level a person with good hearing can detect reported on a logarithmic scale. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by three dB, and a halving of the energy would result in a three dB decrease, both of which are generally accepted as the smallest change that is easily detected by the human ear.

The human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, sound can be characterized by several methods. The most common method is the "A-weighted" sound level (dBA), which gives greater weight to the frequencies audible to the human ear by filtering out noise frequencies not audible to the human ear. Human judgments of the relative loudness or annoyance of a sound correlate well with the dBA levels of those sounds. Therefore, the dBA scale is used for measurements and standards involving the human perception of noise.

The construction and operation of new facilities generates noise. Construction-related noise is associated with the operation of construction equipment and vehicles, both in transit to/from and at the project site. Equipment noise levels also vary as a function of the usage factor or percentage of time the equipment is employed.

Ground-borne vibration is commonly associated with noise since vibration sources include many of the same sources (for example, construction equipment and vehicles) and may also interfere with normal activities or otherwise diminish the quality of the natural environment. Ground-borne vibration is not a common environmental problem, as it is unusual for vibration from sources such as road vehicles to be perceptible, even in locations close to major roads. Perceptible vibration sources for projects similar to that analyzed in this EA include construction-related equipment (for example, heavy earth-moving equipment).

Local noise ordinances are codified in the Oklahoma City, OK Code of Ordinances, Chapter 34, Noise. Exterior noise standards are designated, and permits may be obtained to allow exceedances of these standards except between the hours of 11:00 PM and 7:00 AM (Oklahoma City 2023). These noise standards range from 50 dBA to 80 dBA, depending on the noise zone and the time of day, with allowances for exceedances in excess of the noise standards.

Noise levels from flight operations exceeding ambient background noise typically occur beneath main approach and departure corridors, or local air traffic patterns around the airfield, and in areas immediately adjacent to parking ramps and aircraft staging areas. As aircraft take off and gain altitude, their noise contribution drops.

3.9.1 Affected Environment

Noise-sensitive land uses were identified surrounding WRANGB. Noise-sensitive land uses include:

- Nearby residential areas – approximately 1.5 miles northeast / 1.9 miles east / 2.2 miles west-southwest, with isolated residences nearer the site
- Schools – nearest approximately 2.0 miles east (John Glenn Elementary School, Arthur Elementary School), 2.5 miles southeast (Oklahoma City Community College)
- Hospitals – nearest approximately 3.0 miles southeast (Community Hospital)
- Hotels/motels – nearest approximately 2.1 miles north-northeast (various)

- Churches/cemeteries – nearest approximately 1.0 miles northeast / 2.3 miles east / 2.4 miles west / 2.7 miles northeast (various)
- Libraries – nearest approximately 2.5 miles east (Metropolitan Library System), 2.7 miles southeast (Keith Leftwich Memorial Library)
- Public Parks – nearest approximately 2.0 miles east (Syl Goldman Park), 3.0 miles northeast (Woodson Park)

WRANGB is generally consistent with a suburban setting. Aircraft noise is generally the dominant noise source and is heaviest along the WRANGB flightline. Other noise sources in the area include mobile sources (such as personal and commercial vehicles) and stationary sources (such as heating, ventilation, and air conditioning units attached to buildings and backup generators). Jet engine testing is not performed at WRANGB.

Baseline sound levels were measured at WRANGB. Sound levels were measured using an Extech Instruments Model 407736 digital sound level meter, which meets American National Standards Institute S1.4-1983 and International Electrotechnical Commission 60651 Type II standards. The meter's internal calibration feature was checked prior to obtaining measurements, and the meter was operated on the A-weighting scale with slow response using a porous windscreen.

- WRANGB outdoors near a running generator = 65 dbA (November 17, 2022, 8:02 AM)
- WRANGB outdoors with commercial aircraft departing = 69 dBA (November 17, 2022, 8:13 AM)

3.9.2 Environmental Consequences

The significance of impacts from noise and vibration is based on whether the exposure of receptors to construction or operation noise levels would exceed regulatory thresholds or if persons or structures would be subject to excessive ground-borne vibration.

3.9.2.1 Proposed Action

Detailed analyses of noise impacts is provided in Appendix C. Evaluation results are summarized below.

Construction Noise Analysis

The construction and operation of new facilities generates noise. Construction-related noise is associated with the operation of construction equipment and vehicles, both in transit to/from and at the project site. Equipment noise levels also vary as a function of the usage factor or percentage of time the equipment is employed.

Two primary groups of noise-generating activities were identified: demolition/construction and renovation. For each activity group, noise levels were predicted using the Roadway Construction Noise Model (FHWA 2006). Outdoor noise levels were predicted at distances from the source equipment of 100 feet and 500 feet.

The resulting predicted equivalent continuous noise level (L_{eq}) for the demolition/construction activities group at a distance of 100 feet is 86.0 dBA and at a distance of 500 feet is 72.0 dBA. The resulting predicted Leq for the renovation activities group at a distance of 100 feet is 82.6 dBA and at a distance of 500 feet is 68.7 dBA. At distances from the noise-generating activities of greater than 2,000 feet (0.38 miles), predicted noise levels are not significantly above measured background sound levels and would not likely have an adverse impact on receptors.

Operational Noise Analysis

Mission support activities at WRANGB are not expected to differ significantly from current conditions. The majority of mission support activities occur within facilities, thereby minimizing noise exposure to surrounding facilities and off-site receptors. With the addition of 150-200 personnel, noise associated with commuter vehicle traffic may increase, although this increase is not predicted to be significantly greater than current conditions as the general area contains a primary roadway (SW 54th Street) and airplane noise associated with WRANGB and WRWA operations.

A noise certification test was completed on the OA-1K aircraft in 2009 (USDOT 2009). This study concluded that based on a maximum takeoff weight limitation of 14,800 pounds, the noise level for the OA-1K aircraft is 87.1 dBA, below the maximum allowable noise level of 88.0 dBA. This ground-level noise measurement corresponds to an aircraft altitude of approximately 535 feet agl at approximately 200 feet from the end of runway. As distances of the aircraft from the facility increase, the aircraft's altitude also increases, and the perceived noise level on the ground decreases.

FAA's Area Equivalent Method (AEM; version 2c SP2) was used to evaluate the impacts of noise from aircraft operations on the environment. AEM is a screening procedure used to simplify the assessment step in determining the need for further analysis as part of EAs and Federal Aviation Regulation Part 150 studies (FAA 2018). AEM produces noise contour areas for the Day-Night Average Sound Level (DNL) and includes a 10 dBA penalty to aircraft operations during the nighttime (10:00 PM to 7:00 AM). The 65 dBA contour is evaluated, and if the change in area within this contour is less than a 17 percent increase, noise impacts are considered less than significant (FAA 2018).

Current aircraft operations from the period January 5, 2024, through February 6, 2024, were obtained from FlightAware to present the baseline scenario (FlightAware 2024). The change in aircraft operations resulting from the Proposed Action was incorporated into AEM, and the model was executed. The AEM analysis shows that the increase in area within the 65 dBA contour resulting from the aircraft operations under the Proposed Action is 13.1 percent, indicating that noise-related impacts from aircraft operations are less than significant.

Since sensitive receptors will largely be unaffected by the Proposed Action, estimated impacts to noise and vibration will be less than significant.

3.9.2.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented, and the operation of MC-12 aircraft would continue until eventual retirement. No significant changes to current noise levels would occur. Therefore, implementation of the No Action Alternative would result in no impact to noise and vibration.

