Final Environmental Assessment

Implementation of the North Flightline Area Development Plan

Joint Base Langley-Eustis,
Langley Air Force Base

Hampton, Virginia

Prepared for:
Department of the Air Force

April 2025

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Final Environmental Assessment

Implementation of the North Flightline Area Development Plan at Joint Base Langley-Eustis, Langley Air Force Base, Hampton, Virginia

Responsible Agency:	Department of the Air Force (DAF)
Cooperating Agency:	None
Designation:	Environmental Assessment
Proposed Action:	Implementation of the North Flightline Area Development Plan at Joint Base Langley-Eustis, Langley Air Force Base
Abstract:	The DAF has prepared this Environmental Assessment (EA) pursuant to the National Environmental Policy Act of 1969 (NEPA) and the Air Force Environmental Impact Assessment Process Regulations. The EA analyzes the potential environmental effects that may occur from implementing improvements identified as short- and mid-term projects in the North Flightline Area Development Plan for Langley Air Force Base. These improvements consist of the construction of a North Gate and joint large vehicle inspection station, consolidated logistics compound, consolidated civil engineer compound, raising of the runway above sea level, and rerouting roads outside of the clear zone.
For Additional Information or to Submit Comments:	633 Civil Engineer Squadron/CEIE Attn.: Ms. Sherry Johnson Email: 633CES.CEIE.NEPAPublicComment@us.af.mil

The DAF developed this EA per its regulations that implement the National Environmental Policy Act as amended by the Fiscal Responsibility Act of 2023 at 32 Code of Federal Regulations (CFR) 989. The DAF is aware that the President of the United States has issued Executive Order (E.O.) 14154, *Unleashing American Energy*, which revoked E.O. 11991, which amended E.O. 11514. Council on Environmental Quality (CEQ) has provided notice that it intends to rescind the CEQ NEPA regulations.

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EXECUTIVE SUMMARY

The Department of the Air Force has prepared this Environmental Assessment (EA) to evaluate the potential environmental effects of implementing the improvements identified as short- and mid-term projects in the North Flightline Area Development Plan (ADP) at Joint Base Langley-Eustis (JBLE)-Langley Air Force Base in Hampton, Virginia.

Purpose and Need

The purpose of the Proposed Action is to implement Unified Facilities Criteria (UFC) 2-100-01 (*Installation Master Planning for Airfield and Entry Point Compliance*) compliant base planning and programming projects within the North Flightline ADP to assist with meeting current and future mission requirements.

The need for the Proposed Action is to resolve airfield clear zone and installation security violations, improve land use compatibility, and enhance resilience at JBLE-Langley. Addressing these issues would reduce safety risks to Air Force personnel and the public from UFC violations and mitigate flood risks from storm events.

According to UFC 3-260-01, *Airfield and Heliport Planning and Design*, clear zones should be free of obstructions, requiring demolition and relocation of these structures, even with existing waivers. This ensures proper enforcement of clear zone restrictions and security measures at entry points. Clear zones, located at runway ends, have the highest potential for aircraft mishaps and are subject to strict regulations for pilot and public safety. Currently, several roads, including Lee Road, Armistead Avenue, and Sweeney Boulevard, and the Armistead Gate are within the Runway 08 Clear Zone, leading to 18 active waivers and 9 exemptions.

The Proposed Action includes replacing the Armistead Gate with a new North Gate. North Armistead Avenue adjacent to the Armistead Gate accommodates approximately 17,000 vehicles per day, with approximately 60 percent of JBLE-Langley traffic using this gate. Anticipated growth over the next 5 to 7 years will greatly affect traffic operations, necessitating a compliant gate outside the clear zone. Department of Defense Instruction (DoDI) 4165.57, *Air Installations Compatible Use Zones*, states that roads within clear zones should be avoided due to historical aircraft mishaps (DoD, 2021). The current separation of the gate and Large Vehicle Inspection Station (LVIS) by Armistead Avenue poses security risks.

The Proposed Action is also needed to improve land use compatibility and resiliency. JBLE-Langley is in a highly flood-prone area. The east end of the flightline is particularly vulnerable to flooding and sea level rise. Facilities and most above-ground utilities must be elevated to 11 feet above sea level as per the UFC 3-201-01 (JBLE, 2022a). Much of JBLE-Langley lies within the 100-year floodplain, and Executive Order (EO) 11988, *Floodplain Management* require federal agencies to avoid floodplain development where possible and to implement stringent floodplain management standards (JBLE, 2023a). Currently, the runway sits 3 to 4 feet below base flood elevation, and runway flooding greatly affects the mission. Relocating and consolidating the Civil Engineering and Logistics squadrons away from the shoreline would improve land use compatibility and resilience, aligning with the Installation Climate Resilience Plan (JBLE, 2022b; JBLE, 2022e).

Proposed Action

JBLE-Langley in Hampton, Virginia, proposes to implement the following improvements from the North Flightline ADP:

1. **Construction of a North Gate and Joint LVIS:** Construct three primary buildings comprised of one LVIS, one gatehouse identification check building, and one privately owned vehicle (POV) inspection station, in addition to physical entrance barriers, pavements, roadways, utility connections, and security fencing. This would replace the non-UFC-compliant Armistead Gate, enhancing security and traffic management.

2. **Consolidated Logistics Compound:** Construct a new transportation headquarters facility, a vehicle operations administration building, a vehicle wash rack, two vehicle maintenance facilities, utilities, and a new one-mile-long roadway. Demolish buildings 26, 27, 28, 30, 31, and 32, and an existing parking area to consolidate logistics operations, improving efficiency and land use compatibility.
3. **Consolidated Civil Engineer Compound:** Demolish the existing civil engineering headquarters, a driving range and parking area, and construct a new consolidated civil engineering compound, consisting of a headquarters facility, two pavement ground facilities, a large equipment warehouse, and a service bay building. This project would provide infrastructure management and mission support.
4. **Raising of the Runway Above Sea Level:** Reconstruct the runway and elevate it by 3 to 4 feet, raising the runway to 11 feet above sea level to mitigate flood risks and ensure operational continuity.
5. **Rerouting Roads to be Outside of the Clear Zone:** Construct a new perimeter road outside of the clear zone and demolish existing pavements within the clear zone to enhance safety.

Alternatives Considered

Alternatives were developed for analysis based on several baseline requirements regarding aligning with the military mission at JBLE-Langley, applicable U.S. Department of Defense (DoD) plans and criteria, and on the following reasonable selection criteria:

1. **Flooding.** Facilities and most above-ground utilities must be sited 11 feet above sea level within the district due to flooding vulnerability at JBLE-Langley.
2. **Airfield Compliance.** Projects must address clear zone and primary surface violations at the JBLE-Langley runway.
3. **Flightline Infrastructure.** Projects must accommodate the expanding mission, while addressing the flood hazards on the installation.
4. **Land Constraints.** Projects must site facilities away from the flightline and other constraints, reorient and consolidate facilities for airfield UFC compliance, and allow for potential future growth in the district.
5. **Compatible Land Use within other Installation District ADPs.** Projects must be evaluated for land constraints and compatibility in JBLE-Langley's eight Districts.
6. **National Aeronautics and Space Administration (NASA).** Projects must limit effects on the NASA property boundaries to accommodate all federal missions on the installation.

The Air Force is considering a No Action Alternative and the Proposed Action:

- **No Action Alternative:** Under the No Action Alternative, the North Flightline ADP improvements would not proceed, leaving the noncompliant Armistead Gate open, which poses security risks due to its separation from the LVIS and its location within a clear zone. The 633d Logistics Readiness Squadron would remain in incompatible facilities in the Shellbank District, and the Civil Engineering Squadron would not be consolidated, preventing space optimization on the flightline. The runway would remain at its current elevation, where flood risks would continue. Clear zone violations with existing roads would persist, leading to ongoing land use incompatibilities and unaddressed infrastructure improvements, making the installation vulnerable to flooding and sea level rise.
- **Proposed Action:** The Proposed Action would be implemented as described under the Proposed Action.

Environmental Consequences

For this EA, the following resource areas are evaluated in detail for potential significant effects: air quality, water resources, soils and geological resources, cultural resources, biological resources, land use, noise, infrastructure, public health and safety, hazardous materials and waste, and transportation. The potential environmental effects on several resource areas were initially analyzed, and it was determined there would be minimal adverse effects. Such resource areas, which are only briefly addressed in this EA, include visual resources and socioeconomics.

Summary of Potential Environmental Consequences of the Alternatives

Table ES-1 summarizes the potential effects on the resource areas associated with the No Action Alternative and the Proposed Action analyzed in this EA.

Agency and Public Engagement

Because the Proposed Action area is within a floodplain and would likely affect nearby wetlands, it is subject to the requirements and objectives of EO 11988, *Floodplain Management*, and EO 11990, *Protection of Wetlands*. The Air Force published an early notice in the *Daily Press*, Newport News, Virginia, from May 10–11, 2024, that the Proposed Action would be constructed in a floodplain and would likely affect wetlands. The notice solicited public comment on the Proposed Action and practicable alternatives. The 30-day comment period for public and agency input on the Proposed Action ended June 9, 2024. No comments were received during this time.

A Notice of Availability (NOA) of the Draft EA and Finding of No Significant Impact (FONSI) /Finding of No Practicable Alternative (FONPA) was published in the Newport News *Daily Press* announcing the availability of the EA for review. The NOA invited the public to review and comment on the Draft EA for 30 days. Agency and public comments received were considered in preparing the Final EA.

Table ES-1: Summary of Potential Effects on Resource Areas

Resource	*No Action Alternative*	*Proposed Action*
Air Quality	No change to existing air quality conditions. No significant effects.	Short-term, minor effects on air quality during demolition and construction. Long-term, minor effects from operations. No significant effects.
Water Resources	Long-term effects from increased flooding vulnerability of the runway. No significant effects.	Short-term, minor effects on groundwater, surface waters, wetlands, floodplains, and shorelines from construction. Long-term, minor effects on groundwater, surface waters, wetlands, floodplains, and shorelines from increased impervious surfaces. No significant effects.
Soils and Geological Resources	No change to existing soils and geological resources conditions. No significant effects.	Short-term, minor effects from soil erosion and sedimentation during construction. Long-term, minor effects from localized changes in topography. No significant effects.
Cultural Resources	No change in existing cultural resources conditions. No significant effects.	No direct or indirect effects to historic properties including the Langley Field Historic District, NASA Langley Research Center Historic District, and Building 1362. Effects on the DoD Readiness and Environmental Protection Initiative (REPI) parcel would be part of the consultation between consulting parties and would result in a Programmatic Agreement to resolve adverse effects. No significant effects.
Biological Resources	No change in existing biological resources conditions. No significant effects.	Short-term, minor effects on wildlife from construction noise and including indirect, temporary, negligible effects on the monarch butterfly, red knot, gull-billed tern, and migratory birds during demolition and construction. Long-term, moderate effects from vegetation removal and minor effects on wildlife displacement and mortality from construction. No significant effects.
Land Use	No change in existing land use conditions. Existing land use compatibility issues within the clear zone would persist. No significant effects.	Short-term, minor effects on land use compatibility during demolition and construction due to increased traffic, noise, and air quality. Long-term, minor, adverse effects from a change in noise and traffic patterns. Short- and long-term adverse effects from changes in existing land use and the removal of residences on the off-base future land acquired parcels. Long-term, beneficial effects on land use compatibility. No significant effects.
Noise	No change in existing noise conditions. No significant effects.	Short-term, minor effects during demolition and construction. Long-term, minor effects from a change in noise and traffic patterns. No significant effects.

Resource	*No Action Alternative*	*Proposed Action*
Infrastructure	No change in existing infrastructure conditions. No significant effects.	Short-term, minor effects from temporary utility disruptions during demolition and construction. Long-term, minor, adverse effects on aging infrastructure and long-term, minor, beneficial effects from increased water and energy efficiency standards. No significant effects.
Public Health and Safety	No change in existing public health and safety concerns associated with roadways and the Armistead Gate located within the clear zone. Long-term, moderate, adverse effects on public health and safety that could become more substantial if unaddressed.	Short-term, minor, adverse effects on public health and safety during demolition and construction. Long-term, minor, adverse effects on public health and safety from increased traffic entering the North Gate and LVIS. Long-term, moderate, beneficial effects on public health and safety from elevating the runway, new perimeter road, and new gate and LVIS. No significant effects.
Hazardous Materials and Waste	No change in existing hazardous materials and waste conditions. No significant effects.	Short-term, negligible to minor effects from handling and storing hazardous materials during demolition and construction. Short-term, minor effects from potential exposure to toxic substances during demolition, potential per- and polyfluoroalkyl substances (PFAS) presence, and the removal of special hazards and construction within Environmental Restoration Program (ERP) sites. Long-term, negligible, adverse effects from hazardous materials during operation and maintenance. Long-term, negligible, beneficial effects from reduced amounts of asbestos-containing material (ACM) and special hazards. No significant effects.
Transportation	No change in existing compliance and safety issues associated with the Armistead Gate and roadways within the clear zone, and excessive traffic within areas along Sweeney Boulevard and Lee Road. Long-term, moderate, adverse effects on transportation could become more substantial if unaddressed.	Short-term, minor, adverse effects to transportation infrastructure and traffic flows during demolition and construction. Long-term, moderate beneficial effects from transportation infrastructure condition and capacity improvements. Long-term, minor effects to transportation capacity and increased commute distance via rerouting of North Armistead Avenue. No significant effects.

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Glossary of Abbreviations and Acronyms

Acronym	Definition
ACAM	Air Conformity Applicability Model
ACM	asbestos-containing material
ACP	access control point
ADP	Area Development Plan
AFB	Air Force Base
AFCEC	Air Force Civil Engineer Center
AFFF	aqueous film-forming foam
AFI	Air Force Instruction
AFTT	Atlantic Fleet Training and Testing
AICUZ	air installations compatible use zone
APE	area of potential effect
AST	aboveground storage tank
AT/FP	antiterrorism and force protection
BASH	Bird/Wildlife Aircraft Strike Hazard
BMP	best management practices
CCF	Consolidated Communications Facility
CEQ	Council on Environmental Quality
CO	carbon monoxide
CO2	carbon dioxide
CO_2e	carbon dioxide equivalents
CFR	Code of Federal Regulations
CT	census tract
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	decibel
dBA	A-weighted decibels
DERP	Defense Environmental Restoration Program
DNL	Day-Night Average Sound Level
DoD	United States Department of Defense
DoDI	Department of Defense Instruction
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EO	Executive Order

ERP	environmental restoration program
ESA	Endangered Species Act of 1973
FEMA	Federal Emergency Management Agency
FIDS	forest interior dwelling species
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
FRA	Fiscal Responsibility Act of 2023
FS	Fighter Squadron
FTU	Formal Training Unit
FW	Fighter Wing
GHG	greenhouse gas
GWP	global warming potential
HWMP	Hazardous Waste Management Plan
I-	Interstate
ICRMP	Integrated Cultural Resources Management Plan
IDP	Installation Development Plan
INRMP	Integrated Natural Resources Management Plan
IPaC	Information for Planning and Consultation
IRP	Installation Restoration Program
ISR	Intelligence, Surveillance, and Reconnaissance
JBLE	Joint Base Langley-Eustis
JLUS	Joint Land Use Study
LBP	lead-based paint
LF	landfill
Lmax	maximum noise
LTM	long-term monitoring
LUC	Land use controls
LVIS	large vehicle inspection station
MBTA	Migratory Bird Treaty Act of 1918
mgpd	million gallons per day
MMRP	Military Munitions Response Program
MSL	mean sea level
NAAQS	National Ambient Air Quality Standards
NASA	National Aeronautics and Space Administration
NASA LaRC	National Aeronautics and Space Administration Langley Research Center
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide

NO_x	nitrogen oxides
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
PFAS	per- and polyfluoroalkyl substances
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonic acid
$PM_{2.5}$	fine particulate matter less than or equal to 2.5 micrometers in diameter
PM_{10}	suspended particulate matter less than or equal to 10 micrometers in diameter
POL	petroleum, oil, and lubricants
POV	privately owned vehicle
PPE	personal protective equipment
RCRA	Resource Conservation and Recovery Act
REPI	Readiness and Environmental Protection Initiative
SGCN	Species of Greatest Conservation Need
SHPO	State Historic Preservation Office
SO_2	sulfur dioxide
SO_x	sulfur oxides
SPRP	Spill Prevention and Response Plan
THPO	Tribal Historic Preservation Office
TMDL	Total Maximum Daily Load
tpy	tons per year
TSCA	Toxic Substances Control Act
U.S.C.	United States Code
UFC	Unified Facilities Criteria
USACE	U.S. Army Corps of Engineers
UST	Underground storage tanks
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VDEQ	Virginia Department of Environmental Quality
VDHR	Virginia Department of Historic Resources
VMRC	Virginia Marine Resources Commission
VOC	volatile organic compound

1 Purpose of and Need for the Proposed Action

1.1 Introduction and Background

The Department of the Air Force Joint Base Langley-Eustis (JBLE)-Langley in Hampton, Virginia, has identified the need to implement improvements from the North Flightline Area Development Plan (ADP). These improvements consist of the construction of a North Gate and joint large vehicle inspection station (LVIS), consolidated logistics compound, consolidated civil engineer compound, raising of the runway above sea level, and rerouting roads to be outside of the clear zone. This Environmental Assessment (EA) was prepared to evaluate the potential environmental effects of this Proposed Action in compliance with the National Environmental Policy Act of 1969 (NEPA) (42 United States Code [U.S.C.] 4321 et seq.) as amended by the Fiscal Responsibility Act of 2023 (Public Law 118-5) (FRA), the DAF's Environmental Impact Analysis Process (EIAP) implementing regulations (32 Code of Federal Regulations (CFR) Part 989 (Secretary of the Air Force, 2021)), to the extent they are consistent with NEPA as revised by the FRA, and Executive Order (EO) 14154, *Unleashing American Energy*.

North Flightline Area Development Plan

The North Flightline Area Development Plan was finalized in May 2022. Its vision statement is "to support the mission with modern mission support facilities and resilient infrastructure." It addresses areas of future development in the North Flightline District, including short-, mid-, and long-term projects.

The information presented in this document will serve as the basis for deciding whether the Proposed Action would result in a significant impact on the human environment, requiring the preparation of an Environmental Impact Statement (EIS), or whether no significant effects would occur, in which case a Finding of No Significant Impact (FONSI) would be appropriate. If the execution of the Proposed Action would involve construction in a wetland or floodplain, a Finding of No Practicable Alternative (FONPA) would be prepared in conjunction with the FONSI.

JBLE-Langley is located in the Virginia Peninsula in the Coastal Plain/Tidewater region of Virginia (see Figure 1-1). JBLE became a joint base on October 1, 2010, when Langley Air Force Base joined with Fort Eustis. The two bases do not share a common boundary; JBLE-Eustis is on the western side of the Virginia Peninsula and JBLE-Langley is on the eastern end. JBLE-Langley, which occupies 2,883 acres, is located in the City of Hampton and is on the western edge of the Chesapeake Bay.

The installation was established in 1916 as Langley Field and has hosted a variety of missions and aircraft types throughout its history. JBLE-Langley is home to the 633d Air Base Wing. The primary tenant is the 1st Fighter Wing (FW), which has three squadrons: the 27th Fighter Squadron (FS) and the 94 FS both fly the F-22 Raptor airframe, and the 71st Fighter Training Squadron fly the T-38A. The 192 Wing, an Air National Guard unit, augments the 1 FW by integrating its flight crews with the 27 FS and 94 FS. The 633d Air Base Wing and 1 FW accomplish their base support and air operation missions through several subordinate groups.

JBLE-Langley is also home to Headquarters Air Combat Command. Permanent beddown of the F-22 Formal Training Unit (FTU) mission at JBLE-Langley has been completed. Additional units that have relocated to JBLE-Langley include 43 FS, 43rd Aircraft Maintenance Squadron, the 2nd Fighter Training Squadron, and the 325th Training Support Squadron.

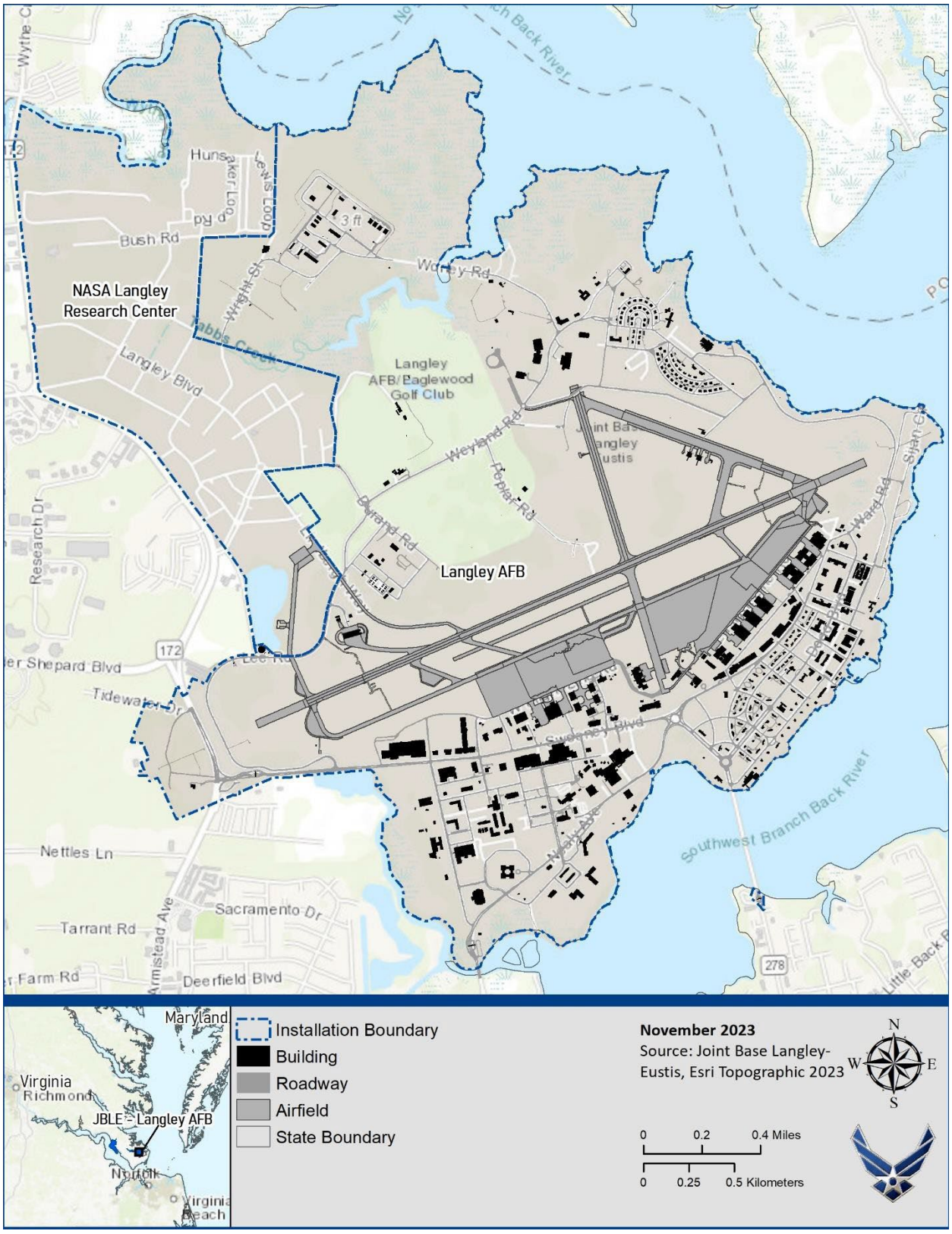

Figure 1-1: Location of JBLE-Langley

The North Flightline ADP addresses needed changes to the flightline and other areas of future development within the North Flightline District. The purpose is to provide a plan to update airfield infrastructure to accommodate a growing mission and the requirement to meet Unified Facilities Criteria (UFC) standards; and to outline more informed and organized development in the face of rising sea levels, increased flooding, and a growing installation (JBLE, 2022a). The North Flightline District is the area north of the Langley Air Force Base (AFB) runway centerline and spans the width of JBLE-Langley. This district contains a portion of a partially abandoned golf course along the west end of the runway and lies within the footprint of a 100-year-old historic, abandoned bombing range (JBLE, 2022c).

1.2 Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to implement UFC 2-100-01 (*Installation Master Planning for Airfield and Entry Point Compliance*) compliant base planning and programming projects within the North Flightline ADP to assist with meeting current and future mission requirements.

The need for the Proposed Action is to specifically address airfield clear zone violations and installation security violations, and improve land use compatibility and resiliency at JBLE-Langley. Addressing these issues would reduce safety risks to Air Force personnel and the public from UFC violations, and reduce risk from anticipated increases in flooding during storm events.

United Facilities Criteria (UFC)

2-100-01, *Installation Master Planning for Airfield and Entry Point Compliance*

The UFC provides directives for developing Installation Master Plans for focused designs that will enable mission support. This includes flood protection, lifecycle planning, planning for severe weather resiliency, defense critical infrastructure, antiterrorism, site security considerations, territorial enforcement, airfield constraints, and clearances and transportation improvements.

UFC 3-260-01, *Airfield and Heliport Planning and Design*, states that clear zones should be free of obstructions, requiring demolition and relocation of these structures even if there are current waivers in place. Specifically, two of the needs of the Proposed Action are to address airfield and security violations at JBLE-Langley. This would allow for proper enforcement of clear zone restrictions and security measures required at entry points. Per the UFC, the siting of roads and structures within the clear zone is discouraged to protect pilots and the public. A clear zone is an area at the end of a runway that has the highest potential for aircraft mishaps. For pilot and public safety, the clear zone is subject to the most restrictions. Currently, there are several roads within the Runway 08 Clear Zone, including Lee Road, Armistead Avenue, and Sweeney Boulevard. In addition, the Armistead Gate is located within the clear zone and does not meet entry point security or airfield security criteria. There are 18 active waivers and 9 exemptions in the airfield as a result of these violations.

Under the Proposed Action, the North Gate would replace the Armistead Gate. Currently, the segment of North Armistead Avenue adjacent to the Armistead Gate accommodates approximately 17,000 vehicles per day. Approximately 60 percent of the traffic accessing JBLE-Langley use the Armistead Gate. JBLE-Langley is anticipating considerable growth and increases in personnel on the north side of the installation over the next 5 to 7 years. This growth will have a notable effect on traffic operations at the Armistead Gate and on internal installation roadways and intersections that are not currently designed to support the anticipated increase in traffic. In addition, the Armistead Gate is located within the clear zone.

Department of Defense Instruction (DoDI) 4165.57, *Air Installations Compatible Use Zones*, states that having any roads within clear zones should be avoided (DoD, 2021). These land use compatibility guidelines are based on historic aircraft mishap locations on or near air installations. The volume of traffic traversing through the clear zone combined with the volume of traffic being processed at the Armistead Gate exposes the public and the Air Force to potential risk. In addition, the current LVIS is outside of the perimeter fence on the opposite side of

Armistead Avenue. This separation of the gate and the LVIS poses a security flaw because a major throughfare separates the two locations and a gap exists between inspection and entrance onto the installation.

The Proposed Action is also needed to improve land use compatibility and resiliency. JBLE-Langley lies within one of the most vulnerable areas in the United States for flooding hazards. The east end of the flightline particularly is susceptible to flooding and rising water levels, directly and indirectly related to sea level rise. As a result, facilities and most above-ground utilities must be sited 11 feet above sea level as prescribed by the UFC 3-201-01 (JBLE, 2022a). According to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps, much of JBLE-Langley is within the 100-year floodplain (JBLE, 2023a). EO 11988, *Floodplain Management*, requires federal agencies to avoid, to the extent possible, the occupancy and modification of floodplains and to avoid floodplain development wherever there is a practicable alternative. Currently, the runway at JBLE-Langley sits 3 to 4 feet below the base flood elevation. The Civil Engineering Squadron and Logistics Squadron are in areas that are currently flood prone and where tidal rise is predicted to increase. The mission is currently affected by flooding and flooding is expected to increase in the future. Relocating and consolidating the Civil Engineering and Logistics squadrons would improve land use compatibility by relocating operations farther away from the shoreline. In addition, the updated facilities would be more resilient to extreme weather events. This relocation and consolidation is consistent with the Installation Climate Resilience Plan (JBLE, 2022b; JBLE, 2022e).

1.3 Relevant Laws and Regulations

The Department of the Air Force has prepared this EA based on federal and state laws, statutes, regulations, policies, and EOs pertinent to the implementation of the Proposed Action, including but not limited to the following:

- NEPA (42 U.S.C. sections 4321–4370h), which requires an environmental analysis for major federal actions that have the potential to significantly impact the quality of the human environment
- Air Force regulations for implementing NEPA (32 CFR part 989), which provides Air Force policy for implementing NEPA
- Bald and Golden Eagle Protection Act (16 U.S.C. 668–668d)
- Clean Air Act (42 U.S.C. 7401 et seq.)
- Clean Water Act (33 U.S.C. 1251 et seq.)
- Coastal Zone Management Act (16 U.S.C. 1451 et seq.)
- Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601 et seq.)
- Emergency Planning and Community Right-to-Know Act (42 U.S.C. 11001–11050)
- Endangered Species Act (16 U.S.C. 1531 et seq.)
- Migratory Bird Treaty Act (16 U.S.C. 703–712)
- National Historic Preservation Act (54 U.S.C. 300101 et seq.)
- Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.)
- Safe Drinking Water Act (42 U.S.C. 300f et seq.)
- Toxic Substances Control Act (15 U.S.C. 2601 et seq.)
- EO 11988, *Floodplain Management*

Department of the Air Force Manual 32-1084, *Standard Facility Requirements*

This manual is the directive for the use of space authorization standards in facility space planning at Air Force real property and installations. Planners are to consider designs that go beyond the physical dimensions of facilities.

- EO 11990, *Protection of Wetlands*
- EO 12088, *Federal Compliance with Pollution Control Standards*
- EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*

A description of the Proposed Action's consistency with these laws, policies, and regulations, and the names of regulatory agencies responsible for their implementation, will be presented in the EA.

1.4 Intergovernmental Coordination, Public and Agency Engagement

1.4.1 Interagency Coordination and Consultations

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

1.4.2 Government to Government Consultations

Consistent with the National Historic Preservation Act of 1966 (NHPA) implementing regulations (36 CFR Part 800); DoDI 4710.02, *DoD Interactions with Federally-Recognized Tribes*; Department of the Air Force Instruction (AFI) 90-2002, *Interactions with Federally-Recognized Tribes*; and Air Force Manual 32-7003, *Environmental Conservation*, the Department of the Air Force is also consulting with federally recognized tribes that are historically affiliated with the geographic region being considered for the Proposed Action regarding the potential to affect properties of cultural, historical, or religious significance to the tribes. The tribal consultation process is distinct from NEPA consultation or the interagency coordination process, and it requires separate notification of all relevant tribes. The timelines for tribal consultation are also distinct from those of other consultations. The Native American tribal governments that were coordinated or consulted with regarding these actions are listed in Appendix A.

1.4.3 Other Agency Consultations

Per the requirements of Section 106 of the NHPA and implementing regulations (36 CFR Part 800) and Section 7 of the Endangered Species Act (ESA) and implementing regulations, findings of effect and request for concurrence will be transmitted to the Virginia State Historic Preservation Office (SHPO), Virginia Department of Environmental Quality (VDEQ), and the U.S. Fish and Wildlife Service (USFWS).

1.4.4 Public and Agency Review of EA

Because the Proposed Action area is within a floodplain and would likely affect nearby wetlands, it is subject to the requirements and objectives of EO 11988, *Floodplain Management*, and EO 11990, *Protection of Wetlands*. The Air Force published an early notice in The *Daily Press*, Newport News, Virginia, from May 10–11, 2024, that the Proposed Action would be constructed in a floodplain and would likely affect wetlands (Appendix A). The notice solicited public comment on the Proposed Action and practicable alternatives. The 30-day comment period for public input on the Proposed Action ended June 9, 2024. No comments were received during this time.

A Notice of Availability (NOA) of the Draft EA and FONSI/FONPA was published in the *Daily Press*, Newport News, Virginia, announcing the availability of the Draft EA for review. The NOA invited the public to review and comment on the Draft EA for 30 days. The NOA and public and agency comments are provided in Appendix A.

2 Description of the Proposed Action and Alternatives

2.1 Proposed Action

The Department of the Air Force proposes to implement improvements identified as short- and mid-term projects in the North Flightline ADP to satisfy the purpose of and need for the Proposed Action. The following proposed projects are shown in Figures 2-1, 2-2, 2-3, and 2-4:

1. New North Gate and joint LVIS
2. Consolidated logistics compound
3. Consolidated civil engineer compound
4. Raising of the runway above sea level
5. Rerouting roads to be outside of the clear zone

Projects are proposed to be constructed within a short-, mid-, or long-term time frame.

Project 1—New North Gate and joint LVIS. The North Gate and joint LVIS project would consist of three primary buildings composed of one LVIS, one gatehouse identification check building, and one privately owned vehicle (POV) inspection station, in addition to physical entrance barriers, and necessary pavements, roadways, utility connections, and security fencing. A new gate and LVIS would provide a UFC-compliant entry control point to replace the Armistead Gate, which is neither compliant nor large enough for an LVIS. The North Gate and joint LVIS would be constructed on approximately 29 acres of land west of the flightline. This area is part of the land acquisition and zoning adjustment that is ongoing with the City of Hampton. An Environmental Baseline Survey would be accomplished prior to the land acquisition. Project 1 includes the action of the Department of Defense (DoD) acquiring this parcel with Readiness and Environmental Protection Initiative (REPI) funds. The LVIS would consist of three inspection bays, four inbound lanes, and one bypass lane. Each lane would have two security booths. The gatehouse identification check building would be located in the median between inbound and outbound travel lanes. The POV inspection station would consist of four lanes for POVs and one lane for commercial vehicles. All three buildings would be constructed with structural steel frame, brick veneer façade, a metal roof system, and reinforced concrete floor slab and foundation. The new LVIS would be approximately 4,570 square feet; the gatehouse identification check building would be approximately 5,560 square feet; and the POV inspection station would be approximately 1,335 square feet. Because this area is within a floodplain, fill would be added to each building site and flood-susceptible utilities to raise them a minimum of 3 feet above the 100-year floodplain. In addition, one mile of new roadway with one mile of security fencing would be added. To build the North Gate and LVIS, the existing gatehouse identification check structure and vehicle inspection station (Buildings 228 and 229) would be demolished, totaling 7,545 square feet. This would be a short-term project.

Project 2—Consolidated logistics compound. The 633d Logistics Readiness Squadron occupies the current logistics compound, which is in the Shellbank District. Fleet vehicles are maintained at facilities in the Shellbank District, but other transportation operations, including administration, are dispersed throughout the installation. The current facility is adjacent to dormitories and administration buildings, which are not compatible with transportation land uses. A consolidated compound would make transportation operations more efficient. In addition, moving the transportation operations out of the Shellbank District would allow for growth in commercial services in that region. The proposed consolidated logistics compound would be relocated from the Shellbank District to the North Flightline District, in an industrial area next to the proposed consolidated civil engineering compound, which has more compatible land uses. As a result, Buildings 26, 27, 28, 30, 31, and 32; and an existing parking area (approximately 5,000 square feet) would be demolished. The project would include

the construction of a new transportation headquarters facility (86,463 square feet), a vehicle operations administration building (4,051 square feet), and a vehicle wash rack (1,760 square feet). In addition, two vehicle maintenance facilities (4,051 square feet each) and a new roadway approximately one mile long would be added. Any required utilities would be added, including electric, fiber optic cables, water, and sewer. This project would require more than 10,000 cubic yards of fill to be placed on site to elevate the facilities out of base flood elevation. Construction of these facilities would be mid- to long-term.

Project 3—Consolidated civil engineer compound. The 633d civil engineering operations and administration are currently located in both the South Flightline District and North Flightline District. The current civil engineering headquarters, which is 32,517 square feet, would be demolished along with the existing pavement and grounds compound in the North Flightline District. A new consolidated civil engineering compound would be constructed at the North Flightline District. Personnel would be relocated to the new headquarters and compound. Buildings 1328, 1334, 1349, and 1352 would be demolished. A driving range and an estimated 5,000 square feet of parking would be demolished to accommodate the new compound. Some of the site would occupy a former golf course that is no longer in use. The proposed compound would include a civil engineering headquarters facility (64,981 square feet), two pavement ground facilities (31,250 square feet each), a large equipment warehouse (66,000 square feet), and a service bay building with 3 to 4 service bays for large equipment (37,500 square feet). This would require about one mile of trenching for new utilities such as electric, fiber optic cables, water, and sewer. More than 10,000 cubic yards of fill would be added to the site to elevate the facilities out of the base flood elevation. Under the Proposed Action, the civil engineering compound would be consolidated and there would be more space on the flightline for operational missions. Construction of these facilities would be mid- to long-term.

Project 4—Raising of the runway above sea level. The runway would be elevated 3 to 4 feet to a height of 11 feet above sea level. This would raise the runway out of base flood elevation to mitigate flood risks. This project would involve the reconstruction of the runway 10,000 feet long by 150 feet wide with the shoulders and taxiways modified to the new runway grades. New overruns would be added at each runway end, 1,000 feet long by 150 feet wide. Given that the runway would be elevated in the same location as the existing runway, the construction phase would affect aircraft operations during this time period. Once construction was complete, and the runway was raised, aircraft Instrument Approach Procedures might be modified slightly. However, because the runway would remain in the same location, it is not anticipated that the basic arrival and departure patterns would change. This would be a long-term project.

Project 5—Rerouting roads to be outside of the clear zone. Currently, Lee Road (the airfield perimeter road), Armistead Avenue, and Sweeney Boulevard cross through the clear zone, a violation of airfield planning. The Proposed Action would include the construction of a new perimeter road outside of the clear zone and demolish existing pavements within the clear zone. This would be a short-term project.

Off-base land acquisition and zoning adjustments with the City of Hampton are contingent for the North Gate and LVIS project (Project 1) and the rerouting of roads outside the clear zone (Project 5). This encompasses 57.75 acres of land on the west end of Runway 08 and west of the flightline. The City of Hampton is actively in the process of parcel acquisition. DoD REPI funds have been identified to support parcel acquisition within the clear zone. In addition, the Proposed Action includes fencing, as shown on Figures 2-1, 2-2, and 2-3.

When required for the proposed projects, added fill material would meet applicable state requirements and would be properly processed to ensure it is suitable for construction. Construction and demolition debris would be appropriately hauled off site as part of the Proposed Action.