3.9.3 Cumulative Effects

Potential effects to noise and vibration would be from construction and operation activities at WRANGB. Other actions or activities that have been identified may result in some increase in noise and vibration. However, these additional impacts would be expected to be temporary during the duration of construction activities and scheduled to avoid significant impacts during evening hours. The impacts would also not be expected to be cumulative and impacting on sensitive receptors. Therefore, cumulative impacts to noise and vibration at WRANGB that could result from implementation of the Proposed Action when added to the effects of other past, present, and reasonably foreseeable actions would not be significant.

3.10 SOLID AND HAZARDOUS MATERIALS/WASTE

The terms "hazardous materials" and "hazardous waste" refer to substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristic, could present substantial danger to public health or the environment when released into the environment.

Products containing hazardous materials that could result in the generation of hazardous waste include fuel, adhesives, sealants, corrosion prevention compounds, hydraulic fluids, lubricants, oils, paints, polishes, thinners, and cleaners. The key federal regulatory requirements related to hazardous materials and waste include:

- RCRA of 1976, as amended (42 USC 6901 et seq.);
- Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986, as amended (42 USC 11001-11050);
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended (42 USC 9601-9675);
- Spill Prevention, Control and Countermeasure Rule (40 CFR 112);
- USEPA Regulation on Identification and Listing of Hazardous Waste (40 CFR 261);
- USEPA Regulation on Standards for the Management of Used Oil (40 CFR 279);
- USEPA Regulation on Designation, Reportable Quantities, and Notification (40 CFR 302);
- EO 14057, Catalyzing Clean Energy Industry and Jobs through Federal Sustainability;
- Toxic Substances Control Act (TSCA) of 1976, as amended (15 USC 2601 et seq.);
- CAA of 1970, as amended (42 USC 7401 et seq.); and
- ASTM E1527, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.
- DODI 4715.23, *Integrated Recycling and Solid Waste Management*.

DAF regulations address the management and safe handling of hazardous materials and wastes in accordance with applicable federal and state regulations, including:

- AFMAN 32-7002, Environmental Compliance and Pollution Prevention

Impacts on solid and hazardous materials and waste management would be considered significant if a Proposed Action resulted in noncompliance with applicable federal and state regulations or increased the amounts of solid or hazardous waste generated or produced beyond WRANGB's current waste management procedures and capacities. Impacts on the Installation Restoration Program would be considered adverse if the federal action disturbed or created contaminated sites resulting in negative effects on human health or the environment.

DAF installations manage hazardous materials and waste in accordance with AFMAN 32-7002. WRANGB has implemented installation-wide oil and hazardous substance integrated contingency; stormwater pollution prevention; and solid waste management plans. These plans define roles and responsibilities, address record keeping requirements, and provide spill contingency and response requirements (WRANGB 2022a; WRANGB 2022b; WRANGB 2022c).

3.10.1 Affected Environment

WRANGB currently stores and uses hazardous materials and generates and stores solid and hazardous wastes associated with daily operations during maintenance and operation activities. Hazardous waste is

managed under the 137 SOW Hazardous Waste Management Plan, in accordance with all Federal, state, and local regulations. The installation is currently classified as a Small Quantity Generator (SQG) of hazardous waste pursuant to 40 CFR 261 since total hazardous waste production per month is between 100 and 1,000 kilograms (approximately 220 to 2,200 pounds) and maintains USEPA Identification Number OK 1572828605. Hazardous materials commonly used at the installation include fuel, oil, solvents, detergent/cleaners, paint, and lubricants. Pesticides are also used for invasive vegetation management and pest control. Solid waste is managed in accordance with the 137 SOW Integrated Solid Waste Management Plan.

Hazardous and special wastes generated at the installation include lead-acid batteries, waste fuel, solvents, boiler chemicals, used oil, waste sealants, adhesives, paints, and other wastes. Hazardous wastes are generally stored in labeled 55-gallon containers within satellite accumulation points (SAPs) in buildings in which the wastes are generated. The container is considered full at 90 percent capacity, or at 50 gallons, at which time it is transferred to a Centralized Accumulation Point (CAP). USEPA regulations allow SQG to accumulate hazardous waste in CAPs up to 180 days after accumulation start date (or up to 270 days under certain conditions). WRANGB maintains two CAPs and one Universal Waste (UW) CAP. UW consists of materials that are more easily managed and less costly to dispose of such as used batteries, pesticides, mercury containing equipment, and lamps. Municipal solid waste is transported to the Southeast Landfill located in Oklahoma City, Oklahoma. Construction debris will be diverted from the local landfill when cost-effective.

There are nine ASTs within WRANGB. WRANGB also maintains two USTs. Both USTs are located adjacent to Building 1043, to the south of the building. The first UST (Tank No. 11) has a capacity of 10,000 gallons and is used to store diesel fuel. The second UST (Tank No. 12) also has a capacity of 10,000 gallons and contains MOGAS. Both USTs are double-walled fiberglass construction, and both were constructed in 1993 (OKANG 2022b).

Eight mobile containers are also utilized at WRANGB, throughout the installation. Three of the mobile containers consist of refuelers with JP-8/JET A capacities of 6,000 gallons each. Mobile refuelers are driven to WRWA, filled at that location, and driven back to WRANGB. Approximately two mobile refuelers are filled every three days (OKANG 2022b). The current MC-12 aircraft has a fuel load of approximately 250 gallons. Approximately 650,000 gallons of jet fuel are used annually. Five mobile bowsers are also in use at WRANGB: one 600-gallon diesel bowser, two 600-gallon aviation fuel bowsers, and two 400-gallon aviation fuel bowsers.

No aircraft deicing operations occur at WRANGB. Should aircraft deicing be required, deicing operations are conducted by WRWA at their facility.

The DoD Environmental Response Program (ERP) is designed to identify, evaluate, and remediate sites where activities may threaten public health, welfare, or the environment. WRANGB does not have any active, designated ERP sites within its boundaries. However, Historical operations at WRANGB have resulted in environmental contamination related to Benzene, Trichloroethene, Polyaromatic Hydrocarbons, Herbicides, Petroleum Hydrocarbons, and Per- and Polyfluoroalkyl Substances (PFAS), as shown in Figure 3-9. These areas are currently being monitored.

Due to the age of construction of some facilities at WRANGB, facilities may contain asbestos-containing materials (ACM), lead-based paint (LBP), or other hazardous materials of construction. WRANGB has performed a variety of building surveys to determine the potential presence of these materials of construction. Facilities are maintained to minimize the hazard potential of these materials on personnel.