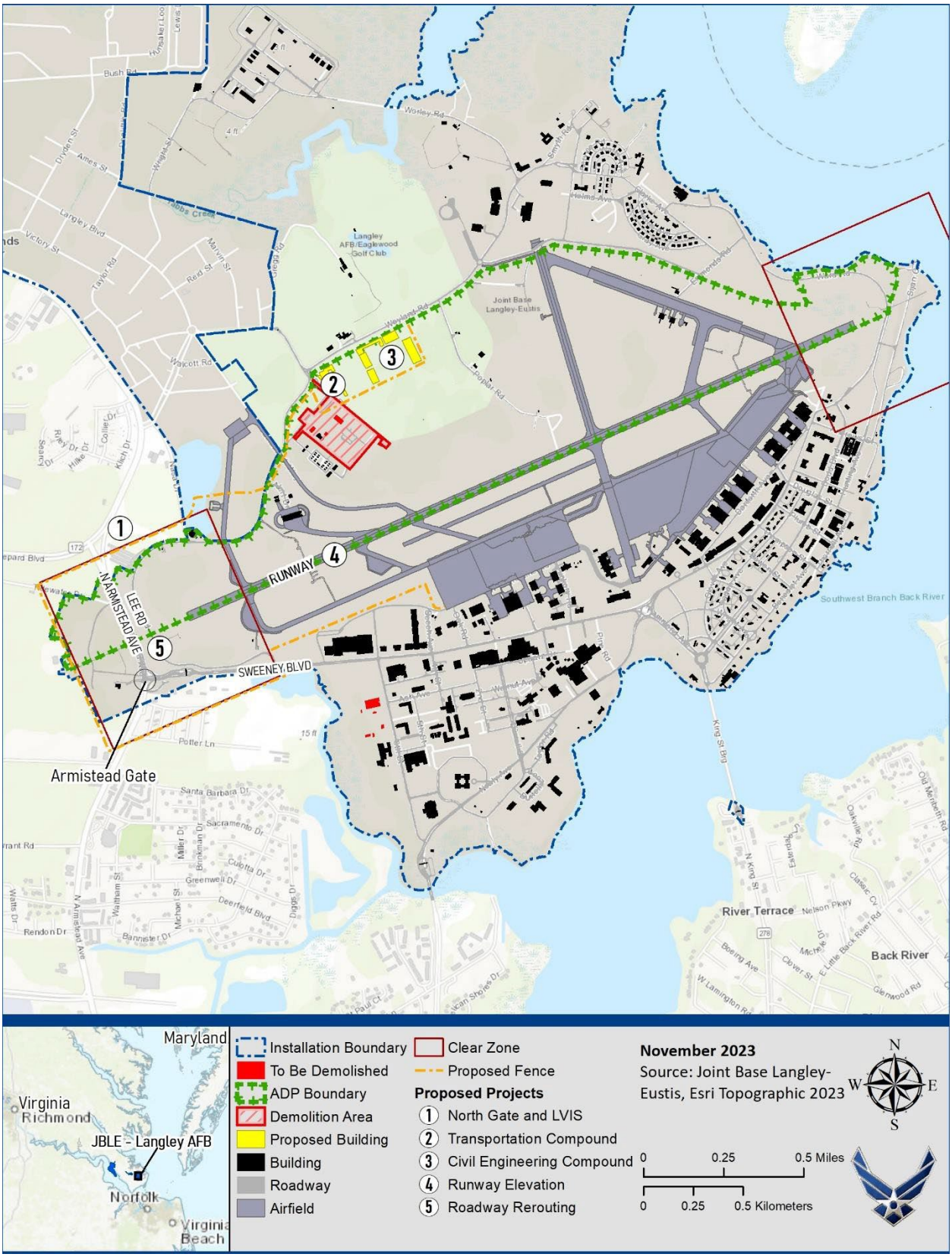

Figure 2-1: Proposed Action Demolition and Construction

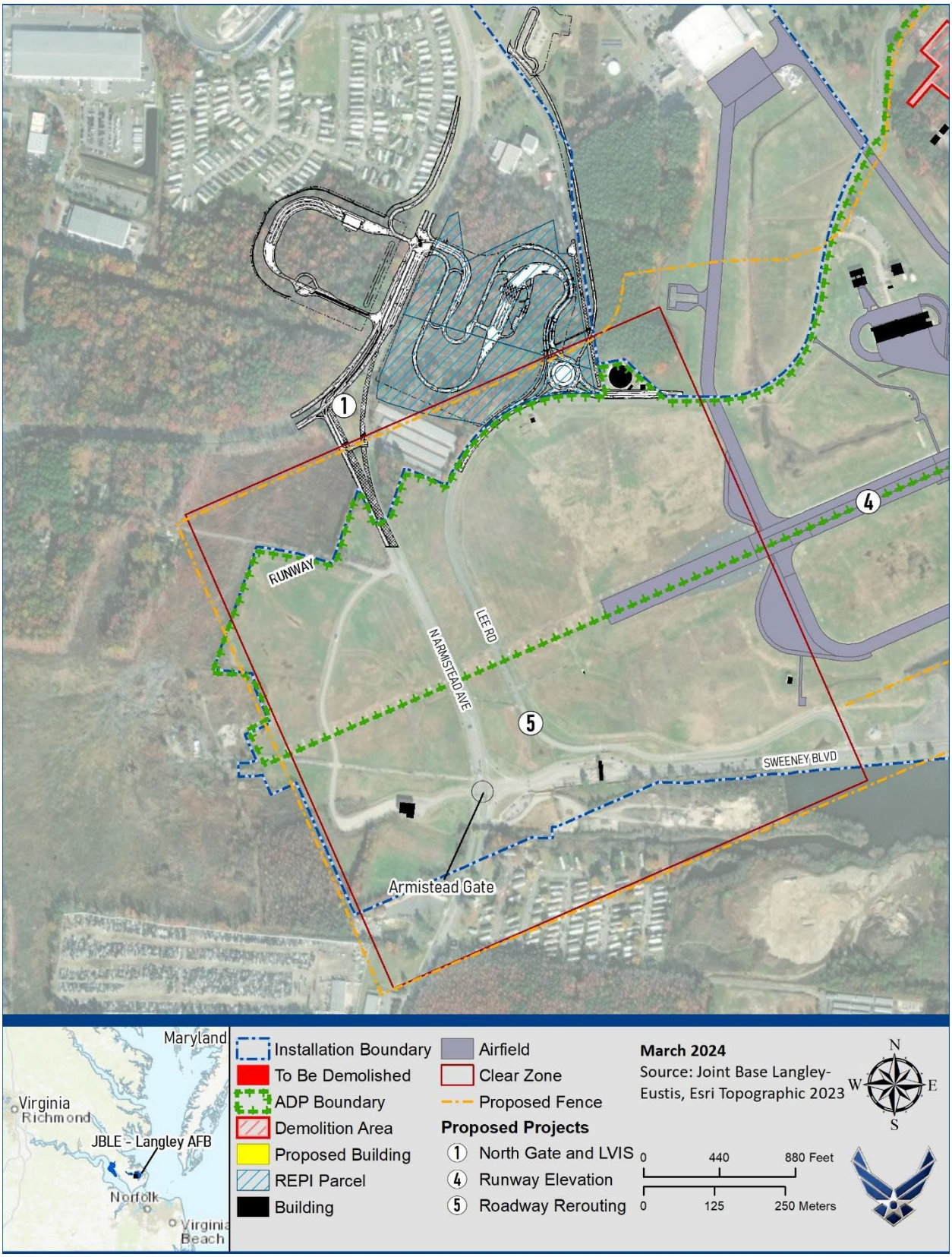

Figure 2-2: Projects Proposed on West Side

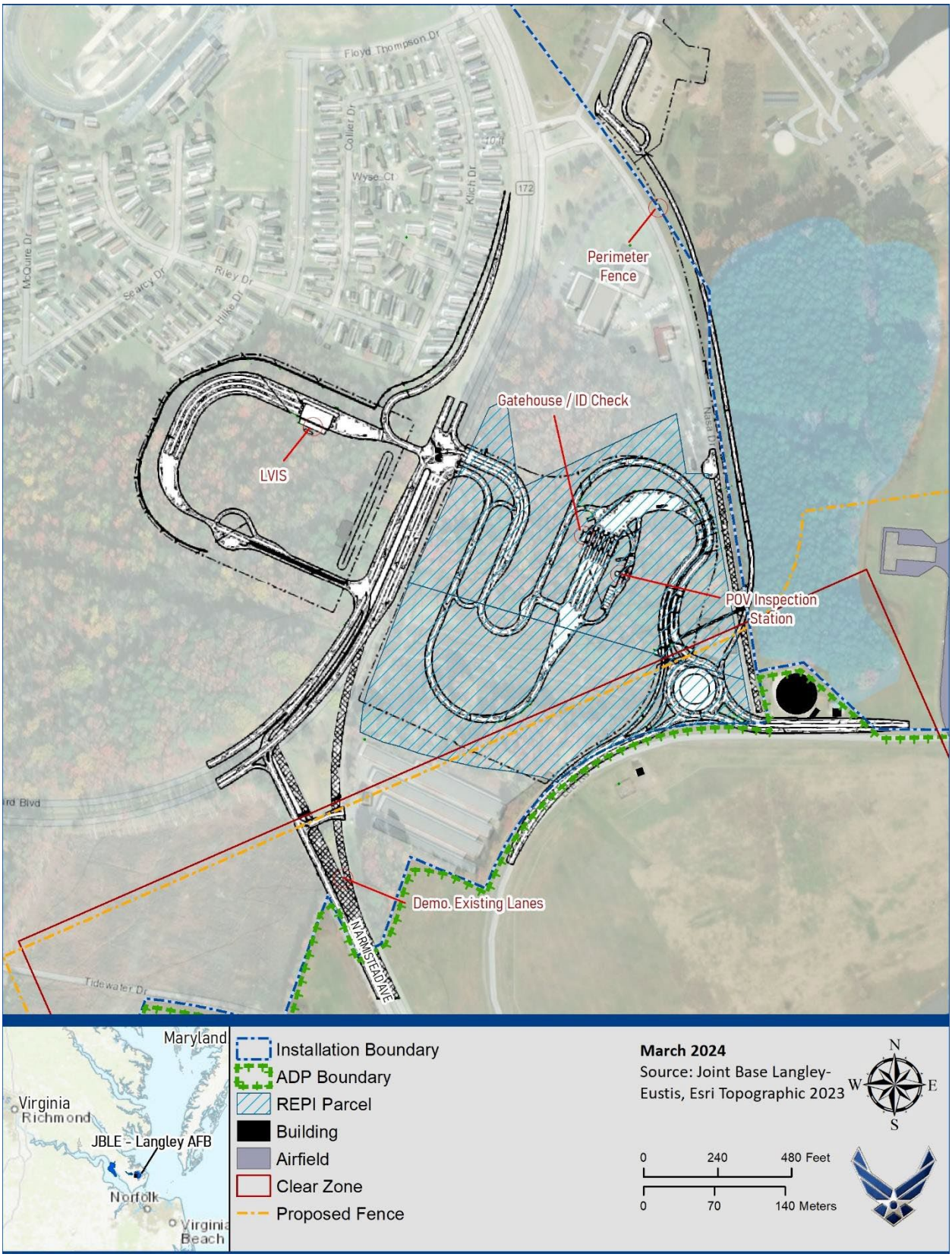

Figure 2-3: Proposed North Gate and LVIS Layout

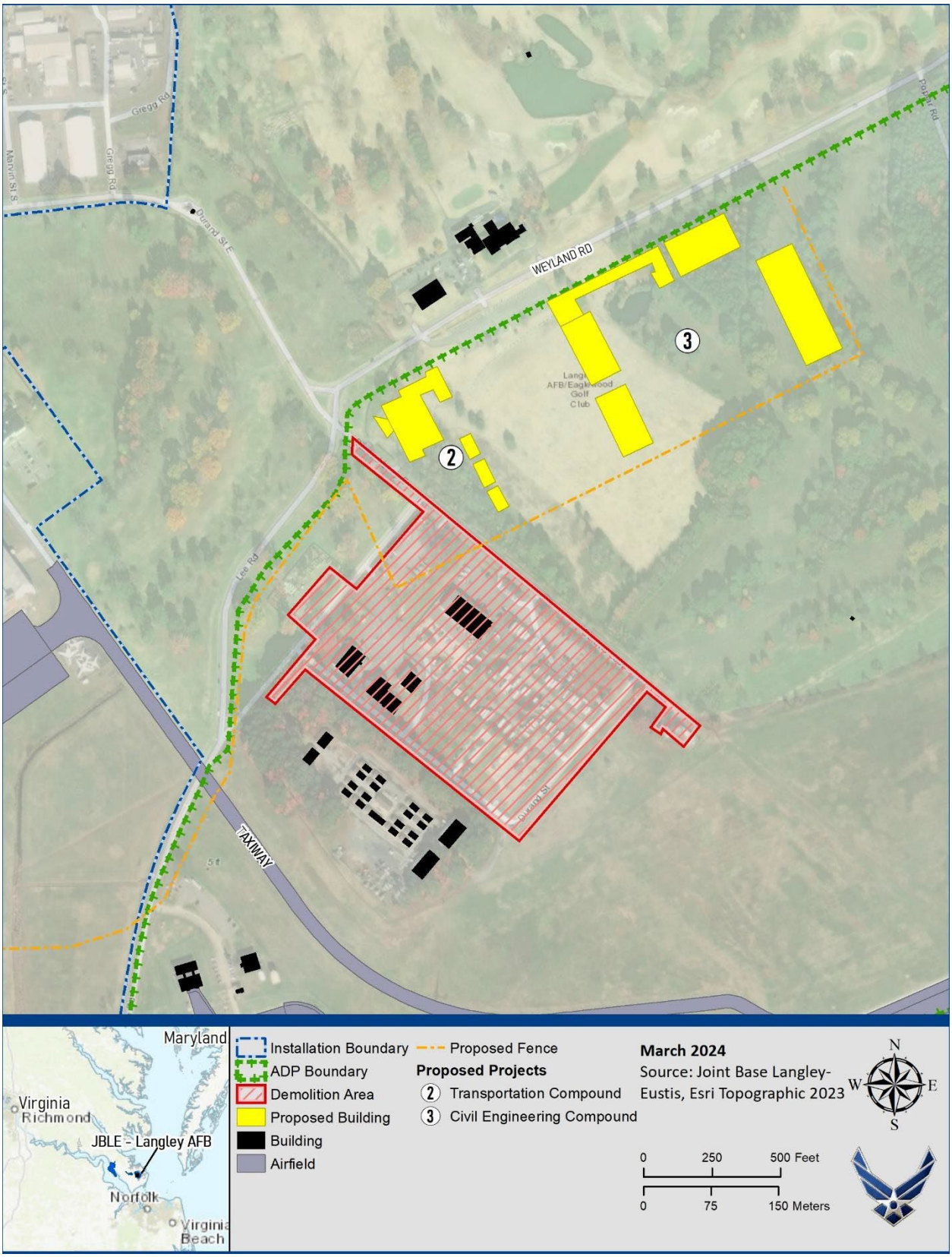

Figure 2-4: Projects Proposed on the North Side

2.2 Selection Standards and Criteria

NEPA and DAF regulations mandate the consideration of reasonable alternatives. "Reasonable alternatives" could also be used to meet the purpose of and need for a proposed action. Per the requirements of 32 CFR Part 989, the Air Force EIAP regulations, selection standards are used to identify reasonable alternatives. In addition to supporting the purpose of and need for the action, a reasonable alternative must meet the following baseline requirements:

- Be compatible with the existing, ongoing military mission and activities at JBLE-Langley.
- Be compatible with existing infrastructure and development at JBLE-Langley and its vicinity.
- Meet applicable DoD installation master planning criteria, consistent with UFC 2-100-01, *Installation Master Planning* (revision 08 April 2022).
- Meet current DoD facility design requirements in accordance with UFC 1-200-01, *DoD Building Code* (01 September 2022), and Air Force requirements for functional space, consistent with Department of the Air Force Manual 32–1084, *Standard Facility Requirements* (28 November 2023).
- Meet applicable DoD antiterrorism criteria, consistent with UFC 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings* (revision 30 July 2022), and the Air Force Installation Force Protection Guide.
- Conform to the JBLE-Langley Installation Facilities Standards and Installation Design Guidelines.
- Conform to the Air Force Policy Directive 32–70, *Environmental Considerations in Air Force Programs and Activities* (30 July 2018).
- Be consistent with the regulatory, environmental, and mission-related planning principles as defined in the 2017 JBLE Installation Development Plan (IDP) and associated district ADPs (summarized below).

More specific selection criteria for the Proposed Action were obtained from the North Flightline ADP and, in some cases, from other District ADPs. These selection criteria were created to address future planning and development at JBLE-Langley in the context of regulatory, environmental, and mission-related constraints within its boundaries. During development of the ADP, numerous factors were analyzed including existing conditions; assets and liabilities; building features such as use, condition, and location; topography; historical constraints; environmental constraints; utilities; operational constraints; and land use compatibility. Following this analysis, several selection criteria were identified to shape future planning and development within the North Flightline District (JBLE, 2022a). The selection criteria for developing and siting projects in the ADP included the following:

1. **Flooding.** Information about flooding at JBLE-Langley is discussed in Section 1.2. The east end of the flightline is susceptible to flooding and rising water levels, which are expected to continue or increase into the future. On the north and west sides of the flightline, wetlands and clogged culverts are scattered throughout the area. As a result, facilities and most above-ground utilities must be sited 11 feet above sea level within the district.
2. **Airfield Compliance.** There are clear zone and primary surface violations at the JBLE-Langley runway. Clear zones are located at the ends of the runway and possess a high potential for accidents; as a result, land use is restricted to functions compatible with aircraft operations. The primary surface runs parallel to the runway on either side. There are facilities and other obstructions in the North Flightline District that are within the clear zone and primary surface, including a number of structures, roads, and groves of trees. There are currently 18 active waivers and 9 exemptions in the airfield. It is essential that future plans address these violations.

3. **Flightline Infrastructure.** The existing flightline infrastructure currently serves the mission sufficiently; however, the flightline needs to be able to accommodate the expanding mission, while addressing the flood hazards on the installation.
4. **Land Constraints.** The North Flightline District has a fair amount of undeveloped land, but land that is suitable for development is limited. Land is constrained by unexploded ordnance scattered throughout the historic bombing range, the quantity distance arcs of the hot loading cargo pad, wetlands and riparian areas, and the airfield primary surface and clear zones areas that are not suitable for development. As a result, the North Flightline District has little developable land. Future development plans site facilities away from the flightline and other constraints, reorient and consolidate facilities for airfield UFC compliance, and allow for potential future growth in the district.
5. **Compatible Land Use within other Installation District ADPs.** JBLE-Langley has eight districts, including the North Flightline District. Each district has their own ADP and their own planning goals, objectives, and vision. Land constraints and compatibility were evaluated for potential development at these other districts and are discussed in Section 2.3.3.
6. **National Aeronautics and Space Administration (NASA).** NASA has a campus just north of and adjacent to the North Flightline District. Some of the NASA land is preserved to serve as a natural sound barrier, provide stormwater management, and help meet Chesapeake Bay regulatory requirements. During the development of the North Flightline ADP, JBLE-Langley tried to limit effects on the NASA property boundaries to accommodate all federal missions on the installation.

2.3 Alternatives Considered but Eliminated from Further Analysis

Per 32 CFR 989.8(c), the Air Force may expressly eliminate alternatives from detailed analysis based on reasonable selection standards. The selection standards above were applied to determine whether action alternatives considered meet the project's purpose and need and satisfy the selection criteria. Accordingly, the alternatives have been eliminated from further consideration based on the selection standards and criteria.

Under the Proposed Action, the raising of the runway above sea level and rerouting roads outside of the clear zone are location-driven and cannot be implemented at another location.

The purpose of the North Gate and joint LVIS project is described in Section 1.2. The Armistead Gate cannot be modified due to its location within the clear zone. Space to construct a new gate at the installation is limited; the northern part of the installation is set aside for NASA and land to the south and east is constrained by water and wetlands. The main gate—LaSalle Gate—has a configuration that restricts the intersection of Elm Street at Nealy Avenue to right turns only (both entering and exiting). With the anticipated growth in personnel and traffic over the next 5 to 7 years, this configuration would further increase traffic congestion. In addition, it is preferable to have a separate gate for visitor traffic and construction vehicles entering the installation. Therefore, the North Gate and joint LVIS are sited at the only location that is considered reasonable.

2.3.1 Logistics Compound at Shellbank District

Under this alternative, the logistics compound would be consolidated in the Shellbank District. Currently, the vehicle maintenance and fleet vehicles are maintained at facilities in the Shellbank District, but other transportation operations, including administration, are dispersed throughout the installation. The most prevalent environmental constraints at the Shellbank District are floodplains, wetlands, and environmental restoration site. Base planning for the Shellbank District is limited to commercial, food establishments, dormitories, and essential customer service needs. Community support and dormitory functions compose a majority of the central area of the district and include all Air Force dormitories, the Exchange, Commissary, lodging, fitness center, outdoor recreation, community center, and child development centers. One of the goals in the Shellbank District ADP is provide a secure and pleasant working and living environment for JBLE personnel and their families (JBLE,

2019). Transportation land uses, such as vehicle maintenance, are not compatible with dormitories, food establishments, outdoor recreation, and associated family land uses. Under this alternative, the logistics compound would remain situated adjacent to facilities that are not compatible with transportation land uses. In addition, the Shellbank District is limited in size and does not have the capacity for a consolidated compound. Moving the existing transportation operations out of the Shellbank District would allow for growth of commercial services to provide additional community support to residents. As a result, this alternative does not meet selection criteria 5 and is not carried forward for further analysis.

2.3.2 Civil Engineering Compound at North Base District

The civil engineering operations and administration are currently located in the South Flightline District and North Base District. Under this alternative, the consolidated civil engineering compound would be sited only within the North Base District. The North Base District is north of the flightline, is the current location of the Intelligence, Surveillance, and Reconnaissance (ISR) Campus and the Eaglewood Golf Course, and is bounded to the north by the Northwest Branch Back River. The North Base ADP vision statement is "a livable district centered on a walkable ISR Campus with connected quads framed by multi-use buildings surrounded by protected shorelines and accessible recreation areas" (JBLE, 2023e). Large sections of land in the North Base District are within a historic bombing range that contains unexploded ordnance. Water from the Back River, and wetlands on the north, east, and south sides of the installation, limit land development. As a result, the North Base District is limited by unexploded ordnance, wetlands, and water from the Back River. These areas and the ISR Campus are not available for development. Given these constraints, the civil engineering compound would need to be constructed on the Eaglewood golf course. The golf course has some of the highest elevation on the installation; consequently, a large amount of grading would need to occur to construct the consolidated civil engineering compound at this location. Given the land limitations, this alternative does not meet selection criteria 4 and is not carried forward for further analysis.

2.3.3 Consolidated Compounds on Other JBLE-Langley Planning Districts

In addition to the North Flightline District, the Shellbank District, and the North Base District, which are discussed above, JBLE-Langley has several other planning districts and ADPs. The districts were evaluated for space and land use compatibility for the transportation and civil engineering compound projects, which are summarized below.

Heavier than Air District. The Heavier than Air District is already developed with historic buildings that function well for current missions and a well-functioning transportation system. There is not sufficient space to construct consolidated compounds and there would be potential cultural resource effects.

Lighter than Air District. The vision for the Lighter than Air District is focused on a walkable community center, historic neighborhoods, and an accessible living shoreline. Transportation and civil engineering land uses are not compatible in this district. South Flightline District. One of the goals of the South Flightline District is to reserve this region for essential flightline functions. Non-mission functions that currently reside here, such as civil engineering and logistics warehouses, should be relocated to more appropriate locations.

Munitions District. The Munitions District includes all munitions mission functions, such as administration, storage, security, maintenance, inspection, and training aids. This district is not suitable for development that is not related to munitions functions.

Given these limitations, the other JBLE-Langley planning districts do not meet selection criteria 4 or 5 and are not carried forward for further analysis.

The selection standards described in Section 2.2 were applied to these three alternatives to determine which alternative(s) could serve the purpose of and need for the Proposed Action (Table 2-1). Those standards that were

not met by a particular alternative state "**No**." Additional information about the alternatives carried forward for analysis is provided in Section 2.4.

Table 2-1: Screening of the Alternatives Considered but Eliminated

Alternative Names	*Selection Standard 1: Flooding*	*Selection Standard 2: Airfield Compliance*	*Selection Standard 3: Flightline Infrastructure*	*Selection Standard 4: Land Constraints*	*Selection Standard 5: Compatible Land Use within other Installation District ADPs*	*Selection Standard 6: NASA*
Alternative 1: Logistics Compound at Shellbank District	Yes	Yes	Yes	Yes	**No**	Yes
Alternative 2: Civil Engineering Compound at North Base District	Yes	Yes	Yes	**No**	Yes	Yes
Alternative 3: Consolidated Compounds on Other JBLE-Langley Planning Districts	Yes	Yes	Yes	**No**	**No**	Yes

2.4 Alternatives Carried Forward for Analysis

The NEPA process is intended to support flexible, informed decision making. The analysis provided by this EA and feedback from the public and other agencies will inform decisions made about whether, when, and how to execute the Proposed Action. Among the alternatives evaluated is a No Action Alternative, which is required per 32 CFR 989.8(d). The No Action Alternative will substantively analyze the consequences of not undertaking the Proposed Action and will serve to establish a comparative baseline for analysis.

As discussed above, during development of the North Flightline ADP, alternative locations for construction and infrastructure projects were evaluated and the best possible solution for project siting was selected based on the selection criteria discussed above. Based on this evaluation, only the Proposed Action was found to answer the purpose of and need for the action and to satisfy the selection standards. Consequently, the Proposed Action and No Action Alternative are carried forward for detailed analysis in this EA.

2.4.1 No Action Alternative

Under the No Action Alternative, the implementation of improvements from the North Flightline ADP would not proceed. The Armistead Gate would remain open, which is noncompliant with the UFC standards related to airfield and security issues, as previously discussed. The Armistead Gate is not large enough for an LVIS; therefore, the current LVIS located outside of the JBLE-Langley perimeter fence would remain and pose security

risks to the installation given the separation of the gate from the LVIS. There would be a notable effect on traffic operations at this gate from the anticipated growth and increases in personnel in the near future (i.e., 5 to 7 years). In addition, the Armistead Gate is located within the clear zone, which is not a compatible land use and is a safety concern.

Under the No Action Alternative, the 633d Logistics Readiness Squadron would continue to occupy the transportation facilities in the Shellbank District, which are not compatible with transportation land uses. The 633d Civil Engineering Squadron headquarters building and shops would remain in the South Flightline District. The civil engineering compound would not be consolidated and there would not be an increase in space on the flightline for operational missions. In addition, under this alternative, the runway would remain at its current elevation, which is at base flood elevation and flood risks would continue. Currently, Lee Road (the airfield perimeter road), Armistead Avenue, and Sweeney Boulevard cross through the clear zone, which is a violation of airfield planning. Overall, under the No Action Alternative, clear zone violations would remain, land use incompatibilities would remain, infrastructure improvements would not be addressed, and the installation would continue to be susceptible to flooding and sea level rise.

2.4.2 Proposed Action

The Proposed Action would be implemented as described in Section 2.1.

3 Affected Environment and Environmental Consequences

The affected environment sections within this chapter describe the existing environmental conditions for those relevant resource areas affected by the alternatives, including reasonably foreseeable environmental trends and planned actions in the area. The affected environment discussion informs the environmental consequences analysis and mitigation measures. The environmental consequences sections within this chapter include a discussion of the reasonably foreseeable direct and indirect environmental effects of implementing the alternatives on the relevant resource areas. The No Action Alternative serves as the baseline against which the Proposed Action and other alternatives are compared. The study area generally includes the North Flightline District, including the area where the North Gate and LVIS are proposed for construction; however, the specific study area may vary from resource to resource depending on the extent to which that resource may be affected.