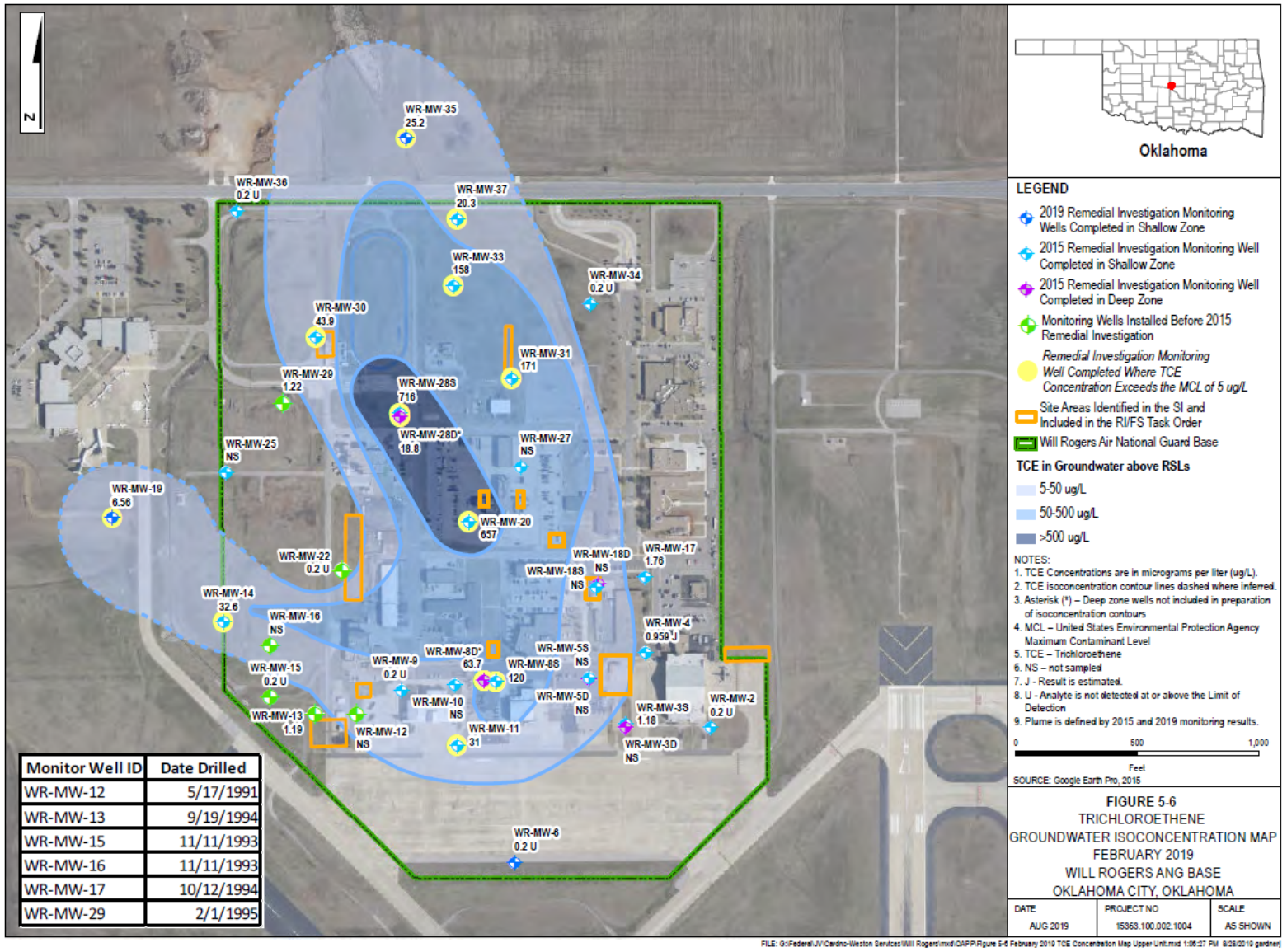


Figure 3-9. Areas of Environmental Contamination

3.10.2 Environmental Consequences

The significance of potential effects from the use and generation of solid and hazardous materials/waste is based on an evaluation of the rate of waste generation, the ability of waste disposal facilities to handle the generated waste, and the hazards associated with the materials used and wastes generated.

3.10.2.1 Proposed Action

Upon implementation of the Proposed Action, a temporary increase in the use of hazardous materials and generation of solid and hazardous wastes would occur as a result of construction and demolition activities as well as interior renovations of the existing facilities. However, this increase in construction-related hazardous materials usage and waste generation would be temporary and would not comprise a significant impact or exceed WRANGB's permitted hazardous waste storage allowance. WRANGB would be expected to remain a Small Quantity Generator of hazardous waste. The safe handling, storage, and use procedures currently employed by WRANGB personnel, in accordance with all Federal, state, and local regulations, would continue. Generated waste will be properly segregated, managed, and disposed of in accordance with all regulatory requirements.

Construction-related ground disturbing activities may occur in areas where known previous releases of hazardous materials have occurred. These areas are currently being monitored, and any activities occurring in these areas will be coordinated with the 137 SOW Environmental Manager to determine their impact to personnel and required risk mitigation measures.

Facility renovation activities may result in hazardous building materials being encountered (e.g., ACM, LBP, etc.). An Asbestos Operations Plan, included within the Asbestos Management Plan, ensures that prior to disturbance, these facilities would be examined for ACM, and all potential ACM in the buildings proposed for demolition or interior renovation would be handled and disposed of according to all applicable Federal, state, and local regulations, including those found in the Oklahoma Asbestos Abatement Program. Standard BMPs, including the precautions included in the Asbestos Operations Plan would be followed during all interior renovation activities. Similar precautions will be exercised with regards to LBP and other hazardous building materials.

The Proposed Action will most noticeably result in an increase in jet fuel consumption at WRANGB. The OA-1K aircraft has a fuel load of 380 gallons (an increase from the 250-gallon fuel load on the MC-12 aircraft). Coupled with the increase in number of aircraft stationed at WRANGB and the increase in flight operations, jet fuel consumption is predicted to approximately double under the Proposed Action (from approximately 650,000 gallons per year to approximately 1.3 million gallons per year). The increase in fuel transportation, storage, and filling operations leads to an increased potential for hazardous material spillage. WRANGB has prepared a SPCC Plan, which addresses the prevention of spills and the rapid and effective response actions performed in the event of inadvertent releases of hazardous materials. Adherence to the spill response measures described in the WRANGB SPCC Plan would minimize the potential for spills and guide the quick clean-up for any spills that could occur. As evidenced by the infrequency of past releases of hazardous materials, the potential for significant impacts to groundwater from the Proposed Action is low.

Additionally, the Proposed Action includes the conversion of two 10,000-gallon USTs to two 8,000-gallon ASTs for improvements in fuel quality and system maintenance. New tanks will be equipped with secondary containment, monitoring and alarm systems, and precautionary equipment for spill containment.

Other mission support activities at WRANGB are not expected to differ significantly from current conditions, and hazardous material usage and solid and hazardous waste generation are not predicted to significantly increase.

Although hazardous material usage and waste generation will increase under the Proposed Action, continued education of personnel, adherence to planning documents, and implementation of safe work practices will render potential impacts to a less than significant level.

3.10.2.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented. Hazardous materials and waste would continue to be managed in accordance with WRANGB, federal, state, and local regulations. Therefore, implementation of the No Action Alternative would result in less than significant impacts to hazardous materials and wastes.

3.10.3 Cumulative Effects

Potential effects to solid and hazardous materials and waste would be from construction and operation activities at WRANGB. No effects of other actions or activities have been identified that, when combined with the effects of the Proposed Action, would have significant effects on this resource. Waste disposal facilities would not be expected to meet or exceed their capacity as a result of cumulative waste generation in the area. Therefore, cumulative impacts to solid and hazardous materials and waste at WRANGB that could result from implementation of the Proposed Action when added to the effects of other past, present, and reasonably foreseeable actions would not be significant.

3.11 TRANSPORTATION AND PARKING

Transportation refers to the movement of people and goods on a local and regional transportation network, consisting of roads, transit facilities, bicycle lanes, and other modes of transportation. Roads are commonly classified based on their intended function in terms of adjacent land use access, travel distance and speed, and connections to other roadways. Interstate highways and other freeways are designed to maximize travel distance and speed while providing minimal or no access to fronting land uses. By contrast, local roads provide direct access to adjacent property while having substantially lower speeds than freeways or arterial highways. Transit facilities consist of local and regional bus services and both light rail and heavy rail transit. Other transportation facilities include emerging travel modes and technologies, such as micromobility services (for example, shared dockless electric scooters). Parking relates to balancing the existing and projected demand for vehicle parking with supply, which is commonly provided in surface lots, multi-level structures, and on-street parking (for example, angled and parallel parking).