Resource areas that would not be affected by the Proposed Action have been dismissed from detailed analysis. For this EA, the following resource areas were evaluated in detail for potential significant effects: air quality, water resources, soils and geological resources, cultural resources, biological resources, land use, noise, infrastructure, public health and safety, hazardous materials and waste, and transportation. The potential environmental effects on several resource areas were initially analyzed and determined to have negligible or minimal adverse effects. The following summarizes those resource areas not analyzed in detail and the basis for this conclusion:

Visual Resources: Visual resources are not analyzed in detail because the Proposed Action would involve demolition and construction within and just outside of the JBLE-Langley installation boundary, at the North Gate. The development of the projects would align with the planning principles within the JBLE-Langley IDP and ADPs, which provide uniform installation-wide plans for development. These plans fall under a vision determined through visual preference surveys conducted across the installation to provide modern facilities and resilient infrastructure (JBLE, 2022a). Because the proposed projects would not significantly change the visual resources on or near JBLE-Langley, visual resources is not analyzed in further detail. Visual effects on historic resources are discussed in Section 3.4, Cultural Resources.

Socioeconomics: The Proposed Action is not expected to alter the number of personnel employed at JBLE-Langley, as existing personnel would operate the proposed facilities. The Proposed Action would result in short-term, negligible expenditures from construction activities which could benefit local or regional employment and the economy during the duration of such activities. Because there would be no anticipated change to the number of personnel, and short-term benefits to the community and economy from construction activities would be negligible and temporary, socioeconomics is not analyzed in further detail.

3.1 Air Quality

This discussion of air quality includes criteria pollutants, standards, sources, permitting, and greenhouse gases (GHGs). Air quality in a given location is defined by the concentration of various pollutants in the atmosphere. A region's air quality is influenced by many factors, including the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions.

3.1.1 Regulatory Setting

Under the Clean Air Act, the U.S. Environmental Protection Agency (USEPA) established National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50) for principal pollutants. These pollutants—called criteria pollutants—include carbon monoxide (CO), sulfur oxides (SO_x) including sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ozone, suspended particulate matter less than or equal to 10 micrometers in diameter (PM_{10}), fine

particulate matter less than or equal to 2.5 micrometers in diameter ($PM_{2.5}$), and hazardous air pollutants including lead (Pb). Ozone NAAQS are generally measured in terms of nitrogen oxides (NO_x) and volatile organic compounds (VOCs), which are the chemical precursors of ozone. Areas where the measured concentrations of these criteria pollutants meet or are cleaner than the NAAQS are called attainment areas. Areas that violate a federal air quality standard are designated as nonattainment areas. State Implementation Plans are then prepared to identify the measures by which that area will achieve attainment. Areas that have transitioned from nonattainment to attainment are designated as maintenance areas and are required to adhere to maintenance plans to ensure continued attainment. In some cases, USEPA is not able to determine an area's status with available information, and those areas are designated as unclassifiable and considered to be in attainment.

3.1.2 Affected Environment

The Proposed Action at JBLE-Langley is located in Hampton, Virgina, which is within the Hampton Roads Intrastate Air Quality Control Region (40 CFR 81.93). The VDEQ is responsible for implementing and enforcing state and federal air quality regulations in Virginia. Hampton, Virginia is designated as a maintenance area for 8-hour ozone under the 1997 standard, revoked (633d Civil Engineer Squadron, 2022). Accordingly, the NO_x and VOC *de minimis* level for the area is 100 tons/year. *De minimis* emission levels are "the minimum threshold for which a conformity determination must be performed" (USEPA, 2023b).

Under the Clean Air Act (section 176(c)(4)), General Conformity requires federal agencies to collaborate with state, tribal, and local governments when proposed actions within nonattainment or maintenance areas have the potential to affect local air quality implementation plans. Under this rule, a Conformity Determination is required when new emissions have the potential to exceed *de minimis* thresholds of criteria pollutants. A general conformity applicability analysis is the process by which projected emissions from a proposed action are estimated and compared to *de minimis* thresholds. The most recent emissions inventory for Hampton City and the Hampton Roads Intrastate Air Quality Control Region is shown in Table 3-1.

Table 3-1: Hampton City Criteria and Hazardous Air Pollutant Air Emissions Inventory (2020)

Location	*NO_x (tpy)*	*VOC (tpy)*	*CO (tpy)*	*SO_2 (tpy)*	*PM_{10} (tpy)*	*$PM_{2.5}$ (tpy)*	*Total HAP (tpy)*
Hampton City	1,895	3,059	10,733	195	670	349	643
Hampton Roads Intrastate Air Quality Control Region	27,088	75,447	149,895	1,693	18,756	8,451	10,419

Source: (USEPA, 2023a)
Note: The Hampton Roads Intrastate Air Quality Control Region includes Isle of Wright; James City; Nansemond; Southampton and York counties; and the cities of Chesapeake, Franklin, Hampton, Newport News, Norfolk, Portsmouth, Suffolk, Virginia Beach, and Williamsburg.
Key: NO_x = nitrogen oxides; VOC = volatile organic compound; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = suspended particulate matter less than or equal to 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than or equal to 2.5; HAP = hazardous air pollutants.

JBLE-Langley is not considered a major source of emissions under Title V of the Clean Air Act and the base operates under state-issued operating permit No. 60059, AFS ID No. 51-650-00007 (VDEQ, 2023). This operating permit regulates throughput, criteria pollutant emissions, hazardous pollutant emissions, and visible emissions from stationary sources including paint booths, fuel storage tanks, cold cleaning parts washers, natural gas-fired units, and emergency generators.

In addition to criteria pollutants, JBLE-Langley quantifies and reports facility-wide GHG emissions annually under its state operating permit. GHGs are gases that trap heat in the atmosphere. GHGs produced by fossil-fuel combustion are primarily carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Emissions of GHGs are

typically quantified and regulated in units of CO_2 equivalents (CO_2e). GHG emissions estimates were derived from various emission sources using the methods, algorithms, emission factors, and GWPs from the most current Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and/or Air Emissions Guide for Air Force Transitory Sources.

The Air Force has adopted the Prevention of Significant Deterioration threshold for GHG of 75,000 tons per year (tpy) of CO_2e (or 68,039 metric tpy) as an indicator or "threshold of insignificance" for NEPA air quality effects in all areas. This indicator does not define a significant effect; however, it provides a threshold to identify actions that are insignificant (*de minimis*, too trivial or minor to merit consideration). Actions with a net change in GHG (CO_2e) emissions below the insignificance indicator (threshold) are considered too insignificant on a global scale to warrant any further analysis. Note that actions with a net change in GHG (CO_2e) emissions above the insignificance indicator (threshold) are only considered potentially significant and require further assessment to determine if the action poses a significant impact. For further detail on insignificance indicators see Level II, Air Quality Quantitative Assessment, Insignificance Indicators (HQ AFCEC, 2023).

Children, elderly people, and people with illnesses are especially sensitive to the effects of air pollutants; therefore, hospitals, schools, convalescent facilities, and residential areas are sensitive receptors for air quality effects. According to the USEPA's online mapping tool NEPAssist, there is one hospital, a child development center, and base personnel housing within a mile of the Proposed Action (USEPA, 2023c).

3.1.3 Environmental Consequences

This section identifies and discloses potential air quality effects from criteria pollutant emissions associated with the Proposed Action. The air quality effects analysis follows the EIAP Air Quality Guidelines for criteria pollutants. Adverse effects on air quality would be considered significant if the Proposed Action were to cause pollutant concentrations to exceed one or more of the NAAQS for any of the time periods analyzed or were to increase the frequency or severity of any such existing violations.

The U.S. Air Force's Air Conformity Applicability Model (ACAM) was used to analyze the potential air quality effects associated with the Proposed Action, as described above, in accordance with the Air Force Manual 32-7002, the U.S. Air Force EIAP regulations, and the General Conformity Rule (40 CFR 93 Subpart B). Emissions of NO_x and VOCs from the Proposed Action would be below their respective *de minimis* thresholds and would not be regionally significant. Therefore, the Proposed Action is exempt from further analysis under the General Conformity Rule, and a Record of Conformity Analysis is included in Appendix B.

3.1.3.1 No Action Alternative

Under the No Action Alternative, construction activities and emissions associated with the Proposed Action would not occur. There would be no effect on air quality as air emissions at JBLE-Langley would remain the same and consistent with baseline levels at the installation. Existing air quality conditions and emission levels at JBLE-Langley would continue. Therefore, there would be no significant effects under the No Action Alternative.

3.1.3.2 Proposed Action

Under the Proposed Action, construction and demolition effects on air quality would be temporary; limited to the duration of construction activities; and caused by equipment and vehicle operation, asphalt paving, and dust generated from disturbance on unpaved areas. Construction activities would include demolition of existing building, roadways, and airfield surfaces; site clearing, filling, and grading; road construction; trenching and excavation; paving; constructing new buildings and associated utilities; and application of architectural coatings. Construction period emissions would depend on expected material quantities and equipment/vehicle utilization requirements for each project. Contractors may be required to obtain appropriate permits and comply with the permit provisions for certain types of equipment and temporary facilities (e.g., portable crushers and batch plants).

Hazardous air pollutants associated with demolition of existing buildings including asbestos and lead-based paint (LBP) and appropriate protocols are discussed in detail within Section 3.10.

Air quality effects would primarily arise from dust and fugitive emissions generated during earthmoving, material handling, and the operation of heavy machinery. Construction activities, especially during site preparation and demolition, are likely to increase particulate matter (PM_{10} and $PM_{2.5}$) concentrations in the air. These particulates can affect local air quality and can cause temporary visibility issues and potential health concerns for sensitive groups. Additionally, the movement of vehicles and equipment on unpaved surfaces would likely contribute to fugitive dust emissions. Measures such as water spraying, covering of transported materials, and adherence to local dust control regulations would be implemented to minimize these effects during the project's active phases.

Operational emissions associated with the Proposed Action would result from fuel combustion by newly installed emergency generators and space heating equipment. Table 3-2 shows estimated maximum annual criteria pollutant emissions that would be expected from construction and demolition activities and long-term operations resulting from the Proposed Action. Emissions estimates were calculated on a yearly basis in terms of net change from baseline conditions.

From an air quality perspective, context of an action is the local area's ambient air quality relative to meeting the NAAQSs, expressed as attainment, nonattainment, or maintenance areas (this designation is considered the attainment status). GHGs are non-hazardous to health at normal ambient concentrations and, at a cumulative global scale, action related GHG emissions can only cause warming of the climatic system. Therefore, the action-related GHGs generally have an insignificant impact on local air quality.

Table 3-2: Proposed Action Construction and Operational Pollutant Emissions (tpy)

Year	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_x	VOC
2026	4.052	3.638	66.248	0.115	0.008	3.248
2027	1.050	1.279	0.117	0.117	0.035	0.097
2028	2.645	2.484	7.751	0.150	0.038	1.399
2029	1.390	1.698	0.159	0.159	0.052	0.133
2030	5.935	5.788	83.986	0.251	0.063	0.500
2031	1.390	1.698	0.159	0.159	0.052	0.133
Threshold[1] (tpy)	**250**	**100**	**250**	**250**	**250**	**100**
Exceedance (Yes or No)	**No**	**No**	**No**	**No**	**No**	**No**

[1] Thresholds correspond to O3 *de minimis* levels for NO_x and VOCs, and U.S. Air Force Insignificance Indicators for all other pollutants.
Source: ACAM (version 5.0.23a)
Key: NO_x = nitrogen oxides; VOC = volatile organic compound; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = suspended particulate matter less than or equal to 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than or equal to 2.5 micrometers in diameter; tpy = tons per year.

GHG emissions associated with the Proposed Action would include short-term, minor emissions during construction and demolition activities. These temporary GHG emissions would be well below the Prevention of Significant Deterioration threshold for GHG of 75,000 tpy of CO_2 equivalents (68,039 metric tpy). Long-term, minor operational GHG emissions would result from heating equipment and backup generators for the new facilities under the Proposed Action including the North Gate and joint LIVS, consolidated logistics compound, and consolidated civil engineer compound. The remaining projects are not expected to result in any operational GHG emissions. Table 3-3 shows estimated yearly GHG emissions from the Proposed Action projected to the steady state year (gain/loss in emission stabilized and the action is fully implemented) along with average GHG emissions at the state and federal levels for significance comparison.

Table 3-3: Proposed Action Construction and Operational GHG Emissions (metric tpy)

Year	CO_2	CH_4	N_2O	CO_2e
2026	1,032	0.0344	0.0558	1,049
2027	1,253	0.0239	0.0235	1,256
2028	1,585	0.0352	0.0407	1,594
2029	1,639	0.0313	0.0307	1,644
2030	3,644	0.0841	0.2455	3,714
2031 (SS Year)	1,639	0.0313	0.0307	1,644
Threshold1 (tons/year)				**68,039**
Exceedance (Yes or No)				**No**
State Average GHG Emissions	103,326,696	508,919	17,006	103,852,622
U.S. Average GHG Emissions	5,136,454,179	25,626,912	1,500,708	5,163,581,798

Source: ACAM (version 5.0.23a), (NOAA, 2022)
Key: CO_2e = carbon dioxide equivalents; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; mTPY = metric tons per year. Conversion factors for CO_2e are different for each greenhouse gas. CO_2 = 1, CH_4 = 25, and N_2O = 298; SS Year = net gain/loss in emission stabilized and the action is fully implemented.

As discussed, the Proposed Action would result in minor effects on air quality. Based upon the results of the ACAM analysis (Appendix B), the Proposed Action would have insignificant effects on air quality. Criteria pollutant emissions would be well below *de minimis* thresholds and would not interfere with state or local air quality implementation plans. GHG emissions would be negligible and insignificant in relation to global yearly emissions. There would be no significant air quality effects under the Proposed Action.

3.2 Water Resources

The discussion of water resources includes groundwater, surface water, wetlands, floodplains, shorelines, and coastal zone management. Groundwater is subsurface water that occurs in the saturated zone below the water table, and it is stored in aquifers. Surface water is any body of water at land's surface and includes natural features such as streams, ponds, bays, and oceans. Manufactured surface waters include drainage ditches, impoundments, and stormwater catchments. Wetlands include areas that are inundated or saturated by water at a frequency and duration sufficient to support vegetation adapted for saturated soil conditions. Floodplains are lowland areas adjacent to surface waters that are subject to flooding during periods of high-water discharge. The 100-year floodplain is the area that has a 1 percent chance of inundation by a flood in any given year. The 500-year floodplain is the area that has a 0.2 percent chance of inundation by a flood in any given year.

3.2.1 Regulatory Setting

Applicable regulations for water resources include the following:

The Clean Water Act (CWA), as amended, regulates point and non-point source pollutant discharges into navigable Waters of the United States. The CWA establishes federal limits, through the National Pollutant Discharge Elimination System (NPDES) program, on the amounts of specific pollutants that can be discharged into surface waters to restore and maintain the chemical, physical, and biological integrity of the water. The NPDES program regulates the discharge of point (i.e., end of pipe) and nonpoint (i.e., stormwater) sources of water pollution.

Construction clearing, grading, and excavating activities that disturb one acre or more require an NPDES Construction General Permit for stormwater discharges. Construction or demolition that necessitates an individual

permit also requires preparation of a Notice of Intent to discharge stormwater and a Stormwater Pollution Prevention Plan that is implemented during construction. As part of the 2014 Final Rule for the CWA, titled *Effluent Limitations Guidelines and Standards for the Construction and Development Point Source Category*, activities covered by this permit must implement non-numeric erosion and sediment controls and pollution prevention measures.

Section 404 of the CWA authorizes the Secretary of the Army, acting through the Chief of Engineers, to issue permits for the discharge of dredge or fill into wetlands and other Waters of the United States. Any discharge of dredge or fill into Waters of the United States requires a permit from the U.S. Army Corps of Engineers (USACE). Such activities must also obtain CWA Section 401 certification, which ensures that the proposed activity complies with applicable water quality standards (USEPA, 2023d). In Virginia, streams and wetlands (tidal and non-tidal) are protected under the Virginia Water Protection Permit Program (9 Virginia Administrative Code 25-210), managed by the VDEQ. The Virginia Water Protection Permit Program follows state regulations and federal guidelines under Section 401/404 of the CWA. Before disturbing a wetland or stream, applications are made through the Joint Permit Application process, which covers both federal and state review (VDEQ, 2024).

The CWA requires that states establish a Section 303(d) list to identify impaired waters and establish Total Maximum Daily Loads (TMDLs) for the sources causing the impairment. A TMDL is the maximum amount of a substance that can be assimilated by a water body without causing impairment. A water body can be deemed impaired if water quality analyses conclude that exceedances of water quality standards occur.

The Coastal Zone Management Act (CZMA), requires all federal agency activities that affect any land or water use, or natural resource of the coastal zone, be conducted in a manner consistent, to the maximum extent practicable, with the enforceable policies of the National Oceanic and Atmospheric Administration (NOAA)-approved state management program. This includes protecting natural resources and managing coastal development. JBLE-Langley is within the coastal zone; therefore, the Proposed Action would take place within or otherwise might affect the jurisdictional concerns of the VDEQ.

EO 11988, *Floodplain Management*, requires federal agencies to avoid to the extent possible the long- and short-term, adverse effects associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development unless it is the only practicable alternative. Flood potential of a site is usually determined by the 100-year floodplain.

EO 11990, *Protection of Wetlands*, requires federal agencies to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands in their activities. EO 11990 limits construction in wetlands and allows for public review, which is accomplished through the NEPA process.

Section 438 of the Energy Independence and Security Act establishes stormwater design requirements for development and redevelopment projects. Under these requirements, federal facility projects larger than 5,000 square feet must "maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow."

3.2.2 Affected Environment

Water resources include groundwater, surface water, wetlands, floodplains, shorelines, and coastal zone management.

3.2.2.1 Groundwater

JBLE-Langley is situated within the Atlantic Coastal Plain physiographic province. The province consists of loosely packed materials, such as sand, gravel, shell rock, silt, and clay, which form layers that are highly permeable and capable of storing substantial amounts of groundwater. Within Virginia's portion of the Atlantic Coastal Plain, groundwater occurs in nine aquifers, separated by eight confining units. Generally, the water

quality in these aquifers is favorable, except in areas affected by saltwater, iron, and hydrogen sulfide contamination.

The uppermost groundwater system at JBLE-Langley is the York County Shallow Aquifer System, which consists of the Water Table Aquifer, the Yorktown Confining Unit, and the Yorktown-Eastover Aquifer (JBLE-Langley, 2023b). The groundwater beneath JBLE-Langley is not a practical source of irrigation or potable water. An investigation based on available regional and JBLE-Langley-specific well data predicted that the water table aquifer could yield up to 35 gallons per minute. In 2004, a well drilled at the JBLE-Langley golf course sustained a yield of 30 gallons per minute. However, water acquired during the test was too brackish to be used untreated for potable purposes (JBLE-Langley, 2019). Potable water at JBLE-Langley is supplied by the City of Newport News Water Works and sourced from the Chickahominy River (JBLE-Langley, 2022a).

3.2.2.2 Surface Water

JBLE-Langley is situated among brackish to saline surface water tributaries of the Chesapeake Bay. Back River forms the northern, eastern, and southern boundaries of JBLE-Langley. The river's Northwest and Southwest Branches merge east of JBLE-Langley before flowing into the Chesapeake Bay. Tabbs Creek, Tide Mill Creek, and Brick Kiln Creek are additional surface waters around JBLE-Langley. These surface waters have been designated as impaired for aquatic life, fish and shellfish consumption, open-water aquatic life, and shallow-water submerged aquatic vegetation under Section 303(d) of the CWA. This means they do not fully support their designated uses (USEPA, 2024a). Impairments identified include aquatic weeds, bacteria and other microbes, degraded aquatic life, and low oxygen. Sources of these impairments include agriculture, municipal storm sewer discharges, industrial and municipal point source discharges, and loss of riparian habitat.

Saltwater and freshwater marshes along Back River, Brick Kiln Creek, and Tabbs Creek are important to the Chesapeake Bay watershed due to their nutrient and sediment filtration capabilities. To protect these surface waters, the Chesapeake Bay Preservation Act requires riparian buffers of 100 feet from water features that drain into the bay at JBLE-Langley. This may be reduced to 50 feet if additional stormwater best management practices (BMPs) are incorporated into facility and site designs.

There are manufactured stormwater catchment ponds across the installation and manufactured ponds on the JBLE-Langley golf course. No natural ponds or lakes exist on JBLE-Langley.

The USEPA established Chesapeake Bay TMDLs to address excess nitrogen, phosphorus, and total suspended solids (pollutants of concern) in the bay (USEPA, 2010). There are two phases of the Chesapeake Bay Watershed Implementation Plan for the Chesapeake Bay TMDLs. The 2018 JBLE-Langley Chesapeake Bay Phase II TMDL Action Plan presents the JBLE-Langley estimated load contribution, required load reductions, and pollutant reduction credits. If the stormwater BMPs are maintained as stated in the Action Plan, JBLE-Langley meets its second permit cycle reduction requirement goals. JBLE-Langley will continue to investigate the applicability and feasibility of additional BMPs to meet milestone pollutant load reduction requirements of the Chesapeake Bay TMDL.

3.2.2.3 Wetlands

JBLE-Langley is situated on the Hampton Flat, a major physiographic feature characterized by low elevations in the southern part of York County and the cities of Newport News and Hampton. Both non-tidal and tidal wetlands are abundant on the flat, except where prior dredging and filling activities have destroyed them.

Jurisdictional wetlands are those wetlands subject to regulatory protection under Section 404 and/or Section 401 of the CWA. There are approximately 635 acres of wetlands at JBLE-Langley, determined by a 2024 wetland delineation on the installation. This wetland delineation is pending approval by the USACE. Most wetlands delineated were located along the Northwest Branch of the Back River and Tabbs Creek (JBLE-Langley, 2024).

The largest freshwater wetlands are in the northwest portion of the installation. Freshwater wetland types on the JBLE-Langley main base include palustrine forested, emergent, and scrub-shrub wetlands. "Palustrine" generally refers to non-tidal wetlands dominated by vegetation that are temporarily flooded or seasonally saturated. "Emergent" generally refers to wetlands characterized by upright, rooted water-dependent plants, excluding mosses and lichens (USFWS, 2024a). Forested and scrub-shrub wetlands occur in low-lying upland areas with nutrient-poor sandy soils and are dominated by bottomland hardwood trees and shrubs. Many inland freshwater wetlands on JBLE-Langley have been filled, drained to ditches, or converted into golf course features.

Due to the extent of wetlands on the installation, alteration of wetlands is occasionally needed for improvement and development purposes. Isolated palustrine emergent wetlands occur throughout the flightline area and have been modified for airfield safety. All wetland mitigation actions are conducted in accordance with state and federal policies and Chesapeake Bay Agreements.

3.2.2.4 Floodplains

As shown on Figures 3-1 and 3-2, most of JBLE-Langley is within the 100-year floodplain (1 percent annual flood risk) and subject to severe flooding, particularly during major storms or hurricanes. Most of the remaining areas lie within the 500-year floodplain, which has a 0.2 percent annual flood risk. Flooding events on JBLE-Langley have led to relocating aircraft and implementing contingency plans to minimize property damage. The areas most prone to flooding are areas below 9 feet above mean sea level (MSL), along the installation's perimeter and closest to the water bodies surrounding the installation. Tidal rise is predicted to increase and, consequently, flooding is expected to increase. The mission is currently affected by flooding and is expected to be further affected by flooding in the future. Facilities and most above-ground utilities must be sited 11 feet above sea level as prescribed by UFC 3-201-01, Civil Engineering (JBLE, 2022a).

3.2.2.5 Shorelines

Due to the location of JBLE-Langley between Chesapeake Bay tributaries, the installation has extensive shorelines. The erosion rate along JBLE-Langley shorelines has ranged from 6 inches per year to one foot per year. The installation's Integrated Natural Resources Management Plan (INRMP) lists restoring shorelines and constructing living shorelines under its Management Goals and Objectives. Multiple shoreline restoration projects that assist in the restoration or enhancement of JBLE-Langley's shores have been developed, including a project that created 6,064 square feet of tidal wetland mitigation and 4,733 linear feet of tidal stabilization revetments (JBLE-Langley, 2011).

3.2.2.6 Coastal Zone Management

JBLE-Langley is within Virginia's coastal zone. Activities conducted along shorelines are reasonably likely to affect use of lands, waters, or natural resources of the coastal zone beyond the boundaries of federal property and must be consistent to the maximum extent practicable with the enforceable policies of Virginia's Coastal Zone Management Program in accordance with the CZMA. Virginia's Coastal Zone Management Program has 12 enforceable policies: tidal and non-tidal wetlands, subaqueous lands, dunes and beaches, Chesapeake Bay preservation areas, marine fisheries, wildlife and inland fisheries, plant pests and noxious weeds, Commonwealth lands, point source air pollution, point source water pollution, nonpoint source water pollution, and shoreline sanitation.

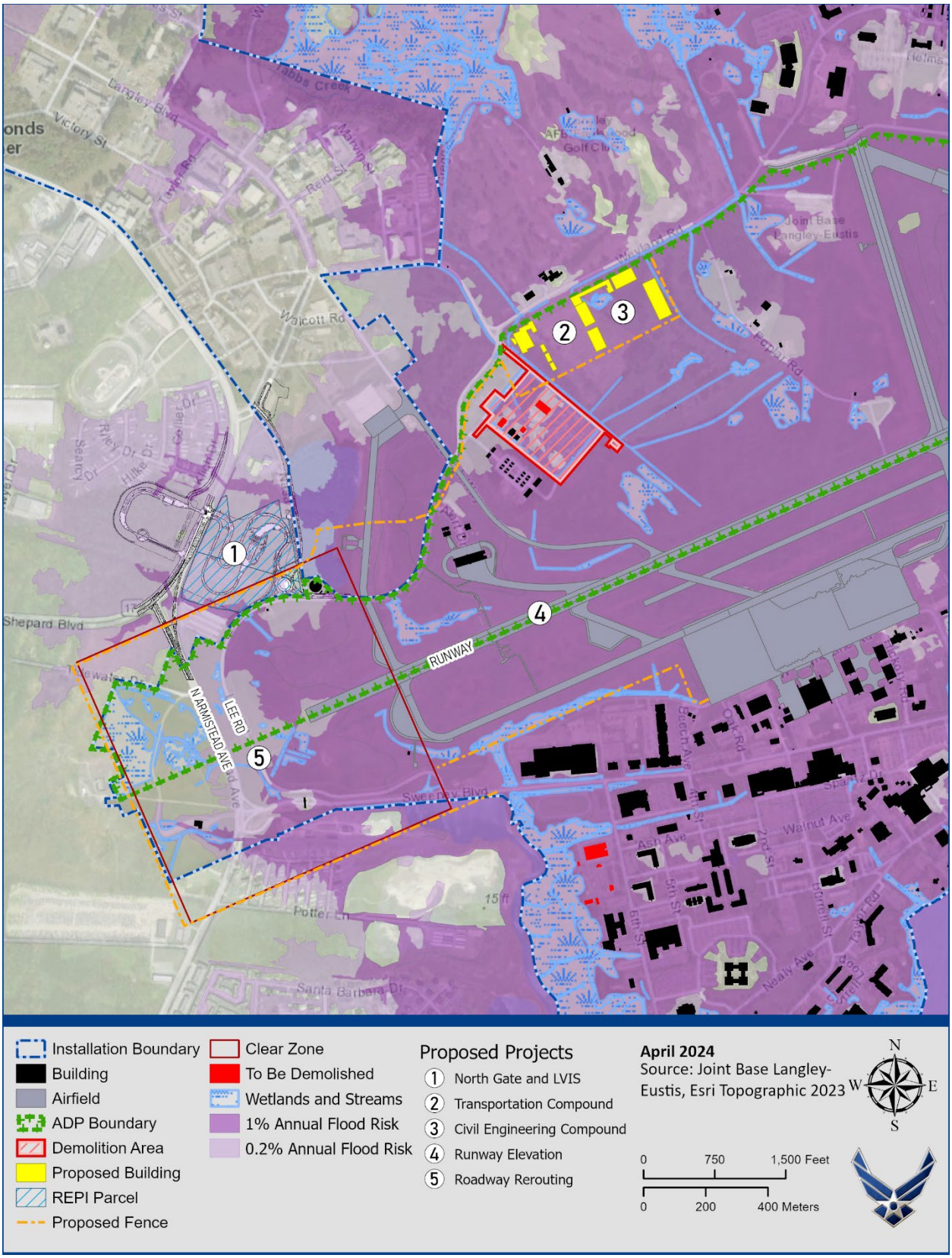

Figure 3-1: Water Resources in the Vicinity of the Proposed Projects (Western View)

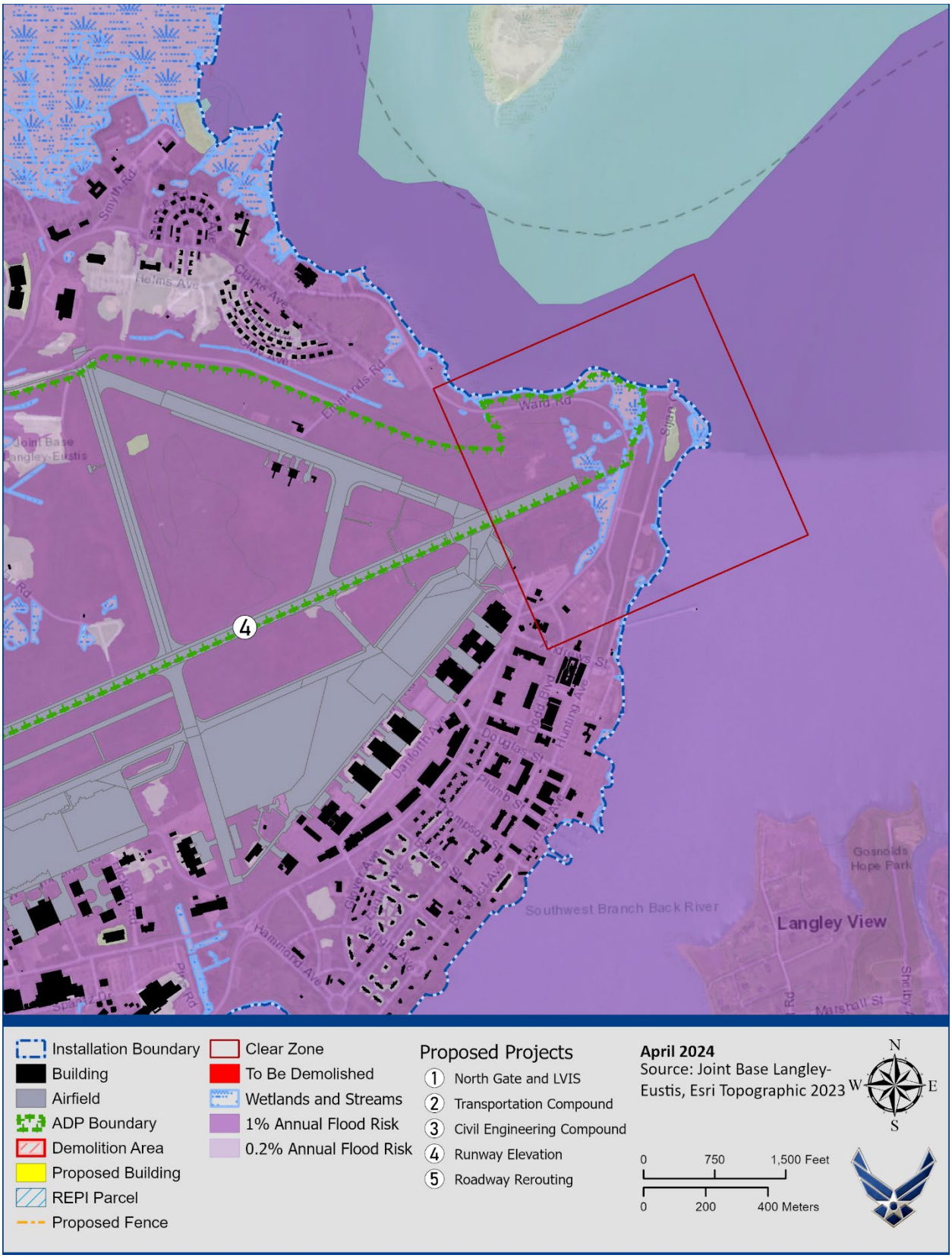

Figure 3-2: Water Resources in the Vicinity of the Proposed Projects (Eastern View)

3.2.3 Environmental Consequences

The analysis of water resources looks at the potential effects on groundwater, surface water, wetlands, floodplains, shorelines, and coastal zone management. Groundwater analysis focuses on the potential effects on the quality, quantity, and accessibility of the water. The analysis of surface water quality considers the potential for effects that could change the water quality, including improvements in and degradation of current water quality. The assessment of wetlands considers the potential for effects that could change the local hydrology, soils, or vegetation that support a wetland. The analysis of floodplains considers any new construction proposed within a floodplain that could impede the functions of floodplains in conveying floodwaters. The analysis pertaining to the coastal zone considers the compatibility of the project with the enforceable policies of Virginia's Coastal Zone Management Program.

A significant, adverse effect on water resources would alter water supply quality, hydrology, or aquatic habitat to the degree that the long-term natural functions and values of the resource would be diminished. Significant adverse effects would also exist if the action exceeded federal, state, or local water supply quality standards or resulted in noncompliance with EOs related to wetlands or floodplains.

3.2.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur and existing conditions along the runway would continue to decline. Because tidal rise and flooding on the installation are getting worse, the runway, in particular, would become increasingly vulnerable to flooding during weather events if Project 4 is not implemented. This would affect the JBLE-Langley mission, although aircraft would still be able to operate. The No Action Alternative would not result in significant effects.

3.2.3.2 Proposed Action

Implementation of the Proposed Action would result in short-term, minor effects on groundwater, surface water, and shorelines during construction. The Proposed Action would result in long-term, minor effects on groundwater, surface water, wetlands, shorelines, and floodplains from development proposed within or near vulnerable water features, changes in impervious surface, and stormwater runoff. Direct effects on wetlands would be analyzed when site plans are finalized, and all applicable permits and mitigation would be obtained prior to construction initiation to ensure effects are not significant. Overall effects on water resources under the Proposed Action would be minor; therefore, no significant effects would occur.

Groundwater

Proposed construction activities would not involve withdrawals from or discharges to surface water bodies or groundwater. However, the use of construction equipment presents a short-term risk for equipment to leak, introducing petroleum, oil, and lubricants (POL) into groundwater or to adjacent surface waters via stormwater runoff. Construction contractors would be required to employ good housekeeping measures to ensure that the equipment is in appropriate working order and that POL are used, stored, and transferred in accordance with JBLE-Langley procedures. In the event of an accidental spill, the incident would be handled in compliance with JBLE-Langley's Spill Prevention and Response Plan (SPRP), which would minimize possible adverse effects.

Because the surficial aquifer is not used for potable consumption, there would be no adverse effects on groundwater as a water source. Geotechnical reports would be prepared for the proposed project sites that would identify and address any site-specific limitations associated with the underlying groundwater and soil properties, including site-specific depth to water.

A plane crash site at the runway within the boundaries of Project 4 potentially has per- and polyfluoroalkyl substances (PFAS) contamination (JBLE-Langley, 2019). PFAS could have been transported from the runway via surface water runoff onto adjacent, permeable areas, and potentially migrated into groundwater. If discovered

during proposed construction activities, PFAS would be handled in accordance with applicable environmental compliance regulations. PFAS are discussed more in Section 3.10, *Hazardous Materials and Waste*, of this EA.

The Proposed Action would result in new impervious (non-porous) surface, which would decrease the area available for water infiltration back into the ground (groundwater recharge). The increase in impervious surface would be countered by removal of impervious surface (discussed further in Table 3-5) and sufficient adjacent areas would remain pervious (porous; vegetated). Individual projects under the Proposed Action that disturb more than one acre require a General Construction Permit under NPDES. A stormwater management plan would be required as part of the NPDES and building permit process. The Proposed Action's stormwater management and controls would be designed to ensure that post-development hydrology meets or improves pre-development hydrology, pursuant to Section 438 of the Energy Independence and Security Act. Thus, long-term effects on groundwater would be minor.

Overall, short- and long-term, minor effects on groundwater would occur due to potential for construction equipment to leak and change in impervious surface. No significant effects would occur.

Surface Water

There are no natural surface water bodies within the proposed sites. Project 4 would be the closest project to a natural surface water body; the runway overrun would be approximately 350 feet away from the Back River at its closest point. Project 5 would be near Tide Mill Creek, but final site designs for the new roadways would determine the proximity to the waterway. Projects 1, 2, and 3 would not be near natural surface water bodies; however, construction activities have the potential to indirectly affect the water quality of nearby surface waters. During construction, runoff could increase sedimentation in the Back River and Tide Mill Creek. Implementing BMPs in compliance with applicable Virginia laws and regulations on erosion and sediment control and stormwater management would minimize the potential for additional sedimentation of local surface waters. Individual projects under the Proposed Action that disturb more than one acre require a General Construction Permit under NPDES. An erosion and sediment control plan and stormwater management plan would be required as part of the NPDES and building permit process, minimizing adverse effects on the Back River and Tide Mill Creek.

JBLE-Langley stormwater is conveyed via stormwater infrastructure through permitted outfalls into the Back River and its tributaries. These are listed as impaired under Section 303(d) of the CWA. If sediment from construction leaves the construction sites, the topography of the land and proximity to the Back River and its tributaries could exacerbate already poor water quality conditions in the area. The Proposed Action's stormwater management and controls would be designed to ensure that post-development hydrology meets or improves pre-development hydrology, pursuant to Section 438 of the Energy Independence and Security Act. Adverse effects on local surface waters would be temporary and minor.

Construction of the North Gate and Joint LVIS (Project 1) would replace forested area with impervious surface. This forested area is upstream of a ditch that flows into a NASA outfall basin. Potential effects on this basin and associated stormwater systems are analyzed in Section 3.8.3.2 under "Stormwater."

Wetlands

The National Wetlands Inventory (NWI) has identified wetlands on and near the project sites. The NWI wetlands correspond closely to the wetlands field verified in the 2024 delineation, which is pending USACE approval (JBLE-Langley, 2024). Specific site designs for the proposed projects have not been developed. This EA summarizes the wetlands that are on or near the project site footprints (or limit of disturbance), but it is unknown whether construction would directly affect on-site wetlands. As site designs are finalized, JBLE-Langley would analyze the effects on wetlands and their associated buffers at specific sites and would coordinate with appropriate federal and state agencies at that time.

According to the NWI, there is a 0.4-acre freshwater forested/shrub wetland near the Project 1 site. There is also a 0.59-acre manufactured freshwater pond and 0.84-acre freshwater forested/shrub wetland within the notional Project 1 site. Within the Project 2 site, there are manufactured storm drainage ditches located along the roadways that were classified as wetlands. The Project 3 site also contains manufactured storm drainage ditches and a 0.46-acre manufactured freshwater pond. Project 4 would cross a 0.81-acre wetland at the start of the flightline. Towards the end of the flightline, the project site would be mostly between two freshwater wetlands classified as PEM1B, a 12.62-acre wetland to the north of the flightline and a 10.69-acre wetland to the south of the flightline. The "1B" coding means the wetlands are dominated by species that normally remain standing at least until the start of the next growing season (1) and are seasonally saturated (B). The removal of Lee Road, Armistead Avenue, and Sweeney Boulevard from the clear zone under Project 5 would not overlap with wetlands (USFWS, 2024b). However, as designs for the new location of perimeter roadways are created, wetlands might be present.

Construction activities, such as the trenching and laying of water and utility lines and the elevation of facilities and structures with fill material, could indirectly affect the quality of wetlands from increased sedimentation, similar to what is described under the *Surface Water* section of this EA. EO 11990, *Protection of Wetlands*, requires that federal agencies adopt a policy to avoid, to the extent possible, long- and short-term, adverse effects associated with destruction and modification of wetlands. Use of BMPs and erosion and sediment control practices during construction would minimize adverse effects on wetlands.

The PEM wetlands within the airfield are not anticipated to be filled; however, these wetlands and/or their buffers may be disturbed. Dependent on the completion of the land acquisition, the westernmost wetland within the project site may be affected by a proposed security fence (see Figure 3-1). Wetlands near Lee Road may be disturbed during the demolition of pavement under Project 5. For such areas existing outside of the installation, wetland delineations would be conducted at the time of the acquisition as needed. JBLE-Langley would obtain jurisdictional determinations from the USACE in consultation with VDEQ.

Section 404 of the CWA authorizes the Secretary of the Army, acting through the Chief of Engineers, to issue permits for the discharge of dredge or fill into wetlands and other Waters of the United States. Any discharge of dredge or fill into Waters of the United States requires a permit from the USACE. More specifically, discharge of dredge or fill into Waters of the tidewater region of Virginia requires a joint permit under USACE, Virginia Marine Resources Commission (VMRC), and VDEQ. The permit requires that steps be taken to avoid effects on aquatic resources, that potential effects be minimized, and that compensation be provided for all remaining unavoidable effects. Direct effects on wetlands (i.e., discharge, fill, or removal of a wetland) would be determined at that time based on the final design and layout of each of the five projects. JBLE-Langley would be required to obtain the necessary state and federal permits for applicable projects. The work in wetlands would be conducted in accordance with the obtained permits, which could include compensatory mitigation, to ensure effects are less than significant.

The filling of wetlands for development can fundamentally alter local hydrology by reducing the ability for wetlands to absorb floodwaters, increasing surface runoff, and altering water flow and drainage patterns. Pursuant to Section 438 of the Energy Independence and Security Act, the Proposed Action's stormwater management and controls would be designed to ensure that post-development hydrology meets or improves pre-development hydrology.

In the short term, the Proposed Action would result in increased sedimentation in wetlands from surface runoff during construction. However, strict adherence to regulatory guidelines and implementation of BMPs and erosion and sediment control practices would minimize these indirect adverse effects to wetlands. Should any direct effects to wetlands be realized after site plans are finalized, all applicable permits would be obtained prior to construction from the USACE, VMRC, and VDEQ, and would include mitigations to ensure effects are not significant. With appropriate BMP implementation as discussed previously, any discharge of dredge or fill into

wetlands or Waters of the United States would not likely change the long-term hydrology of JBLE-Langley. Therefore, there would be no significant effects on wetlands from the implementation of the Proposed Action.

Floodplains

Floodplains were mapped for the Proposed Action sites using FEMA Flood Insurance Rate Maps. A Flood Zone AE classification is given to special flood hazard areas that are susceptible to flooding from a 100-year flood event (1 percent annual flood risk). A Flood Zone X classification is given to areas that are susceptible to flooding from a 500-year flood event (0.2 percent annual flood risk). The flood zones are shown in Figures 3-1 and 3-2. Much of the land proposed for development under the Proposed Action is within the 100-year floodplain or 500-year floodplain. The installation's low-lying elevation, relatively flat topography, and situation near several tidal estuaries of the Chesapeake Bay present high potential for flash flooding and storm surge and tidal inundation during extreme weather events. EO 11988 requires federal agencies to avoid, to the extent possible, the long- and short-term adverse effects associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. New construction within the floodplain must meet regulatory criteria to offset the effects of minor and major flooding.

The Project 1 site is primarily within Flood Zone X, but portions of the site are classified as Flood Zone AE. Project 5 would be within both Flood Zone X and Zone AE. Projects 2, 3, and 4 would be located almost entirely within Flood Zone AE.

EO 11988 states that, if the floodplain cannot be avoided, "accepted floodproofing and other flood protection measures shall be applied to new construction or rehabilitation." If the Air Force selects the Proposed Action, designs for the projects would mitigate flood risks by constructing the facilities and any flood-susceptible utilities a minimum of 3 feet above the 100-year flood level. This would apply to Projects 1, 2, and 3, and would be achieved by using fill material. Project 4, by design, would elevate the JBLE-Langley runway above flood level; this would be achieved using fill material. Project 5 would involve roadways, not facilities or utilities, and would not require elevation to mitigate flood risks.