3.11.1 Affected Environment

Currently approximately 500 personnel work at WRANGB daily, with approximately 1,200 personnel on site during drill weekends.

WRANGB is accessed directly from SW 54th Street, a four-lane arterial roadway. This stretch of road has an annual average daily traffic count of 9,800 (OKDOT 2021), which is characterized as a relatively lightly travelled roadway. If each individual commuted separately to WRANGB, then WRANGB personnel would be attributable for approximately 6% of the traffic on SW 54th Street. Other area roadways provide access to major roadways including Interstate 44 and Highway 152. Area roadway usage is shown in Figure 3-10.

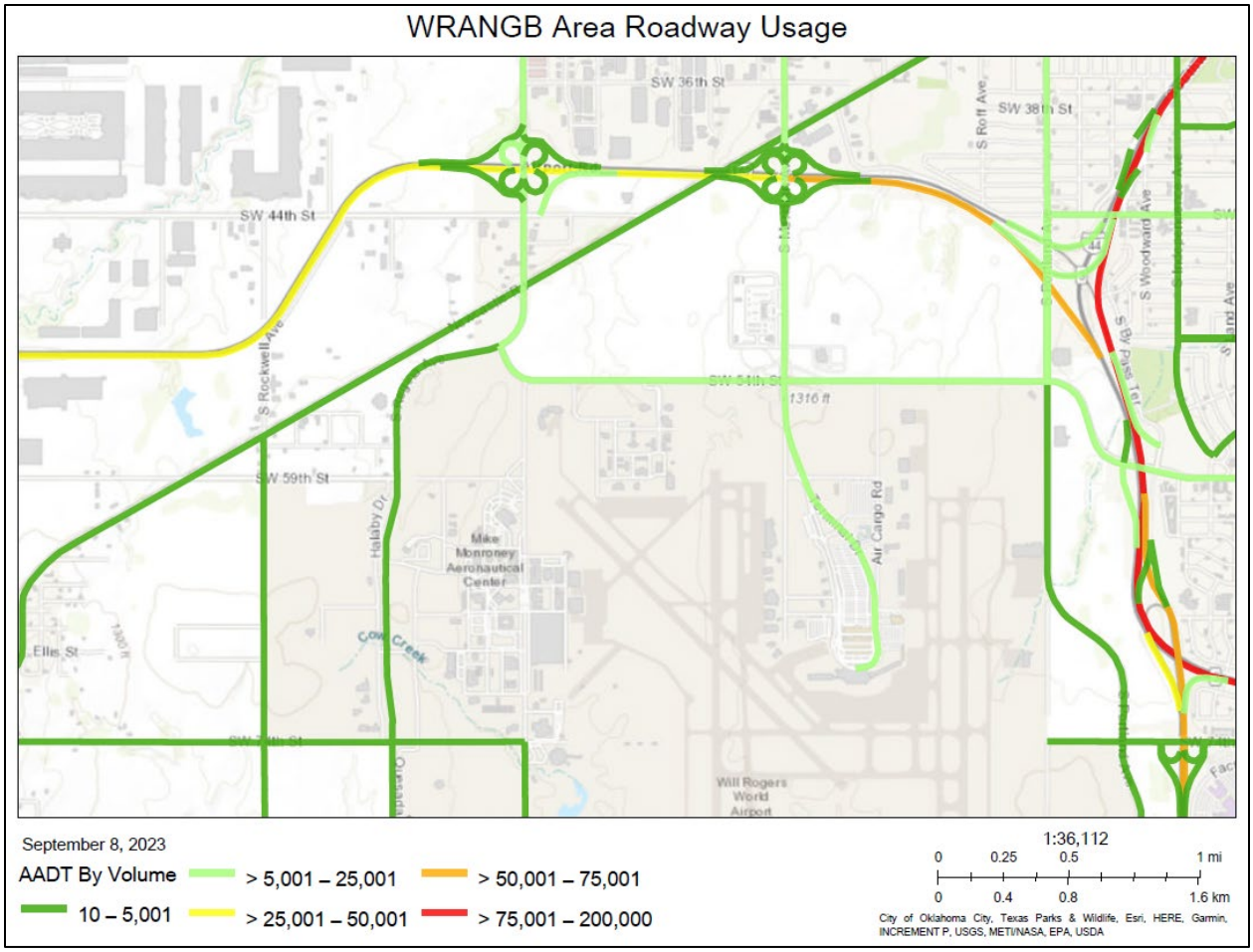


Figure 3-10. Area Roadway Usage

Approximately 1,265 parking spaces are available on WRANGB, thereby accommodating the personnel on site during drill weekends (WRANGB 2013).

The USAF has established guidelines intended to ensure that adequate parking is available at DAF facilities. According to these guidelines, the ratio of available parking spaces to personnel should be no less than 0.75 spaces per person. The installation has a total of 1,265 parking spaces throughout the installation, with spaces concentrated in the central and southern portions of the installation and are generally located near larger facilities. These parking spaces adequately serve the personnel at WRANGB. Consequently, there is sufficient parking for the existing personnel on the installation.

3.11.2 Environmental Consequences

The significance of potential impacts to transportation and parking is based on the operational capacity and physical condition of the urban and rural roadway networks. An impact would be significant if the current roadway network is insufficient to accommodate changes in traffic circulation or if a substantial increase in hazardous conditions for motorists, bicyclists, or pedestrians is created.

3.11.2.1 Proposed Action

During the construction phase of the Proposed Action, delivery of construction materials to and removal of demolition-related debris from project sites would occur. Construction traffic would comprise only a small portion of the total existing traffic volume on vicinity roadways. Additionally, many of the vehicles would be stationed on-site at WRANGB for the duration of construction or renovation activities. Overlap of project construction and demolition activities would be limited and associated potential increases in traffic volume would be minor. Further, any increases in traffic volumes on the installation associated with construction or demolition activity would be temporary.

The proposed construction activities at the main gate would also result in minor, temporary impacts to traffic circulation on WRANGB and the surrounding area due to temporary road closures and detours. However, construction activities would be short-term in duration and would be scheduled to occur during non-peak traffic hours.

Operations under the Proposed Action would result in a net gain of approximately 150-200 personnel. While this increase in traffic and utilization of parking would be noticeable, the traffic network and parking availability at WRANGB could accommodate this increase. The addition of 200 personnel would likely result in moderate impacts at the Main Gate including increased vehicle delays. However, similar to existing conditions, it is likely that the arrival of personnel at the Main Gate would be staggered. Further, the additional personnel would be spread throughout WRANGB resulting in negligible or minor increases in delays throughout the transportation network. Consequently, implementation of the Proposed Action would be anticipated to have a less than significant impact on traffic and circulation. At 0.75 parking spaces per person, WRANGB's current inventory of 1,265 parking spaces would accommodate approximately 1,685 personnel, within the expected increase as a result of the Proposed Action. Therefore, impacts to parking would be less than significant. Construction activities could render some parking spaces unavailable for short periods of time. Contrarily, addition of parking spaces may be incorporated into new facility designs.

3.11.2.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented. Transportation and parking would be unchanged from current conditions. Therefore, implementation of the No Action Alternative would result in no impact to transportation and parking.

3.11.3 Cumulative Effects

Other actions or activities that have been identified may result in some increase in traffic on area roadways. However, the majority of this impact would be expected on the east side of WRWA and would have minimal impact on SW 54th Street near WRANGB. Parking on WRANGB would be unaffected by other actions in the area. Therefore, cumulative impacts to transportation and parking at WRANGB that could result from implementation of the Proposed Action when added to the effects of other past, present, and reasonably foreseeable actions would not be significant.

3.12 Safety and Occupational Health

A safe environment is one in which there is no potential, or an optimally reduced potential, for death, serious bodily injury or illness, or property damage. The elements of an accident-prone environment include the presence of unnecessary hazards and an exposed population at risk of encountering hazards. This section

addresses the current conditions for military personnel and civilian safety, as well as health and safety following the implementation of the Proposed Action.

3.12.1 Affected Environment

Potential safety issues at WRANGB include ground, AT/FP, explosives, construction jobsite, and flight safety. Ground safety considers issues associated with human activities and operations and maintenance (O&M) activities that support unit operations. A specific aspect of ground safety addresses AT/FP considerations. Explosives and munitions safety addresses the management and use of ordnance or munitions associated with installation operations and training activities. Construction jobsite safety considerations include the prevention of mishaps related to construction, demolition, and renovation projects. Flight safety considers aircraft flight risks such as aircraft mishaps and accidents. Personnel receive continuing education regularly focused on site safety aspects.

Airfield clearance requirements are designed to minimize the potential for accidents during take-offs and landings. Airfield clearance zones consist of two-and three-dimensional areas which are associated with specific runways. Restrictions also center around taxiways and parking aprons. The DAF and the FAA regulate airfield clearances for the facilities under their jurisdiction. Runways 17R/35L and 13/31 at WRWA are both located adjacent to WRANGB. As such, their clearance zones are in close proximity to the installation. The northwestern end of Runway 13/31 lies off the southwest corner of the base, while the northern end of Runway 17R/35L lies off the southeast corner of WRANGB.

Bird/Wildlife Aircraft Strike Hazard (BASH) is defined as the threat of aircraft collision with birds or wildlife during flight operations and is a safety concern at all airfields due to the frequency of aircraft operations and the possibility of encountering birds or wildlife. Waterfowl present the greatest BASH potential due to their congregational flight patterns and because, when migrating, they can be encountered at altitudes up to 20,000 feet above ground level (agl). Raptors also present a substantial hazard due to their size and soaring flight patterns. In general, the threat of bird-aircraft strikes increases during April and May and from August through November due to migratory activity. WRWA, including WRANGB, is located within the Central Migratory Flyway. Four bird strike incidents were reported in FY2022, and two bird strike incidents were reported in FY2021.

Siting requirements for explosive materials storage (e.g., munitions) and handling facilities are based on safety and security criteria. Air Force Manual (AFMAN) 91-201, Explosives Safety Standards, requires that defined distances, known as explosives safety quantity-distance (ESQD) arcs, be maintained between these and a variety of other types of facilities. These ESQD arcs are determined by the type and quantity of explosive materials to be stored; each explosive material storage or handling facility has ESQD arcs extending outward from its sides and corners for a prescribed distance. Within ESQD arcs, development is either restricted or altogether prohibited in order to maintain safety of personnel and minimize the potential for damage to other facilities in the event of an accident. ESQD arcs for multiple facilities at a single site may overlap, leaving a series of arcs as edges of the safety zone. Explosive materials storage and build-up facilities must be located in areas where security can be assured. Ordnance is handled and stored in accordance with DAF explosives safety directives (AFMAN 91-201, *Explosives Safety Standards*) and all munitions maintenance is carried out by trained, qualified personnel using DAF-approved technical procedures.

3.12.2 Environmental Consequences

An impact on health and safety would be considered significant if implementation of the Proposed Action were to substantially increase the risks associated with aircraft activities, safety of personnel, contractors, military personnel, or the local community; hinder the ability of WRANGB or the surrounding community to respond to an emergency; or introduce new health or safety risks for which DAF or the surrounding community is not prepared or does not have adequate management and response plans in place.

3.12.2.1 Proposed Action

No aspects of the proposed construction, demolition, or renovation projects at WRANGB are expected to create new or unique ground safety issues. Emergency response plans would be updated to capture new, renovated, and demolished facilities. O&M procedures, as they relate to ground safety, are conducted by installation personnel, and would not change from current conditions. All activities would continue to be conducted in accordance with applicable regulations, technical orders, and AFOSH standards.

Short-term safety risks are associated with any construction, renovation, or demolition activity, including those activities associated with the Proposed Action. However, adherence to standard safety practices would minimize any potential risks. No unique construction practices or materials would be required as part of any of the construction, renovation, or demolition projects associated with the Proposed Action. All renovation and construction activities would be conducted in compliance with all applicable OSHA regulations to protect workers.

No existing or proposed facilities associated with the Proposed Action are sited within any of the runway protection zones at WRWA. Further, proposed construction and renovation activities have been designed and sited to meet all airfield safety criteria. Therefore, implementation of the Proposed Action would have no adverse impacts on airfield safety.

Under the Proposed Action, the 137 SOW would beddown and operate 28 OA-1K aircraft. While the Proposed Action would introduce a changed flying mission, proposed OA-1K operations would adhere to all established flight safety guidelines and protocols. Further, conflicts with the WRANGB BASH Plan (WRANGB 2023) would not be anticipated. Consequently, the Proposed Action would not be anticipated to result in significant impacts related to aircraft mishaps or bird-aircraft strikes.

The Proposed Action would include construction of a new MSA. The MSA would be designed with explosive safety considerations in mind, and appropriate ESQD arcs would be established providing adequate standoff distances from the MSA. Additionally, an arm/de-arm pad will be established; relevant safety considerations will be made in conjunction with WRWA operations and airfield management. Therefore, impacts to explosives safety would be less than significant.

3.12.2.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented. Safety and occupational health risks would not differ from current conditions. Therefore, implementation of the No Action Alternative would result in no impact to safety and occupational health.

3.12.3 Cumulative Effects

Potential effects to safety and occupational health would be from construction and operation activities at WRANGB. No effects of other actions or activities have been identified that, when combined with the effects of the Proposed Action, would have significant effects on this resource. Therefore, cumulative

impacts to safety and occupational health at WRANGB that could result from implementation of the Proposed Action when added to the effects of other past, present, and reasonably foreseeable actions would not be significant.

3.13 SOCIOECONOMICS

Socioeconomic resources are defined as the basic elements associated with the human environment, generally including factors associated with regional demographics and economic activity. Demographics can be described by the number, distribution, and composition of population and households. Economic activity is represented by the region's major industries, employment, and income characteristics. Direct impacts on either of these two fundamental socioeconomic indicators are typically accompanied by changes in other components, such as altered housing availability, education, and local and regional trends in economy and industry.

3.13.1 Affected Environment

Socioeconomic resources are described using demographic and employment measures, as these measures influence the local economy, community services, and housing demand. Table 3-6 presents socioeconomic statistics for an area within five miles of the project area; as any impacts are predicted to be localized near the project area since WRANGB is located near a large metropolitan area.

Table 3-6. Socioeconomic Statistics

Area	County	Population (within 5 miles)	Population Density (persons per square mile)
WRANGB	Oklahoma	128,681	1,639
Source: USEPA 2023.			

This population density is indicative of a rural-to-suburban setting. WRANGB is located near the greater Oklahoma City, OK metropolitan area, and population density increases east of WRANGB. Due to the proximity of a metropolitan area, an available workforce to support construction activities and facility operations and maintenance needs currently exists in the immediate area.