The Proposed Action would result in an overall net increase of impervious surface on base; however, demolition of facilities and pavements under the Proposed Action would reduce the overall increase of impervious surfaces. The estimated changes in impervious surfaces associated with the Proposed Action projects are shown in Table 3-5. These estimates are general and notional, as final designs are not yet available, and are meant to examine the broad, overall impact of the Proposed Action on JBLE-Langley impervious surfaces.

In the long term, construction of the pavements and facilities under the Proposed Action would encroach into the floodplain by converting some of the pervious area that is available for flood storage into impervious area. Encroachment reduces flood-carrying capacity, increases flood height and velocity, and increases flood hazards in surrounding areas (FEMA, 2010). Pursuant to Section 438 of the Energy Independence and Security Act, post-development hydrology of the sites would meet or improve the pre-development hydrology, which includes the slopes that facilitate stormwater drainage. This would reduce localized flooding during heavy rains associated with new impervious surfaces. In the event of a major flood, facilities, roadways, and other infrastructure are vulnerable to damage, ranging from minor to extensive. Mitigation measures would be determined in the design phase of each project and could include implementing floodproofing measures, or other mitigation. Project designs would include stormwater management infrastructure to current code, improving flood water retention during storm events as compared to existing conditions. Because most of the project sites are currently located within the 100-year floodplain or 500-year floodplain, construction activities under the Proposed Action would not result in substantial changes to the existing floodplain, and effects would be minor.

Table 3-4: Impervious Surface Changes Under the Proposed Action

Project Number	*New Impervious Surfaces*	*Removed Impervious Surfaces*	*Impervious Surface Change*
Project 1	New LVIS, gatehouse identification check building, and POV inspection station (an estimated 11,500 square feet) and one mile of new roadway (an estimated 127,000 square feet)	Demolish the existing gatehouse and LVIS (7,545 square feet) and associated pavements within the clear zone (an estimated 160,000 square feet)	-29,045
Project 2	New transportation headquarters facility, vehicle operations administration building, vehicle wash rack, and two vehicle maintenance facilities (an estimated 100,000 square feet) and one mile of new roadway (an estimated 127,000 square feet)	Demolish six buildings (an estimated 46,000 square feet total) and a paved parking area (5,000 square feet)	+176,000
Project 3	New civil engineering headquarters facility, two pavement ground facilities, large equipment warehouse, and service bay building (an estimated 231,000 square feet)	Demolish current civil engineering headquarters (32,517 square feet), four additional buildings (an estimated 10,900 square feet total), and a paved parking area (5,000 square feet)	+182,583
Project 4	Two new runway overruns would each measure approximately 1,000 feet long by 150 feet wide (300,000 square feet total)	No removal of impervious surface	+300,000
Project 5	New perimeter road outside of the clear zone (an estimated 500,000 square feet)	Demolish the existing pavements in the clear zone - Lee Road, Armistead Avenue, and Sweeney Boulevard (an estimated 500,000 square feet total)	0

Note: Impervious surfaces are estimates; the exact figure would be known as site construction and demolition plans are finalized. If the actual impervious surface change exceeds what is estimated above as plans are finalized, then JBLE-Langley would reassess for potential adverse effects.

Shorelines

Project 4 would be approximately 350 feet away from the riprap shoreline of the Back River. Project 5 would be approximately 1,000 feet away from the semi-altered shoreline of Tide Mill Creek, depending on where the road would be constructed. Under Projects 1, 2, and 3, there would be a greater distance to the shoreline. Direct effects on shorelines would not occur, because the shorelines lie outside of the limits of proposed development. However, there would be a minor increase in soil erosion during construction and a minor increase in stormwater runoff from the addition of impervious surfaces. Effects on shoreline quality (from soil erosion/sedimentation) and shoreline erosion potential (from increased stormwater runoff) would be minor because the Back River and Tide Mill Creek shorelines are a distance away (approximately 350 and 1,000 feet, respectively) from the proposed impervious surfaces and construction limits of disturbance. In addition, appropriate BMPs would be implemented through an erosion and sediment control plan during and after construction to manage additional stormwater runoff and sediments into adjacent areas. Thus, implementation of the Proposed Action would result in indirect, short-term, minor effects on shorelines from soil erosion during construction. In the long term, indirect, minor effects on shorelines from increased stormwater runoff would occur. No significant effects would occur.

Coastal Zone Management

The proposed project sites are within Virginia's coastal zone. In accordance with Section 307 of the CZMA, the Air Force submitted a Federal Consistency Determination to VDEQ. The determination shows that the Air Force finds the activities conducted under the Proposed Action are consistent to the maximum extent practicable with the enforceable policies of Virginia's Coastal Zone Management Program as they relate to federal actions.

3.3 Soils and Geological Resources

The discussion of soils and geological resources includes the geology, topography, and soils of the affected area.

3.3.1 Regulatory Setting

Construction clearing, grading, and excavating activities that disturb one acre or more require an NPDES Construction General Permit, which requires projects to design, install, and maintain effective erosion and sediment controls to minimize the discharge of pollutants. Under the permit, a Stormwater Pollution Prevention Plan would be required to address erosion and sediment control, satisfied by a VDEQ-approved erosion and sediment control plan.

3.3.2 Affected Environment

JBLE-Langley is located within the Atlantic Coastal Plain physiographic province, which is characterized by unconsolidated sediments over deep bedrock. The province consists of an eastward thickening wedge of interbedded sand, silt, and clay, ranging in age from Early Cretaceous to Holocene. The installation is situated above the Chesapeake Bay Impact Crater, created approximately 35 million years ago when a meteorite struck the inner continental shelf. The Chesapeake Bay Impact Crater is now covered by Atlantic Coastal Plain sediments and the lower Chesapeake Bay.

The surficial geology of JBLE-Langley consists of three stratigraphic units: Yorktown Formation, Tabb Formation, and Recent Deposits. The subsurface geology beneath consists of three lithologic units: crystalline bedrock, impact-generated crater-fill materials, and post-impact Coastal Plain deposits. Sediments at JBLE-Langley are mostly unconsolidated fluvial, marine, and estuarine deposits.

Throughout JBLE-Langley, a small layer of topsoil and construction fill overlies the Water Table Aquifer. Fill has been added to level construction sites across the installation. This soil was compacted in areas where buildings were constructed or beneath concrete areas. Much of JBLE-Langley is composed of Urban Land or land that contains large amounts of fill material originating from the earth-moving, grading, and filling activities associated with the early development of the installation (JBLE-Langley, 2019).

JBLE-Langley generally has a flat topography, with elevations ranging from 0 to 11 feet (JBLE, 2017). The average elevation for JBLE-Langley is 7 feet above MSL. The Project 1 site has an elevation ranging from 6 to 9 feet above MSL. The sites for Projects 2 and 3 each have an elevation of approximately 7 feet above MSL. The elevation at the runway ranges from 6 to 10 feet above MSL. The proposed overrun on the eastern side of the flightline has an elevation ranging from 3 to 5 feet above MSL. The proposed overrun on the western side of the flightline has an elevation ranging from 8 to 9 feet above MSL. The Project 5 site has an elevation of approximately 9 feet above MSL (USGS, 2024).

The soils at JBLE-Langley derive from unconsolidated sediments of the Coastal Plain. All of the project sites contain Chickahominy-Urban land complex, 0 to 2 percent slopes, which is a poorly drained and hydric soil with a slight erosion hazard (Table 3-6). The ecological site characteristic of the soil type indicates that it is primarily found in wet clay flats and depressions. This is the only soil type at the sites for Projects 1, 2, 3, and 5. An additional soil type, Udorthents-Dumps complex, is found within the Project 4 site (NRCS, 2024). Areas with this soil type have been heavily disturbed by human activities, such as cutting, filling, or dumping (California Soil

Resource Lab, 2024). None of the soil types found at the proposed sites are identified as prime farmland or farmland of statewide importance soils; therefore, they are not subject to the provisions of the Farmland Protection Policy Act.

Table 3-5: Soil Types within the Proposed Project Sites

Soil Type	*Parent Material*	*Drainage Class*	*Runoff Class*	*Ecological Site(s)*	*Hydric Soil Rating*	*Erosion Hazard*	*Project Sites Where Present*
Chickahominy-Urban land complex, 0 to 2 percent slopes	Clayey alluvial sediments	Poorly drained	Very High	F153BY065NC—Wet Clay Flats and Depressions; F153AY065NC—Wet Clay Flats and Depressions	Yes	Slight	All
Udorthents-Dumps complex	—	—	—	—	—	—	Project 4

Source: (NRCS, 2024)

3.3.3 Environmental Consequences

The analysis of geological resources focuses on the potential effects on topography, geology, and soils. Activities were evaluated in the context of changes in topography and the potential for soil erosion and sedimentation effects that could occur due to ground disturbance and project development. An alternative could have an adverse effect if any the following were to occur as a result of implementing the alternative: (1) a decrease in soil productivity or fertility; (2) changes to the soil composition, structure, or function within the environment; (3) effects on soils classified as prime and unique farmland; or (4) an increased potential for soil erosion.

3.3.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur and there would be no change to baseline geology, topography, or soils. Therefore, no significant effects on geological resources would occur with implementation of the No Action Alternative.

3.3.3.2 Proposed Action

Direct, short-term, minor effects from soil erosion and sedimentation would be expected during construction activities on the five project sites. Prior to construction activities, geotechnical assessments would be conducted to identify and address any site-specific limitations associated with the underlying geology and soil properties, and to help identify BMPs that are best suited for site-specific geology, topography, and soils.

Demolition activities would remove existing pavements and facilities, and construction would remove existing vegetative cover and disturb the soil surface. Exposed soil is susceptible to erosion by wind and surface runoff. Figures 3-3 and 3-4 show the soil types at the proposed project sites from the western and eastern views, respectively. Since the Proposed Action's construction disturbance for several projects exceeds one acre, a General Construction Permit under NPDES would be required for those projects. An erosion and sediment control plan and stormwater management plan would be required as part of the NPDES and building permit process. The erosion and sediment control plan would show the existing topography of the site, indicate how the topography would be altered, and identify measures to minimize effects. None of the soils at the project sites are highly erodible and construction of the five projects would be staggered over the short-, mid-, and long-term, minimizing potential sedimentation or erosion effects (NRCS, 2024). Table 3-7 provides a key for the soil types as shown on Figures 3-3 and 3-4.

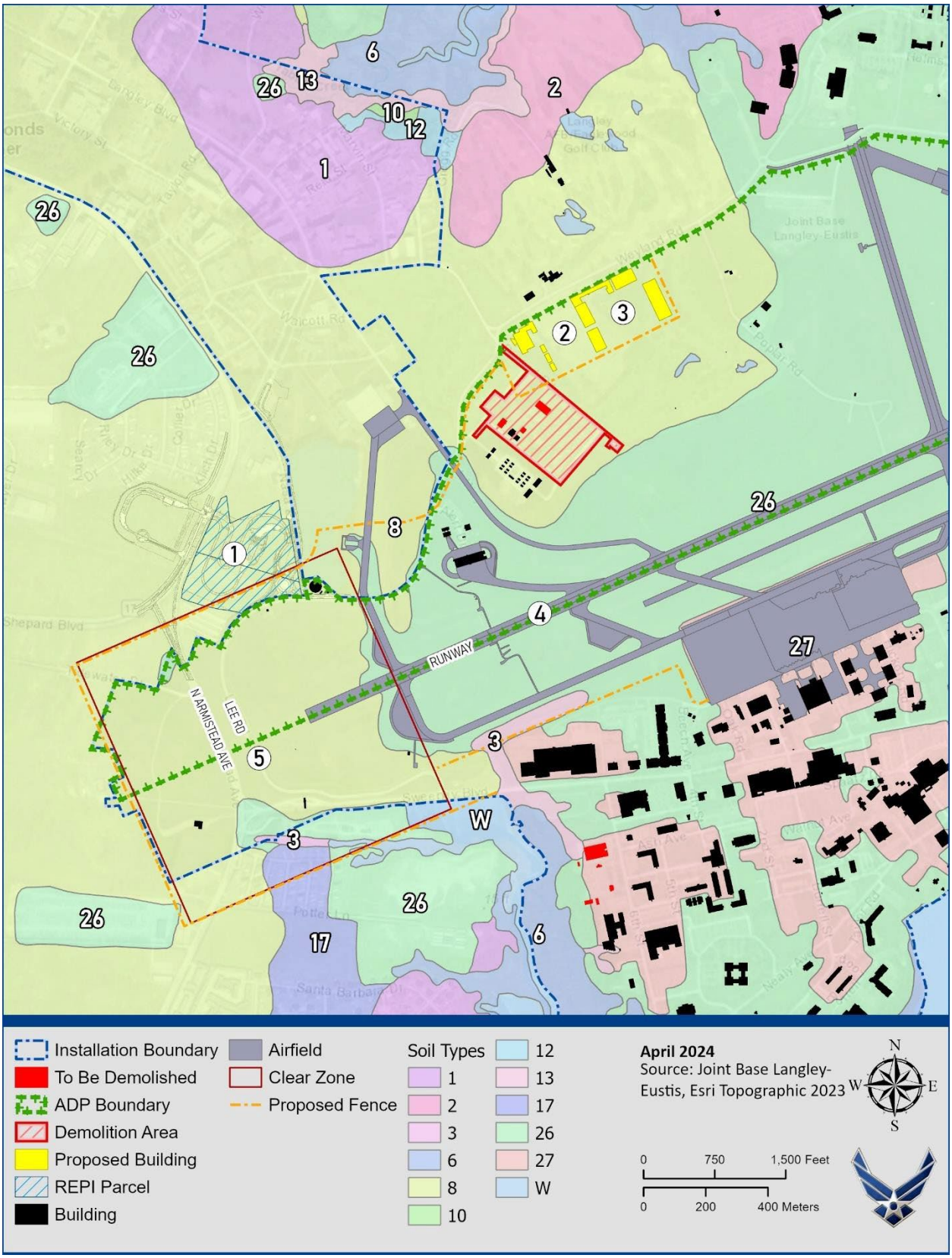

Figure 3-3: Soil Types in the Vicinity of the Proposed Projects (Western View)

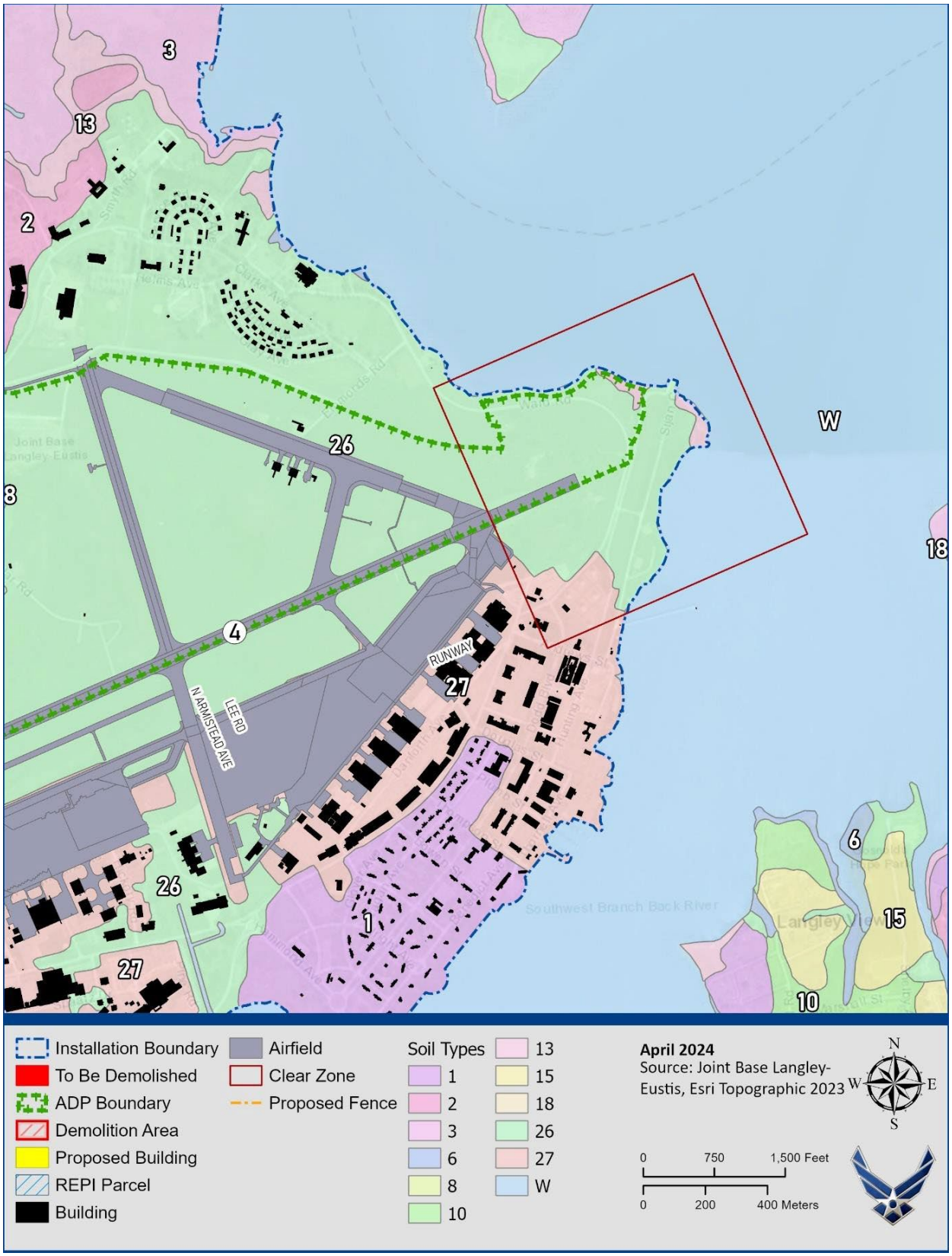

Figure 3-4: Soil Types in the Vicinity of the Proposed Projects (Eastern View)

Table 3-6: Soil Key for Figure 3-3 and Figure 3-4

Map Unit Symbol	*Soil Type*
1	Altavista-Urban land complex, 0 to 3 percent slopes
2	Augusta-Urban land complex, 0 to 2 percent slopes
3	Axis very fine sandy loam, 0 to 2 percent slopes, very frequently flooded
6	Bohicket muck, 0 to 1 percent slopes, very frequently flooded
8	Chickahominy-Urban land complex, 0 to 2 percent slopes
10	Dragston-Urban land complex, 0 to 2 percent slopes
12	Johnston silt loam, 0 to 2 percent slopes, frequently flooded
13	Lawnes loam, 0 to 1 percent slopes, very frequently flooded
15	Munden-Urban land complex, 0 to 3 percent slopes
17	Newflat-Urban land complex, 0 to 2 percent slopes
18	Nimmo-Urban land complex, 0 to 2 percent slopes
26	Udorthents-Dumps complex
27	Urban land
W	Water

The proposed facilities, pavements, and infrastructure would result in a net increase of new impervious surface. Impervious surfaces cannot absorb water like natural landscapes can; instead, water drains across these surfaces towards localized downhill areas. Such areas could see corresponding increases in erosion. The Proposed Action would involve utility trenching. Projects 1, 2, and 3 would require trenching for new utilities, such as electric, fiber optic cables, and water. Utility trenching can temporarily disturb soil structure. Therefore, the construction activities would result in minor changes in erosion and sedimentation patterns. Most sedimentation effects would be temporary and cease after the construction phase has ended.

Under the Proposed Action, soil fill material would be imported to raise the elevations of building sites and flood-susceptible utilities in the floodplain associated with Projects 1, 2, and 3, to minimum requirements within the 100-year floodplain. This would alter the topography of the proposed sites. An estimated 10,000 cubic yards of fill material would be imported onto the consolidated logistics compound site. The consolidated civil engineer compound would similarly require an estimated 10,000 cubic yards of fill. The amount of fill material that would be required at the North Gate and LVIS site is not yet known but would be determined based on final site designs and the floodplain at the project site. Structural fill material would meet applicable Air Force or state requirements for such fill material and would be properly processed for compaction and stabilized prior to structure construction. Applicable erosion and sedimentation control requirements would be followed prior to and during construction. Changes to the topography would be minor and would not result in substantial changes in drainage outside of the site boundaries. Pursuant to Section 438 of the Energy Independence and Security Act, post-development hydrology of the site would meet or improve the pre-development hydrology, which includes the slopes that facilitate stormwater drainage.

With the use of BMPs, the potential for soil and sediment transport during construction would be short-term and minor. Long-term, minor effects would be expected from localized changes in topography. Therefore, implementation of the Proposed Action would not result in significant effects on soil or geological resources.

3.4 Cultural Resources

The term “cultural resources” refers to a broad range of properties relating to history, prehistory, or places important in traditional religious practices. This discussion of cultural resources includes precontact and historic

archaeological sites; historic buildings, structures, and districts; and physical entities and human-made or natural features important to a culture, a subculture, or a community for traditional, religious, or other reasons. Cultural resources can be divided into three major categories:

- **Archaeological** resources (precontact and historic) are locations where human activity measurably altered the earth or left deposits of physical remains.
- **Architectural** resources include standing buildings, structures, landscapes, and other built-environment resources of historic or aesthetic significance.
- **Traditional cultural places** may include archaeological resources, structures, neighborhoods, prominent topographic features, habitat, plants, animals, and minerals that Native Americans or other groups consider essential for the preservation of traditional culture.

3.4.1 Regulatory Setting

Cultural resources are governed by several federal laws and EOs, including the *National Historic Preservation Act*, *Archaeological and Historic Preservation Act*, *American Indian Religious Freedom Act*, *Archaeological Resources Protection Act*, *Native American Graves Protection and Repatriation Act*, and EO 13007, *Indian Sacred Sites*.

The NHPA focuses on property types such as precolonial and historic sites, buildings and structures, districts, and other places that have physical evidence of human activity considered important to a culture or a community for scientific, traditional, religious, or other reasons. These resources can prove useful in understanding and describing the cultural practices of past peoples or retain cultural and religious significance to modern groups. Resources judged significant under criteria established in the NHPA are considered eligible for listing in the National Register of Historic Places (NRHP). The NRHP refers to these places as "historic properties" and they are protected under the NHPA. The NHPA requires federal agencies to consider the effects of their activities and programs on NRHP-eligible properties.

Regulations for the Protection of Historic Properties (36 CFR Part 800) present a process for federal agencies to consult with the appropriate SHPO or Tribal Historic Preservation Office (THPO), federally recognized Indian Tribes, Native Hawaiian groups, other interested parties, and, when appropriate, the Advisory Council on Historic Preservation. This process ensures that potential effects on historic resources that occur because of the undertaking are considered adequately. *Native American Graves Protection and Repatriation Act* is a federal law passed in 1990 that provides a process for museums and federal agencies to return certain Native American cultural items—human remains, funerary objects, sacred objects, or objects of cultural patrimony—to lineal descendants and culturally affiliated Indian tribes and Native Hawaiian organizations.

3.4.2 Affected Environment

The U.S. Air Force has conducted comprehensive inventories of cultural resources at JBLE-Langley to identify historic properties that are potentially eligible for listing in the NRHP (JBLE, 2022d). Cultural resources within JBLE-Langley include the runway, taxiways, hangars, storage buildings, warehouses, and residential and community type buildings among several other historic resources. NRHP-eligible and potentially eligible resources within JBLE-Langley include nine archaeological sites, the Langley Field Historic District, the Big Bethel Water Treatment Facility Historic District, the NASA Langley Research Center Historic District, Buildings 90 (Shellbanks Dormitory) and 1362 (Alert Hangar).

The area of potential effect (APE) for cultural resources is the geographic area or areas within which an undertaking (project, activity, program, or practice) may cause changes in the character or use of any historic properties present. The APE is influenced by the scale and nature of the undertaking and might be different for various kinds of effects caused by the undertaking. The proposed projects are dispersed across the installation and

include building, road, and runway demolition and construction. For this Proposed Action, the U.S. Air Force determined that there are two discontiguous APEs. The first includes the entire North Flightline District and extends out to include all areas of proposed construction and demolition with a buffer of 400 feet to encompass resources within a visual APE to analyze indirect effects (Figure 3-5). The North Flightline District encompasses most of the needed changes to update the airfield infrastructure. The second APE is a 400-foot buffer around the cluster of buildings proposed for demolition in the Shellbank District (Buildings 26, 27, 28, 30, 31, and 32, and an existing parking area) (Figure 3-5). Finally, the archaeological APE includes the areas of ground disturbance related to the Proposed Action within these larger APEs.

3.4.2.1 Archaeological Resources

According to the 2022 Integrated Cultural Resources Management Plan (ICRMP), much of JBLE-Langley has been surveyed for archaeological resources as part of the various 17 archaeological studies conducted. A total of 1,595 acres at the JBLE-Langley main base has not been surveyed—much of this acreage is archaeologically inaccessible due to the presence of buildings and structures, unexploded ordnance asphalt and concrete paving, and wetlands (JBLE, 2022d).

There are 31 archaeological sites that have been identified within the installation's boundaries. Of these sites, seven have been identified as NRHP-eligible or potentially eligible and two cemeteries have not been evaluated. Of these nine sites, only five of them are within the boundaries of the JBLE-Langley main base: 44HT0010, 44HT0012, 44HT0029, 44HT0096, and 44HT0117. The remaining four NRHP-eligible or potentially eligible sites are located at the Bethel Reservoir. Three of these five sites within the main base are within or adjacent to the ADP: 44HT0012 (0.13 miles from the ADP), 44HT0096 (0.07 miles from the ADP), and 44HT0117 (within ADP; 0.06 miles from the taxiway). This last site, 44HT0117, is the only site within the APE.

The REPI parcel is proposed for Project 1 (North Gate and Joint LVIS construction). No archaeological investigations have occurred on this parcel. An archaeological survey will be conducted on the parcel as part of the design/build process/contract prior to any ground disturbance. Within the APE near the REPI parcel is 44HT0048. Although Virginia Department of Historical Resources (VDHR) has determined that Site 44HT0048 is not individually eligible, the site may be part of a larger archaeological site related to Moorefield Plantation.

3.4.2.2 Above-ground Resources

Nearly all above-ground resources constructed through 1980 have been evaluated (JBLE, 2022d). There have been 13 studies/inventories conducted at JBLE-Langley, the most recent of which was completed to document Cold War-era resources. There are 806 resources across JBLE-Langley and Langley Family Housing Annex with approximately 262 NRHP-listed or eligible architectural resources. This includes one NRHP-listed historic district, two NRHP-eligible historic districts, and two individually eligible buildings (Table 3-8). Of these historic properties, Langley Field Historic District, NASA Langley Research Center Historic District, Building 1362, and 17 buildings associated with the family housing complex are located within the APEs.

There are 15 resources within the APE around the North Flightline District (i.e., the ADP boundary) that have been evaluated for the NRHP and determined not eligible. In addition, there are 35 resources within this same APE that have not been evaluated—most of which date less than 50 years of age. All resources within the APE in the Shellbank District are determined not eligible for the NRHP except for two that have not been evaluated. These two resources, a vehicle maintenance shop (Building 32) and a gymnasium (Building 226), date to 2008 and 2003, respectively. They do not have exceptional significance and, therefore, do not meet the criteria for National Register eligibility.

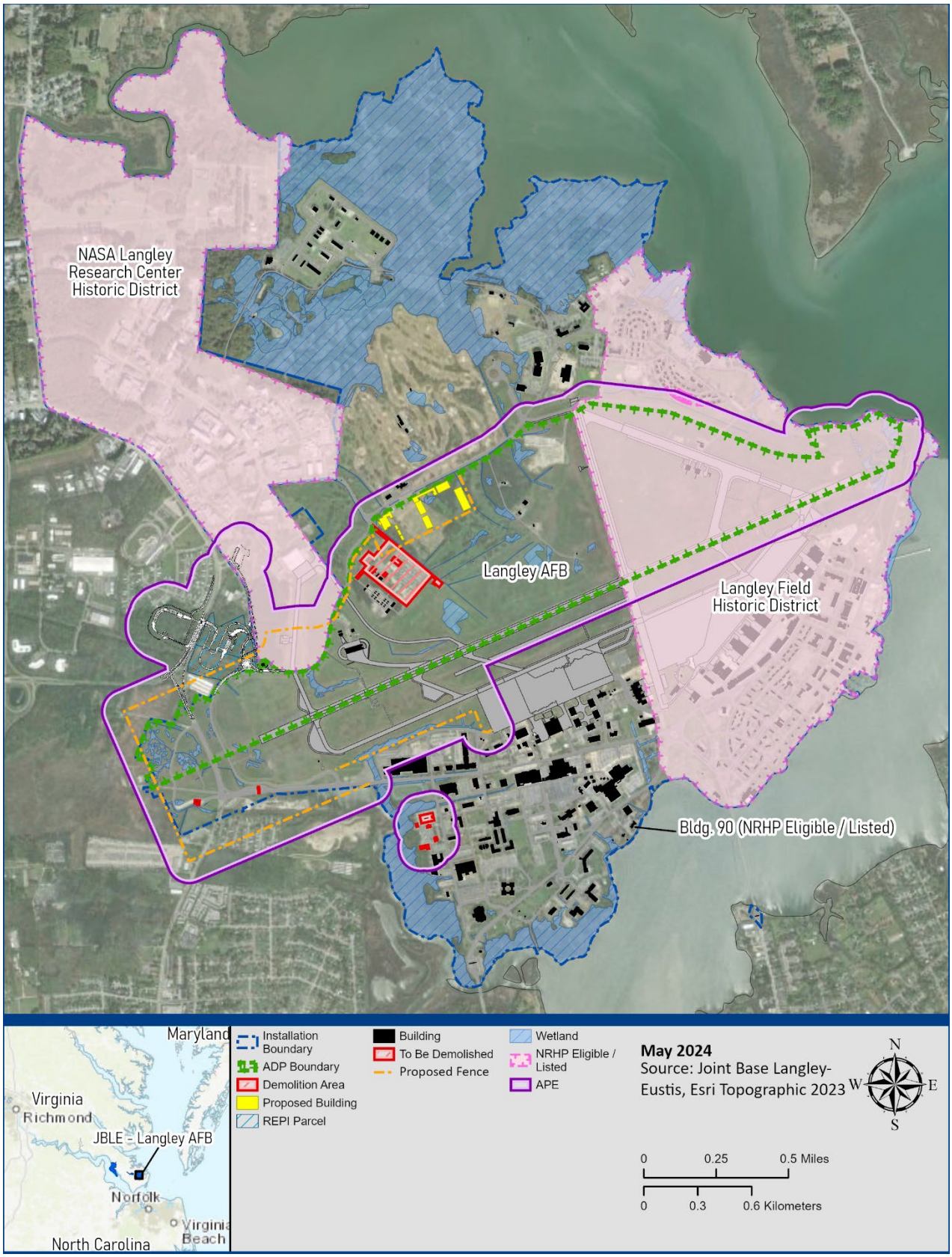

Figure 3-5: Area of Potential Effect for the Proposed Action

Table 3-7: Historic Properties within JBLE-Langley Main Base

Facility Number/Name	*NRHP Status*	*VDHR ID#*	*Within APE*
Building 90 Shellbanks Dormitory	Individually Eligible	#114-5314	No
Building 1362 Alert Hangar	Individually Eligible	n/a	Yes
Langley Field Historic District	Eligible: 245 contributing resources	#114-0165	Yes
NASA Langley Research Center Historic District (LaRC HD)—East Section	Listed: 8 contributing resources	#114-5313	Yes *No contributing resources in APE
Building 823	Eligible	—	Yes
Building 825	Eligible	—	Yes
Building 826	Eligible	—	Yes
Building 827	Eligible	—	Yes
Building 828	Eligible	—	Yes
Building 829	Eligible	—	Yes
Building 830	Eligible	—	Yes
Building 832	Eligible	—	Yes
Building 833	Eligible	—	Yes
Building 834	Eligible	—	Yes
Building 835	Eligible	—	Yes
Building 836	Eligible	—	Yes
Building 838	Eligible	—	Yes
Building 839	Eligible	—	Yes
Building 873	Eligible	—	Yes
Building 874	Eligible	—	Yes
Building 875	Eligible	—	Yes
Archaeological Site	Eligible	Site 44HT0010	No
Archaeological Site	Eligible	Site 44HT0012	Yes—adjacent
Archaeological Site	Eligible	Site 44HT0029	No
Archaeological Site	Eligible	Site 44HT0048	Yes
Archaeological Site	Eligible	Site 44HT0096	Yes—adjacent
Archaeological Site	Eligible	Site 44HT0117	Yes—within

The Proposed Action would include the demolition of 12 architectural resources plus the reconstruction of the runway, taxiways, and parking aprons (Table 3-9). Of these resources only the runways and taxiways, all built between 1938 and 1945, are NRHP-eligible as contributing resources to JBLE-Langley (JBLE, 2022d).

Although there have not been any cultural landscape surveys of JBLE-Langley, historic landscape features have been documented as part of the Langley Field Historic District. Features include Albert Kahn's design of the base including the road system; various Public Works Administration features from the 1930s such as the concrete sidewalks, the landscaping with lawns, trees, both ornamental and large shade varieties, and a variety of plantings; the concrete seawall; curbing; historic manhole covers from 1917–1918; and the historic street lamps (JBLE, 2022d).

3.4.2.3 Traditional Cultural Places

No traditional cultural properties are known to be located within JBLE-Langley.

Table 3-8: NRHP Status of Resources Proposed for Demolition

Facility Number	*Name*	*Built Date*	*NRHP Status*
Building 26	Vehicle Ops Admin	1985	Not Eligible
Building 27	Vehicle Maintenance Shop	1993	Not Eligible
Building 28	Vehicle Service Rack	1986	Not Eligible
Building 30	Vehicle Maintenance Shop	1986	Not Eligible
Building 31	Vehicle Maintenance Shop	1997	Not Eligible
Building 32	Vehicle Maintenance Shop	2008	Not Evaluated
Building 298	Gatehouse Identification Check structure	ca. 2006	Not Evaluated
Building 299	Vehicle Inspection Station	ca. 2012	Not Evaluated
Building 328	Civil Engineering Building	1997	Not Eligible
Building 1334	Pavements & Equip Shop	2004	Not Evaluated
Building 1349	n/a	ca. 2010	Not Evaluated
Building 1352	HQ Major Command	2001	Not Evaluated
17035	Runway	1944	Eligible

3.4.2.4 Section 106 Consultation

In accordance with Section 106 of the NHPA, the Air Force, serving as the lead federal agency for SHPO consultation, initiated consultation with VDHR as the Virginia SHPO to seek concurrence on the conclusions of this EA. The initiation letter to VDHR was sent recommending the undertaking would have no adverse effect to historic properties. VDHR's response, dated 14 January 2025, stated there would be No Adverse Effects based on the documentation provided. VDHR's letter is in Appendix A.

The Air Force consults with federally recognized Native American Tribes (or Native Hawaiian or Alaska Native Organizations) on actions with the potential to significantly affect protected tribal resources, tribal treaty rights, or Indian lands. As part of the consultation process, the Air Force sent letters to eight federally recognized tribes who may have an interest in this location: Catawba Indian Nation, Chickahominy Indian Tribe, Chickahominy Tribe—Eastern Division, Delaware Nation of Oklahoma, Nansemond Indian Nation, Pamunkey Indian Tribe,

Rappahannock Tribe, and Upper Mattaponi Indian Tribe. No other tribes replied to the Air Force's invitation to be included as consulting parties for this undertaking. Consultation letters and any responses received are in Appendix A.

3.4.3 Environmental Consequences

Analysis of potential effects on cultural resources considers both direct and indirect effects. Direct effects can be the result of physically altering, damaging, or destroying all or part of a resource. Indirect effects include altering characteristics of the surrounding environment that contribute to the importance of the resource; introducing visual, atmospheric, or audible elements that are out of character for the period the resource represents (thereby altering the setting); or neglecting the resource to the extent that it deteriorates or is destroyed.

3.4.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur and there would be no change to cultural resources. Therefore, no significant effects on cultural resources would occur with implementation of the No Action Alternative.

3.4.3.2 Proposed Action

Archaeological Effects

Proposed Projects 2–5 are within an area of the ADP that has been determined to have low archaeological potential (JBLE, 2022d). Portions of the proposed construction sites have been previously disturbed by the asphalt-paved parking lot, paved paths, tree plantings, and used for a golf course. There do not appear to be any potential effects on unknown resources with the implementation of the Proposed Action. In addition, there would be no effects on any of the three NRHP-eligible sites within or adjacent to the APE (44HT0012, 44HT0096, and 44HT0117). None of these sites are within proximity to any of the proposed ground disturbance locations.

The REPI parcel, the location of Project 1, has moderate to high archaeological potential due to the proximity of Site 44HT0048, possibly part of a larger archaeological site. The REPI parcel is proposed for extensive ground disturbance due to the construction of the North Gate and Joint JVIS and associated infrastructure. It is unknown if any portion of the REPI parcel would be NRHP eligible for its historical association with Moorefield Planation or for other associations until an archaeological investigation is conducted. Project 1 may have potential adverse effects on unknown archaeological resources. These effects would be part of the consultation between the Air Force, VDHR, tribes, and other consulting parties and would result in a Programmatic Agreement to resolve adverse effects.

Architectural Effects

Under the Proposed Action, 12 resources would be demolished and one would be reconstructed. Six of the 12 resources to be demolished are not NRHP-eligible and there are six modern resources that have not been evaluated and do not meet NRHP criteria. These 12 total resources are not historic properties; therefore, the Proposed Action would not cause adverse effects on these resources as defined by the NHPA.

The runway and taxiways would be rebuilt and raised to accommodate sea-level rise. The runway and taxiways were first built in 1944. An additional concrete layer was added in the 1960s and reconstruction was completed in the 1980s (JBLE-Langley, 2023b). A third update to the runway and taxiways since its construction would not cause adverse effects. The use, alignment, and materials would not be altered; therefore, there would be no adverse effects on the runway. Extending the runway would also not cause adverse effects as it does not introduce any elements that are not in keeping with the historic runway.

The building demolitions and the raising of the runway and taxiways would not have direct adverse effects. There would not be indirect effects from the demolitions, new construction, and raising of the runway to any historic

properties. The NASA Langley Research Center Historic District and Building 1362 is within proximity of the proposed demolitions and building construction on the north side of the runway. Building 1362 is the only architectural historic property within the APE or adjacent to the APE that would have a view of the proposed project. Building 1362 would retain an unobstructed view of the runway, which is significant to the property to retain a historical sense of place. The raising of the runway would not have an adverse effect to the viewshed of Building 1362.

On the opposite end of the installation is the Langley Field Historic District and contributing resources to the district within and adjacent to the APE, as shown on Figure 3-5. The viewsheds associated with these resources and historic district would not be affected by the proposed construction within the former golf course south of Weyland Road. The viewsheds within the district to and from the runway and taxiways would not be adversely affected by the raising of the runway and taxiways as these new heights would be 3 to 4 feet higher than the existing level. Although historic landscape features have not been documented as part of the Langley Field Historic District, there have been several noted within the ICRMP to be of significance. No significant views were listed in the ICRMP; however, the history of the base and the significance of the Langley Field Historic District suggest that the viewsheds to the runways do have cultural importance. Elevating the runway under the Proposed Action would not be an adverse effect on significant viewsheds and it would allow for additional views of the runway and taxiways and increase its exposure.

There would be no direct or indirect effects on historic properties from the Proposed Action. Therefore, implementation of the Proposed Action would not result in significant effects on cultural resources.

3.5 Biological Resources

Biological resources include native or naturalized plants and animals and the habitats in which they occur. Biological resources are integral to ecosystem integrity. As discussed in this section, biological resources are divided into three main categories: (1) vegetation; (2) wildlife; and (3) threatened, endangered, and special-status species. For purposes of this discussion, the study area is the limits of the North Flightline district as well as the larger ecological setting, where appropriate.

3.5.1 Regulatory Setting

For this EA, the primary applicable regulations for biological resources include the following:

The Endangered Species Act of 1973 (ESA) (16 U.S.C. § 1531, et seq.) established protection over and conservation of threatened and endangered species and the ecosystems upon which they depend. Sensitive and protected biological resources include plant and animal species listed as threatened, endangered, or special status by the U.S. Fish and Wildlife Service (USFWS) and NOAA National Marine Fisheries Service (NMFS). Under the ESA (16 U.S.C. § 1536), an “endangered species” is defined as any species in danger of extinction throughout all, or a large portion, of its range. A “threatened species” is defined as any species likely to become an endangered species in the foreseeable future. “Candidate species” are those that have been announced in the Federal Register as undergoing a status review as a candidate for potential listing but have not yet been listed under the ESA. Candidate species do not receive federal protection under the ESA until officially listed as a threatened or endangered species. Although candidate species receive no statutory protection under the ESA, the USFWS has attempted to advise government agencies, industry, and the public that these species are at risk and may warrant protection under the ESA. The ESA also allows the designation of geographic areas as “critical habitat” for threatened or endangered species that contain physical or biological features essential to the conservation of the species and could require management or protection.

Section 9 of the ESA prohibits the take of federally listed species. “Take” as defined under the ESA means, "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Section 7 of the ESA prohibits any federal agency from engaging in any action that is likely to

"jeopardize" the continued existence of listed endangered or threatened species or that destroys or adversely affects the critical habitat of such species. Any federal agency proposing an action which can adversely affect an endangered or threatened species must consult with USFWS or NMFS (on an informal or formal basis, as appropriate) to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species or result in the destruction or adverse modification of designated critical habitat.

State agencies also designate special-status species. The Virginia Department of Agriculture and Consumer Services, Virginia Department of Game and Inland Fisheries, and Virginia Department of Conservation and Recreation cooperate to provide protection for Virginia's threatened and endangered species.

The Migratory Bird Treaty Act of 1918 (MBTA) (16 U.S.C. 703–711) protects migratory birds. EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, (66 FR 3853) directs federal agencies to identify where unintentional take is likely to have a measurable negative effect on migratory bird populations and to avoid or minimize adverse effects on migratory birds through enhanced collaboration with the USFWS. EO 13186 was issued in part to ensure that environmental analyses of federal actions assess the effects of these actions on migratory birds. It also states that emphasis should be placed on species of concern, priority habitats, and key risk factors, and it prohibits the take of any migratory bird without authorization from the USFWS.

The MBTA protects migratory birds by prohibiting, including but not limited by, the following: to pursue, hunt, take, capture, or kill; attempt to take, capture, or kill; [or] possess migratory birds, their nests, eggs, parts, or products at any time without the appropriate permit and provides enforcement authority and penalties for violations.

The Bald and Golden Eagle Protection Act of 1940 (16 U.S.C. 668–668d) establishes that it is unlawful to take (i.e., pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb), possess, sell, purchase, or barter; offer to sell, purchase, or barter; transport; export; or import, at any time or in any manner, any bald eagle (*Haliaeetus leucocephalus*) or golden eagle (*Aquila chrysaetos*), alive or dead, including their parts, eggs, nests, or young, without the appropriate permit.

The Magnuson-Stevens Fishery Conservation and Management Act of 1976 (16 U.S.C. § 1801, et seq.), amended by the Sustainable Fisheries Act in 1996, requires the identification and conservation of Essential Fish Habitat (EFH). EFH includes those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. This can include areas that were historically used by fish. Federal agencies are required to consult with NMFS and prepare an EFH Assessment if potential adverse effects on EFH are anticipated from the Proposed Action.

3.5.2 Affected Environment

3.5.2.1 Vegetation

Much of the natural vegetative cover and habitat on JBLE-Langley was filled and leveled when the base was established in 1916. Tidal wetlands along the installation shore are the only remaining important natural areas on the installation. Most of JBLE-Langley's undeveloped areas consist of managed lawns and landscaped areas with ornamental trees and shrubs. Approximately 230 acres of the JBLE-Langley main base is forested, mostly confined to the northwestern portion of the base, outside of the North Flightline District. One 26.5-acre forested area is found within the North Flightline District boundary, just south of Weyland Road with Poplar Road transecting the forest.

Typical forested areas on JBLE-Langley consist of loblolly pine (*Pinus taeda*), southern red oak (*Quercus falcata*), white oak (*Quercus alba*), willow oak (*Quercus phellos*), black cherry (*Prunus serotina*), sweet gum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), tulip poplar (*Liriodendron tulipifera*), and hickory (*Carya* spp.) (JBLE-Langley, 2019).