On a typical workday, WRANGB has approximately 500 personnel on site. Staffing levels increase to approximately 1,200 personnel on a drill weekend.

3.13.2 Environmental Consequences

Potential impacts to socioeconomics would be considered significant if the project displaced populations, residents, or businesses to accommodate construction, generated an economic loss or gain without the capacity to absorb a decrease or increase, placed a demand on suitable housing that exceeds availability, or induced growth without adequate supporting infrastructure.

3.13.2.1 Proposed Action

Implementation of the Proposed Action would involve economic activity associated with proposed construction and renovation activities, such as hiring of temporary laborers and purchasing of materials. Given the large metropolitan area of Oklahoma City, OK, it is assumed that the project construction and operation activities could be primarily accomplished with a local workforce, resulting in a minor and short-

term localized beneficial impact to socioeconomic resources, but beneficial impacts would be negligible on a regional scale.

The Proposed Action would result in a net increase of 150-200 personnel permanently assigned to WRANGB. While this increase represents a substantial change in daily staffing levels at WRANGB, potential impacts from changes in staffing on area socioeconomic indicators are anticipated to be negligible. No significant changes to population, income levels, housing, or local tax revenues are anticipated. The increase in personnel is predicted to result in a minor and long-term localized beneficial impact to socioeconomic resources. Therefore, implementation of the Proposed Action would result in a less than significant impact on socioeconomics.

3.13.2.2 No Action Alternative

Under the No Action Alternative, WRANGB would not take any further action with regards to aircraft beddown/recapitalization, support projects, or WRANGB support projects. The increase in personnel levels would not occur. Therefore, implementation of the No Action Alternative would result in a less than significant impact on socioeconomics. Should the current ISR mission close following retirement of the MC-12 aircraft, area socioeconomic indicators would be minimally impacted due to the proximity of the Oklahoma City, OK metropolitan area.

3.13.3 Cumulative Effects

Other area development projects are not expected to place undue strain on socioeconomic factors. WRWA and its surroundings are located near the greater Oklahoma City metropolitan area, and as such, socioeconomic resources are readily available. Other projects are not expected to result in a significant influx (either short-term or long-term) of supporting populations. Therefore, cumulative impacts to socioeconomics at WRANGB that could result from implementation of the Proposed Action when added to the effects of other past, present, and reasonably foreseeable actions would not be significant.

3.14 COMMUNITY SERVICES

Community services are provided by public and non-profit agencies and organizations to support and enhance the community with educational, protective, medical, and recreational services. These services include local community hospitals and clinics, fire/rescue and emergency medical services, law enforcement, local schools, and parks and recreation facilities.

3.14.1 Affected Environment

WRANGB is located near the Oklahoma City, OK metropolitan area. As such, significant community services are available to the population supporting activities at WRANGB. Many of the community services supporting WRANGB functions are provided by local entities. Others, including local law enforcement and medical and fire response capabilities, are provided by WRANGB and the DAF.

3.14.2 Environmental Consequences

Potential impacts to community services would be considered significant if the project changed the number of users of community services that exceed existing capacity, changed the demand for emergency and public protection services that would increase response times based on existing personnel resources and equipment, or changed the funding needed to sustain services or to increase access to services.

3.14.2.1 Proposed Action

The Proposed Action would result in a net increase of 150-200 personnel permanently assigned to WRANG. No significant additional load is expected to be placed on the fire or police departments as the result of the Proposed Action. WRANGB security forces and fire department services would respond to any new or renovated facility location, similarly to current response services. Expanded use of other public or community services as a result of the Proposed Action is not expected. Therefore, implementation of the Proposed Action would result in a less than significant impact and a potentially beneficial impact to community services.

3.14.2.2 No Action Alternative

Under the No Action Alternative, WRANGB would not take any further action with regards to aircraft beddown/recapitalization, support projects, or WRANGB support projects. The increase in personnel levels would not occur. Therefore, implementation of the No Action Alternative would result in no impact to community services.

3.14.3 Cumulative Effects

Other area development projects are not expected to place undue strain on community services. WRWA and its surroundings are located near the greater Oklahoma City metropolitan area, and as such, community services are readily available. Other projects are not expected to result in a significant influx (either short-term or long-term) of supporting populations. Therefore, cumulative impacts to community services at WRANGB that could result from implementation of the Proposed Action when added to the effects of other past, present, and reasonably foreseeable actions would not be significant.

3.15 Environmental Justice

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, specifies that each federal agency shall "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

3.15.1 Affected Environment

Environmental justice applies to potential adverse environmental impacts disproportionately borne by minority or low income populations. Environmental justice includes protection from health and safety risks if the potential for such risks are driven by an environmental impact. Table 3-7 presents environmental justice statistics for an area within five miles of the project area; as any impacts are predicted to be localized near the project area. The Demographic Index is an average of the two demographic indicators that are of primary interest in evaluating potential environmental justice impacts: minority population and low income population. Table 3-7 also shows the percentile rank in the U.S. of the project area.

Table 3-7. Environmental Justice Statistics

Area	County	Minority Population (percentile in U.S.)	Low Income Population (percentile in U.S.)	Demographic Index (percentile in U.S.)
WRANGB	Oklahoma	58% (71)	48% (78)	53% (77)
Source: USEPA 2023.				

Minority and low-income populations in the area are generally located nearer Oklahoma City, east of WRANGB (east of Interstate 44).

3.15.2 Environmental Consequences

An analysis of environmental justice determines whether a disproportionate share of adverse human health or environmental impacts from implementing a federal action would be borne by minority or low-income populations.

3.15.2.1 Proposed Action

Construction and operational impacts from the Proposed Action would be limited to the project vicinity, which is located in an area that has a lower minority and low-income population than the greater Oklahoma City metropolitan area. Project areas are not in the immediate vicinity of areas with higher concentrations of children, such as schools, and potential safety risks to children would be minimal. No significant adverse environmental or health impacts are predicted from the Proposed Action, and therefore, environmental or health impacts would not be disproportionately borne by any environmental justice community.

The Proposed Action would occur on WRWA property leased to the DAF. Under the Proposed Action, standard job site safety measures would be implemented. No new land use activities that might potentially impact minority/low income populations or children would be introduced. Therefore, as projected impacts from the Proposed Action are considered to be less than significant, there would be no disproportionate impact to minority or low income populations or children from implementation of the Proposed Action.

3.15.2.2 No Action Alternative

Under the No Action Alternative, WRANGB would not take any further action with regards to aircraft beddown/recapitalization, support projects, or WRANGB support projects. Should the current ISR mission close following retirement of the MC-12 aircraft, area socioeconomic indicators would be minimally impacted due to the proximity of the Oklahoma City, OK metropolitan area. This change in operations would not result in an impact on minority or low-income populations or children. Therefore, there would be no disproportionate impact to minority or low-income populations or children.

3.15.3 Cumulative Effects

Other area development projects are not expected to present an impact on minority or low-income populations or children. Therefore, there would be no disproportionate impact to minority or low-income populations or children that could result from implementation of the Proposed Action when added to the effects of other past, present, and reasonably foreseeable actions.

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CHAPTER 4 PERSONS AND AGENCIES CONSULTED/COORDINATED

4.1 NEPA PROCESS AND PUBLIC INVOLVEMENT

As stated in the DAF's EIAP (32 CFR Part 989), public involvement for an EA may include public engagement during scoping and drafting and finalizing the EA through publication of notices or public meetings. The public involvement process for this EA consisted of publication of a NOA of the Draft EA and a public comment period on the Draft EA.

The DAF's NEPA guidance states the EA process must include at least a 30-day public comment period on the Draft EA, which starts with the publication of an NOA. A NOA was published in the Oklahoman on March 3-4, 2024, to initiate the 30-day public review period. The Draft EA was made available from March 3, 2024, to April 2, 2024, at the Ronald J. Norick Downtown Library and on the 137 SOW public website (https://www.137sow.ang.af.mil/).

4.2 AGENCY COORDINATION

During the development of this EA, WRANGB contacted federal, state, and local agencies with oversight responsibilities related to this project. Additionally, WRANGB contacted 38 tribes that may be culturally affiliated with the lands operated by WRANGB, notifying them of the proposed project activities. Agency and tribal correspondence was addressed on September 29, 2023. Table 4-1 and Table 4-2 list the agencies and tribes contacted, respectively. Correspondence is included in Appendix A.

Table 4-1. Interagency Correspondence List

Federal Aviation Administration (Cooperating Agency) Dean McMath, Regional Env. Programs Mgr. 10101 Hillwood Pkwy. Fort Worth, TX 76177	**Will Rogers World Airport (Cooperating Agency)** Jim Thrash, WRWA Operations Scott Slater, WRWA Tower 7100 Terminal Drive, Unit 937 Oklahoma City, OK 73159-0937
U.S. Environmental Protection Agency Region 6 Robert Houston, Chief, Office of Planning and Coordination 1201 Elm Street, Suite 500 Dallas, TX 75270	**U.S. Army Corps of Engineers, Tulsa District** Col. Timothy Hudson, Commander and District Engineer 2488 81st Street Tulsa, OK 74137
U.S. Fish and Wildlife Service Oklahoma Ecological Services Field Office Susan Minnick 9014 East 21st Street Tulsa, OK 74129-1428	**National Park Service, Intermountain Region** Kate Hammond, Regional Director 12795 West Alameda Pkwy. Lakewood, CO 80228
U.S. Geological Survey, Oklahoma-Texas Water Science Center Timothy Raines, Director 202 NW 66th Street Oklahoma City, OK 73116	**Oklahoma Geological Survey** Nick Hayman, Director 100 E. Boyd St. Norman, OK 73109

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Table 4-2. Tribal Correspondence List

Absentee Shawnee Tribe of Indians of Oklahoma Devon Frazier, THPO 2025 S. Gordon Cooper Dr. Shawnee, OK 74801	**Caddo Nation of Oklahoma** Jonathan Rohrer, THPO P.O. Box 487 Binger, OK 73009
Cherokee Nation Elizabeth Toombs, THPO P.O. Box 948 Tahlequah, OK 74465	**Cheyenne and Arapaho Tribes** Max Bear, THPO P.O. Box 145 Concho, OK 73022
Choctaw Nation of Oklahoma Ian Thompson, THPO P.O. Drawer 1210 Durant, OK 74702-1210	**Citizen Potawatomi Nation** Blake Norton, THPO 1899 S. Gordon Cooper Dr. Shawnee, OK 74801
Comanche Nation Martina Minthorn, THPO P.O. Box 908 Lawton, OK 73502	**Delaware Nation** Katelyn Lucas, THPO 31064 S.H. 281 Anadarko, OK 73005
Eastern Shawnee Tribe Paul Barton, THPO 70500 E. 128 Road Wyandotte, OK 74370	**Miami Tribe of Oklahoma** Logan York, THPO P.O. Box 1326 Miami, OK 74355
Muscogee Creek Nation Turner Hunt, THPO P.O. Box 580 Okmulgee, OK 74447	**Osage Nation** Andrea Hunter, THPO 1071 Grandview, Ave. Pawhuska, OK 74056

Otoe-Missouri Tribe of Oklahoma Elsie Whitehorn, THPO 8151 Hwy. 177 Red Rock, OK 74651	**Ottawa Tribe of Oklahoma** Rhonda Hayworth, THPO 13 S 69A Miami, OK 74354
Pawnee Nation of Oklahoma Joseph Reed, THPO P.O. Box 470 Pawnee, OK 74058	**Ponca Tribe of Indians of Oklahoma** Liana Staci Hesler, THPO 121 White Eagle Drive Ponca City, OK 74601
Quapaw Nation Everett Bandy, THPO P.O. Box 765 Quapaw, OK 74363-0765	**Seminole Nation of Oklahoma** Ben Yahola, THPO P.O. Box 1498 Wewoka, OK 74884
Seneca Cayuga Tribe of Oklahoma William Tarrant, THPO P.O. Box 453220 Grove, OK 74344	**Shawnee Tribe** Tonya Tipton, THPO 29 South Highway 69A Miami, OK 74354
Thlopthlocco Tribal Town David Frank, THPO P.O. Box 188 Okemah, OK 74859	**United Keetoowah Band of Cherokee Indians in Oklahoma** Acee Watt, THPO 18263 W. Keetoowah Circle Tahlequah, OK 74464
Wichita and Affiliated Tribes Gary McAdams, THPO P.O. Box 729 Anadarko, OK 73005	**Wyandotte Nation** Sherri Clemons, THPO 8 Turtle Drive Wyandotte, OK 74370
Alabama-Quassarte Tribal Town Bryant Celestine THPO 101 East Broadway Wetomka, OK 74883	**Apache Tribe of Oklahoma** Bobby Komardley, Chairman P.O. Box 1330 Anadarko, OK 73005
Chickasaw Nation Bill Anoatubby, Governor P.O. Box 1548 Ada, OK 74821	**Delaware Tribe of Indians** Susan Bachor, THPO 5100 Tuxedo Blvd. Bartlesville, OK 74006-2838
Fort Sill Apache Tribe Lori Gooday Ware, Chairwoman 43187 U.S. Hwy. 281 Apache, OK 73006	**Iowa Tribe of Oklahoma** Jacob Keyes, Chairman 335588 E. 750 Road Perkins, OK 74059
Kaw Nation of Oklahoma Kimberly Jenkins, Chair P.O. Box 50 Kaw City, OK 74641	**Kialegee Tribal Town** Stephanie Yahola, Mekko P.O. Box 332 Wetumka, OK 74883
Kickapoo Tribe of Oklahoma Darwin Kaskaske, Chairperson P.O. Box 70 McLoud, OK 74851	**Kiowa Tribe** Lawrence SpottedBird, Chairman P.O. Box 369 Carnegie, OK 73015
Modoc Nation Gina McGaughey, THPO 22 N. Eight Tribes Trail Miami, OK 74354	**Peoria Tribe of Indians of Oklahoma** Craig Harper, Chief P.O. Box 1527 Maimi, OK 74355

Sac and Fox Nation Randle Carter, Principal Chief 920883 S. Hwy. 99 Bldg. A Stroud, OK 74079	**Tonkawa Tribe of Oklahoma** Russell Martin, Chairperson 1 Rush Buffalo Road Tonkawa, OK 74653

4.3 PERMITS AND APPROVALS

Table 4-3 lists environmental permits or other approvals that may need to be obtained prior to implementing the Proposed Action in this EA.

Table 4-3. Environmental Permits and Agreements

Agency	Project Stage	Environmental Permit, Compliance, or Coordination	Key Requirements
Air Quality			
Oklahoma Department of Environmental Quality (ODEQ) Air Quality Division (AQD)	Prior to construction	AQD Construction Permit	A construction permit application is required before a new source is constructed or an existing source is modified. This is potentially applicable to installation of new generators and conversion of USTs to ASTs.
ODEQ AQD	Prior to operation	AQD Operating Permit	An operating permit is issued after construction is completed and demonstration is made that the source is capable of meeting applicable emissions limitations and air pollution control requirements. This is potentially applicable to installation of new generators and conversion of USTs to ASTs.
Water Resources			
ODEQ	Maintain existing permit OKR050513	ODEQ OPDES General Permit OKR05 for Stormwater Discharges from an Industrial Activity within the State of Oklahoma	Stormwater discharges from industrial activities.
ODEQ	Prior to construction	ODEQ OPDES General Permit OKR10 for Stormwater Discharges from Construction Activities within the State of Oklahoma	Construction projects that propose to disturb more than one acre of the ground surface must obtain and comply with the ODEQ OPDES General Permit OKR10 for Stormwater Discharges from Construction Activities within the State of Oklahoma.

Agency	Project Stage	Environmental Permit, Compliance, or Coordination	Key Requirements
ODEQ	Prior to construction	Clean Water Act Section 401 permit	For any federally licensed or permitted project that may result in a discharge into waters of the U.S., a water quality certification must be issued to ensure that the discharge complies with applicable water quality requirements.
Floodplains and Wetlands			
U.S. Army Corps of Engineers (USACE)	Prior to construction – If placement of dredged or fill material into a jurisdictional water of the U.S. is involved	Clean Water Act Section 404 permit	If the project includes impacts to jurisdictional waters or wetlands (not anticipated at this time), USACE will be consulted and an approved jurisdictional determination (AJD) and/or wetland delineation will be required.

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CHAPTER 5
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CHAPTER 6
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CHAPTER 7
LIST OF ACRONYMS AND ABBREVIATIONS

°F Degrees Fahrenheit
ACAM Air Conformity Applicability Model
ACHP Advisory Council on Historic Preservation
ACM Asbestos-Containing Material
ACS Airspace Control System
AEM Area Equivalent Method
AFB Air Force Base
AFM Air Force Manual
AGE Aerospace Ground Equipment
agl above ground level
AJD Approved Jurisdictional Determination
amsl above mean sea level
AO Armed Overwatch
APE Area of Potential Effect
AQCR Air Quality Control Region
AQD Air Quality Division
ARW Air Refueling Wing
AST Aboveground Storage Tank
AT/FP Antiterrorism/Force Protection
ATC Air Traffic Control
AW Airlift Wing
BASH Bird/Wildlife Aircraft Strike Hazard
BCC Birds of Conservation Concern
BMP Best Management Practice
BRAC Base Realignment and Closure
CAA Clean Air Act
CAP Central Accumulation Point
CATM Combat Arms Training and Maintenance
CEQ Council on Environmental Quality
CERCLA Comprehensive Environmental Response, Compensation, and Liability Act
CFR Code of Federal Regulations
CH_4 Methane
CID Criminal Investigations Department
CLS Contract Logistics Support
CO Carbon Monoxide
CO_2 Carbon Dioxide
CO_{2e} Carbon Dioxide Equivalent
CWA Clean Water Act
CWPR Central Watershed Planning Region
CZMA Coastal Zone Management Act
DAF Department of the Air Force
dB decibel
dBA A-weighted decibel
DNL Day-Night Average Sound Level
DoD Department of Defense
DoDD Department of Defense Directive
EA Environmental Assessment
EIAP Environmental Impact Analysis Process
EIS Environmental Impact Statement
EISA Energy Independence and Security Act
EM Environmental Manager
EO Executive Order
EPCRA Emergency Planning and Community Right-to-Know Act
ERP Environmental Response Program
ESA Endangered Species Act
ESQD Explosives Safety Quantity-Distance
FAA Federal Aviation Administration
FEMA Federal Emergency Management Agency
FHWA Federal Highway Administration
FONSI Finding of No Significant Impact
ft feet
FTU Formal Training Unit
FY Fiscal Year
GHG Greenhouse Gas
gpm gallons per minute

HFC Hydrofluorocarbon
HQW High Quality Waters
IPaC Information for Planning and Consultation
ISR Intelligence, Surveillance, and Reconnaissance
L_{eq} Equivalent Continuous Noise Level
LBP Lead-Based Paint
LID Low Impact Development
LRS Logistics Readiness Squadron
MBTA Migratory Bird Treaty Act
MMAC Mike Monroney Aeronautical Center
MOA Memorandum of Agreement
MSA Munitions Storage Area
N_2O Nitrous Oxide
NAA Nonattainment Area
NAAQS National Ambient Air Quality Standards
NEPA National Environmental Policy Act
NEW Net Explosive Weight
NGB National Guard Bureau
NHPA National Historic Preservation Act
NO_2 Nitrogen Dioxide
NOA Notice of Availability
NOAA National Oceanic and Atmospheric Administration
NPDES National Pollutant Discharge Elimination System
NRHP National Register of Historic Places
O&M Operations and Maintenance
O_3 Ozone
OAS Oklahoma Archaeological Survey
OCWCS Oklahoma Comprehensive Wildlife Conservation Strategy
OCWP Oklahoma Comprehensive Water Plan
OCWUT Oklahoma City Water Utilities Trust
ODEQ Oklahoma Department of Environmental Quality
OG&E Oklahoma Gas and Electric
OGS Oklahoma Geological Survey
OK Oklahoma
OKANG Oklahoma Air National Guard
OKDOT Oklahoma Department of Transportation
OPDES Oklahoma Pollutant Discharge Elimination System
ORW Outstanding Resource Waters
OWRB Oklahoma Water Resources Board
Pb Lead
PFAS Per- and Polyfluoroalkyl Substances
PFC Perfluorocarbon
$PM_{2.5}$ Particulate Matter less than 2.5 microns
PM_{10} Particulate Matter less than 10 microns
PMO Project Maintenance Office
PSD Prevention of Significant Deterioration
RCNM Roadway Construction Noise Model
ROAA Record of Air Analysis
ROCA Record of Conformity Analysis
SAP Satellite Accumulation Point
SF_6 Sulfur Hexafluoride
SGCN Species of Greatest Conservation Need
SHPO State Historic Preservation Office
SIP State Implementation Plan
SO_2 Sulfur Dioxide
SOP Standard Operating Procedure
SOW Special Operations Wing
SPCC Spill Prevention, Control, and Countermeasures
SQG Small Quantity Generator
SWPPP Stormwater Pollution Prevention Plan
TCP Traditional Cultural Property
TSCA Toxic Substances Control Act
U.S. United States
USACE U.S. Army Corps of Engineers
USAF U.S. Air Force
USDA U.S. Department of Agriculture
USDOT U.S. Department of Transportation
USEPA U.S. Environmental Protection Agency

USFWS U.S. Fish and Wildlife Service
USGS U.S. Geological Survey
UST Underground Storage Tank
UW Universal Waste
VOC Volatile Organic Compound
WRANGB Will Rogers Air National Guard Base
WRWA Will Rogers World Airport
WST Weapons System Trainer

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APPENDIX A – INTERAGENCY/INTERGOVERNMENTAL CORRESPONDENCE

Appendix A materials available upon request.

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APPENDIX B – AIR QUALITY DETAILED ANALYSIS

Appendix B materials available upon request.

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APPENDIX C – BIOLOGICAL ASSESSMENT

Appendix C materials available upon request.

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APPENDIX D – BIOLOGICAL EVALUATION

Appendix D materials available upon request.

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APPENDIX E – NOISE DETAILED ANALYSIS

Appendix E materials available upon request.

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