The North Flightline District consists primarily of established airfield runways, open space, and outdoor recreation area. The western side of the North Flightline District (the location of Projects 1 and 5) and the runway area (Project 4) are highly developed for airfield and runway use. These areas contain regularly maintained and mowed grasses as a safety precaution to deter birds and wildlife, and there is no quality habitat within these areas. A portion of Project 1 would extend beyond the current JBLE-Langley boundary onto land that the City of Hampton is in the process of acquiring. This land that would be used for Project 1 is primarily forested; thus, an Environmental Baseline Survey would be completed prior to the land acquisition to more fully characterize the site, including its vegetation community and habitat.

The northern portion of the North Flightline District (the area considered for Projects 2 and 3) is considered open space and is used for outdoor recreation. This area is primarily maintained grasses that are mowed according to U.S. Air Force standards to discourage flocks of birds from entering the airfield. There is a golf driving range composed of maintained grasses and small tree stands. One 0.46-acre manufactured freshwater pond surrounded by vegetation is located adjacent to the golf driving range, within the footprint of the proposed civil engineering compound (Project 3) (see Section 3.2, *Water Resources*, for more detail). No submerged aquatic vegetation has been identified or mapped along the JBLE-Langley shoreline; however, it is present along the opposite shoreline of the Back River, near Poquoson and more than one half mile from the JBLE-Langley shoreline nearest to the Proposed Action (VIMS, 2024b).

3.5.2.2 Wildlife

JBLE-Langley supports a variety of mammals, birds, reptiles, amphibians, and fish. Wildlife occurring on JBLE-Langley are either habitat generalists or very tolerant of human disturbance and are documented more comprehensively within the installation's INRMP (JBLE-Langley, 2019).

Common mammals observed on JBLE-Langley include white-tailed deer (*Odocoileus virginianus*), raccoon (*Procyon lotor*), red fox (*Vulpes vulpes*), coyote (*Canis latrans*), gray squirrels (*Sciurus carolinensis*), Virginia opossum (*Didelphis virginiana*), eastern cottontail (*Sylvilagus floridanus*), meadow vole (*Microtus pennsylvanicus*), river otter (*Lontra canadensis*), and various other species of small rodents.

A bat survey conducted on JBLE-Langley in 2017 confirmed the presence of seven bat species on the JBLE main base, including the tricolored bat (*Perimyotis subflavus*; proposed for listing as endangered under the ESA and state-listed as endangered). The little brown bat (*Myotis lucifugus*), which is a state-listed endangered species, was also documented at JBLE-Langley (JBLE-Langley, 2019).

The survey did not confirm the endangered northern long-eared bat (*Myostis septentrionalis*) at the main base (JBLE-Langley, 2019). However, acoustic surveys conducted in 2018 detected the northern long-eared bat and Indiana bat (*Myotis sodalist*; listed as endangered under the ESA) at Big Bethel Reservoir, which is a U.S. Air Force-managed property approximately 3 miles northeast of JBLE-Langley (De La Cruz & Ford, 2020).

Bat presence in the forested area owned by the City of Hampton and considered for Project 1 (the LVIS and access control point [ACP]) is unknown, as no bat surveys have occurred on the property. Prior to the U.S. Air Force taking ownership of the property, an Environmental Baseline Survey would be completed to characterize the site's habitat and species. During the spring and summer, northern long-eared bats commonly roost in forested areas underneath bark or in cavities or crevices of both live trees and snags. They forage in the understory of forested areas (USFWS, n.d.a). Tricolored bats would be expected in a similar habitat. During spring and summer, tricolored bats primarily roost among live and dead leaf clusters of live or recently dead deciduous hardwood trees. Tricolored bats mostly forage at treetop level or above, commonly over waterways and forested edges (USFWS, n.d.b). Therefore, northern long-eared bats and tricolored bats are potentially present in the forested area considered for Project 1.

More than 150 species of birds have been documented on the installation, including songbirds, shorebirds, waterfowl, game birds, and raptors. Nest surveys are regularly conducted for osprey (*Pandion haliaetus*). Suitable osprey habitat for foraging, roosting, and/or nesting occurs along the 9.9 miles of shoreline at JBLE-Langley. Osprey nests are known to exist along the Back River shoreline, but there are no active osprey nests within the installation's interior. Osprey and other birds can pose a potential Bird/Wildlife Aircraft Strike Hazard (BASH) risk to flight operation depending on the proximity to the airfield. Thus, JBLE-Langley closely monitors the roosting and nesting behavior of osprey and other birds. JBLE-Langley also follows an installation BASH Plan to discourage nesting in proximity to the airfield to reduce the risk to birds and aircraft (JBLE-Langley, 2019).

Surveys have documented 25 species of amphibians and reptiles on JBLE-Langley, including 8 frog species, 2 toad species, 1 salamander species, 5 snake species, 7 turtle species, and 2 lizard species. No federal or state threatened or endangered amphibians or reptiles are known to occur on the installation. However, several state Species of Greatest Conservation Need (SGCN) have been identified on JBLE-Langley. The diamondback terrapin (*Malaclemys terrapin*), a Tier II SGCN in the state (very high conservation need), has been documented in all life stages on the installation. The spotted turtle (*Clemmys guttata*), woodland (or eastern) box turtle (*Terrapene carolina carolina*), and eastern kingsnake (*Lampropeltis getula*), all Tier III SGCN (high conservation need), are also present (JBLE-Langley, 2019). The spotted turtle is also under review for listing under the ESA.

Fish and aquatic invertebrates are found within the Back River surrounding JBLE-Langley. This includes species such as anchovy (*Anchoa* spp.), silver perch (*Bairdiella chrysoura*), spotted sea trout (*Cynoscion nebulosus*), spot (*Leiostomus xanthurus*), Atlantic croaker (*Micropogonias undulatus*), Atlantic menhaden (*Brevoortia tyrannus*), Atlantic silverside (*Menidia menidia*), striped bass (*Morone saxatilis*), white mullet (*Mugil curema*), pigfish (*Orthaopristis chrysoptera*), and summer flounder (*Paralichthys dentatus*). Blue crab (*Callinectes sapidus*) is also commonly found in tidal waters around the installation, as well as fiddler crab (*Uca* spp.), eastern oyster (*Crassostrea virginica*), and hard clam (*Mercenaria mercenaria*) (JBLE-Langley, 2019).

3.5.2.3 Threatened, Endangered, and Special Status Species

Federal and State Listed Species

According to the USFWS Information for Planning and Consultation (IPaC) database (retrieved August 12, 2024 and fully included in Appendix A), there are three potentially occurring species, listed under the ESA within the study area (see Table 3-10). There is no critical habitat found within the study area.

Table 3-9: Threatened and Endangered Species Identified by USFWS as Potentially Occurring in the JBLE-Langley North Flightline District

Species Name	Federal Listing Status	State Listing Status	Critical Habitat Present?	Documented at JBLE-Langley?
Northern Long-eared Bat (*Myotis septentrionalis*)	Endangered	Threatened	No	No
Tricolored Bat (*Perimyotis subflavus*)	Proposed Endangered	Endangered	No	No
Monarch Butterfly (*Danaus plexippus*)	Proposed Threatened	not listed	No	Yes

Source: (USFWS, 2025)

The northern long-eared bat has not been identified on JBLE-Langley during bat surveys. No known northern long-eared bat hibernaculum (a site where one or more bats hibernate over winter) is present near the installation, and JBLE-Langley is located more than 3 miles from the nearest capture location (VDWR, 2024b; VDGIF, 2024). However, northern long-eared bats are potentially present in the study area, and they have been identified at the

nearby Big Bethel Reservoir. Tricolored bats have been identified on JBLE-Langley during bat surveys, but no maternity roost trees have been identified (JBLE-Langley, 2019).

The monarch butterfly (*Danaus plexippus*) has been observed in the adult life stage on JBLE-Langley (JBLE-Langley, 2019). There are no known milkweed patches at the Proposed Action sites; however, the Project 1 site is located outside of JBLE-Langley property and would be subject to an Environmental Baseline Survey, during which the U.S. Air Force would better determine its habitat and if it is likely that monarch butterfly is present. Projects 2, 3, 4, and 5 are located within a portion of the installation that contains little natural habitat. As described previously, vegetation in these areas in proximity to the airfield is maintained to discourage birds and other wildlife from using the area.

Habitat exists within the study area for two protected bumble bee species (open and grassland habitats). The rusty patched bumble bee (*Bombus affinis*), listed as endangered under the ESA and a Tier I SGCN in Virginia, has been identified in Newport News, but has not been identified on JBLE-Langley (JBLE-Langley, 2019). The rusty patched bumble bee is not known to occur in the vicinity of JBLE-Langley or its surrounding counties (VDWR, 2024a). The American bumble bee (*Bombus pensylvanicus*) is under review for listing on the ESA and a Tier IV SGCN in Virginia. It has not been identified on JBLE-Langley and is uncommon in Virginia.

The spotted turtle, which is under review for listing under the ESA and a Tier III SGCN in Virginia, has been observed within a wetland on the installation. Spotted turtles typically inhabit shallow, tannin stained "blackwater" habitat, including ponds, streams, flooded fields, bogs, forested wetlands, and freshwater marshes, in close proximity to forested areas (VDWR, 2023).

The diamondback terrapin, a Tier II SGCN in Virginia, has been documented as regularly occurring on JBLE-Langley. This species lives exclusively in brackish saltwater marshes, coastal bays, and lagoons (VIMS, 2024a).

Two bird species of special status have been observed during bird surveys on the installation: red knot (*Calidris canutus*; listed as threatened under the ESA and state threatened) and gull-billed tern (*Gelochelidon nilotica*; state threatened). Little suitable, undisturbed habitat for these listed bird species is found on JBLE-Langley. Although the installation may be used by transients for foraging or roosting, red knots or gull-billed terns are not known to nest on JBLE-Langley (JBLE-Langley, 2019).

Several marine species with special status have potential to occur in the waters surrounding JBLE-Langley, including five species of sea turtles: loggerhead (*Caretta caretta*), green (*Chelonia mydas*), Kemp's ridley (*Lepidochelys kempii*), hawksbill (*Eretmochelys imbricata*), and leatherback (*Dermochelys coriacea*) sea turtles. No sea turtle nesting occurs on the installation shorelines, but the species have been documented in Chesapeake Bay waters and could occur. Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) and shortnose sturgeon (*Acipenser brevicauda*) are also potentially present in surrounding waterways. Sturgeon have been documented in tributaries to Chesapeake Bay; however, the Back River is not designated as critical habitat for the sturgeon species.

Migratory Birds and Bald and Golden Eagles

JBLE-Langley is located along the Atlantic Flyway, where several million birds migrate annually. According to the USFWS IPaC database report, there are 28 migratory birds listed as USFWS Birds of Conservation Concern for the study area. These species are shown in the IPaC database report (see Appendix A).

Both migratory and resident birds pose a significant BASH hazard at the installation. The JBLE-Langley airfield and the North Flightline District contain wetlands and shoreline, which provide considerable habitat for birds. Management of the habitat within the airfield is done through the installation BASH Plan in coordination with the Natural Resources Program. Large flocks of birds have been observed on the airfield annually during the winter and fall. The BASH Plan is designed to minimize aircraft exposure to potentially hazardous bird strikes in the JBLE-Langley local flying area. It includes hazard reduction measures, such as vegetation management practices

to discourage birds from entering the airfield, including much of the North Flightline District area. In accordance with federal policies and Chesapeake Bay Agreements, much of the flightline area wetlands have been altered for airfield safety (JBLE-Langley, 2019).

Bald eagles are frequently observed on JBLE-Langley. The 9.9 miles of shoreline bordering the installation provides suitable bald eagle habitat for foraging, roosting, and/or nesting. The most suitable habitat for bald eagles is among the loblolly pines on the northern side of the base, where an active bald eagle nest is present. There are no bald eagle nests within the North Flightline District. The installation uses deterrents and non-lethal depredation actions to discourage bald eagles from the JBLE-Langley airfield, in accordance with its BASH Plan (JBLE-Langley, 2019). Golden eagles are not expected to be present in the JBLE-Langley area (USFWS, 2025).

Essential Fish Habitat

The Back River, which is directly adjacent to JBLE-Langley, is designated as EFH for 14 fish species, as well as a habitat of particular concern for sandbar shark (*Carcharhinus plumbeus*) (JBLE-Langley, 2019). There is no designated EFH within the North Flightline District.

3.5.3 Environmental Consequences

Analysis of the potential effects on biological resources includes consideration of any loss or alteration of species or habitat that could result from the Proposed Action. Effects are evaluated in terms of degree of loss and duration of effects. A significant, adverse effect on biological resources would alter habitat to the degree that results in reductions in population size or distribution of a species of high concern over the long term. Effects on biological resources would also be considered significant if an action would likely jeopardize the continued existence of a federally listed threatened or endangered species, or if it would result in the destruction or adverse modification of federally designated critical habitat.

3.5.3.1 No Action Alternative

Under the No Action Alternative, the North Flightline ADP short- and mid-term projects would not be implemented. There would be no construction or ground-disturbing activities associated with the ADP, and there would be no related effects on vegetation or wildlife, including federal- or state-listed species and habitat. The JBLE-Langley runway would remain within the 100-year floodplain. There would be no significant effects on biological resources under the No Action Alternative.

3.5.3.2 Proposed Action

The Proposed Action would involve implementation of five ADP projects within the North Flightline District of JBLE-Langley.

Vegetation

The Proposed Action would have long-term, moderate effects on vegetation, primarily from loss of forested area associated with Project 1. The exact amount of vegetation to be removed under each proposed project would be dependent on final site designs. For the purposes of this EA, the acreage of trees that would be removed under the Proposed Action was assumed to be all trees within a project site footprint or notional layout; this assumes a worst-case scenario of all trees being removed to accommodate a project on the proposed site boundary. Site design may result in a lower overall impact on the vegetation at project sites, if some trees or forested areas are maintained.

Project 1 (proposed North Gate and joint LVIS) would occur primarily outside of the current JBLE-Langley boundary, on approximately 29 acres of land that is in the process of being acquired by the City of Hampton. Prior to implementation of Project 1, an Environmental Baseline Survey would be completed. The survey would include site reconnaissance to identify protected species or sensitive habitats on the site and to better assess the

effect on vegetation. Project 1 could result in the removal of an estimated 9.5 acres of forested land just outside of the JBLE-Langley boundary. The forested area is part of approximately 82 acres of forested land that is semi-contiguous (bisected by Armistead Avenue, Commander Shepard Boulevard, and Basil Sawyer Drive). The removal of 9.5 acres of forest from this area represents approximately 11.5 percent of the overall forested area, contributing to the fragmentation of this forest. The two areas that would be used for Project 1, on either side of Armistead Avenue, are large enough to support forest interior dwelling species (FIDS). However, Project 1 would occur on the edge of tracts of forest that has already been fragmented. Removed trees would be replaced with native species in an area outside of the clear zone, as referred to in the Environmental Special Conditions. These tree replacement conditions are provided to all construction contractors and included with all construction projects. Thus, the effect of this loss of 9.5 acres of forest would be moderate but less than significant.

There is another large, undeveloped, contiguous forested area approximately 1.2 miles west of the Project 1 location. This forested area would provide similar and higher quality habitat as compared with the Project 1 site, as it is much larger (approximately 1 square mile), contiguous, and would provide dense habitat for species like FIDS.

Project 2 (consolidated logistics compound) and Project 3 (consolidated civil engineer compound) involve construction that could remove up to 9 acres of vegetation including maintained lawn/landscaped areas. The existing vegetation on the Project 2 and Project 3 sites consists of historically altered and maintained landscaped areas, with some small groves of trees. Approximately 3.5 acres of scattered trees could be removed to implement Project 2, and 5.5 acres of scattered trees and forest cover could be removed to implement Project 3. The small forest stands at the sites are not part of the installation's larger forested areas, as mapped in the INRMP. The 26.5-acre forested area present within the North Flightline District would not be affected by the proposed projects. The removed vegetation would be replaced with buildings and pavements, with native landscaping added. Due to the proximity to the airfield, replanted trees would be species with limited height in accordance with safety requirements. As mapped in the installation INRMP, the JBLE-Langley main base has approximately 230 acres of forest cover. None of the trees at the Project 2 and Project 3 sites are part of this mapped forest cover. This indicates that trees at the Project 2 and Project 3 sites may be early successional or young. This potential loss of 9 acres of vegetation on JBLE-Langley main base would have a minor effect on the installation's overall vegetation.

Project 4 (raising the runway above sea level) would affect the entire length of the runway, which is a paved surface. There are wetland communities at the northeastern side of the district and runway. However, Project 4 would not affect natural vegetation communities; the area surrounding the existing runway and the proposed overruns, consist of maintained ornamental grasses. Project 4 would have an overall negligible effect on vegetation on the installation.

Project 5 (rerouting roads outside of clear zone) would be within a developed area of the installation and would not likely result in a loss of native vegetation. Roads that are removed from the clear zone would be either left paved (but closed for use) or removed and replaced with grasses that are appropriate for airfield use. Project 5 would have an overall negligible effect on vegetation on the installation.

There are wetlands located on or near the proposed site footprints. However, it is unknown whether construction would directly affect on-site wetlands, including wetland vegetation. Any wetland effects would be known when site designs are finalized, and an updated wetland delineation is conducted on the sites. Wetland vegetation could be affected directly or indirectly by the Proposed Action. See Section 3.2.2.3, *Wetlands*, of this EA, for further detail.

In total, the Proposed Action could result in the removal of up to 18.5 acres of trees at three of the five proposed project sites. As described in the preceding sections, the effects would range from moderate (Project 1) to minor (Project 2 and Project 3) to negligible (Project 4 and Project 5). Therefore, the overall effects on vegetation from implementation of the Proposed Action would not be significant.

Wildlife

Wildlife species that currently inhabit or use the forested habitat that would be removed under the Proposed Action would likely relocate to adjacent, similar habitat, resulting in minor effects on wildlife on the installation. Similar habitat exists near the three projects that would result in loss of forest. While up to 9.5 acres of forest would be removed under Project 1, it would not remove all the contiguous forest on either side of Armistead Avenue. Forested habitat would remain available immediately adjacent to the proposed cleared forest. Further, Project 1 would be sited within 82 acres of forested habitat that is semi-contiguous (bisected by 4-lane roadways) and approximately 1.2 miles from a large (about 1 square mile) undeveloped forest. On JBLE-Langley, there is a 26.5-acre forest approximately 500 feet east of the Project 3 site. Additionally, there are scattered trees and small forest stands in proximity to both Project 2 and Project 3 sites.

There is potential for wildlife mortality during construction activities, most likely affecting smaller, slow-moving species such as insect, rodent, amphibian, and reptile species. Disturbances from noise generated by construction activity might disrupt wildlife temporarily, but this disturbance would be intermittent and would not have long-term effects. Given the proximity to the airfield, wildlife present within the North Flightline District are likely accustomed to noise associated with U.S. Air Force activities; thus, the increase in noise from the proposed projects over a 5-year period would not create significant nuisance to wildlife. Therefore, the effect on wildlife from implementation of the Proposed Action would not be significant.

Threatened, Endangered, and Special Status Species

Federal and State Listed Species

As described in Section 3.5.2.3, the northern long-eared bat has not been identified on the JBLE-Langley main base during bat surveys, but they have been observed nearby and have potential to be present. There is no nearby hibernaculum, but the northern long-eared bat commonly roosts in forested areas and forages in forests or over water surfaces immediately surrounding roost sites (USFWS, 2024d; USFWS, 2024e). The proposed Project 1, Project 2, and Project 3 forested areas that would be cleared are not located near water surfaces but do contain potential roost trees. There is other, better habitat for northern long-eared bats, such as the Big Bethel Reservoir, where it has been identified. Because the Proposed Action would result in tree clearing and within the range of the northern long-eared bat, the U.S. Air Force completed a determination for this species in the IPaC project planning tool. The Determination Key tool determined that the Proposed Action "may affect, but not likely to adversely affect" the species, and no further consultation with USFWS is required for northern long-eared bat. The USFWS concurrence letter generated from the IPaC Determination Key is included in Appendix A.

The tricolored bat has been identified on the JBLE-Langley main base and is potentially present at the Proposed Action sites. There is no nearby hibernaculum, but tricolored bats commonly roost in forested areas and feed over forests and waterways. The proposed Project 1, Project 2, and Project 3 forested areas that would be cleared are not located near water surfaces but do contain potential roost trees. The Commonwealth of Virginia requires a 150-foot buffer radius around any known tricolored bat maternity roost trees with no tree removal between June 1 and July 31, in order to protect roost trees and foraging habitat during the maternity season. The Virginia Department of Game and Inland Fisheries has determined that that under these conditions, little to no lethal take of tricolored bats would be anticipated (VDGIF, 2016). There are no known maternity roost trees on JBLE-Langley, and the Project 1 forested area would be investigated during the Environmental Baseline Survey to determine the potential presence of any maternity roost trees, and whether time of year restrictions would be required. Therefore, the Proposed Action "may affect, but not likely to adversely affect" the tricolored bat.

The monarch butterfly is present on JBLE-Langley. However, the proposed project sites are not known to contain milkweed, and there would be no significant removal of suitable grassland/pollinator habitat. Adverse effects on this species would be indirect, temporary, and negligible, mostly occurring as a result of minor disturbances from

construction and demolition activities. Therefore, the Proposed Action "may affect, but not likely to adversely affect" the monarch butterfly.

Because the DAF has determined that the Proposed Action is not likely to adversely affect listed species, a formal consultation with the USFWS is not required (USFWS, 2024f).

The rusty patched bumble bee and American bumble bee are not known to be present on JBLE-Langley and are uncommon within this region of Virginia; therefore, it would not be affected by the Proposed Action. No diamondback terrapin habitat would be affected by the Proposed Action.

The spotted turtle, which is under review for listing under the ESA and a Tier III SGCN in Virginia, has been observed within an installation wetland area. The Project 3 site contains a 0.46-acre manufactured freshwater pond/wetland that contains suitable habitat for the spotted turtle. The species prefers to occupy an array of wetland patches, rather than a single wetland, to move between habitat areas (DoD PARC, 2019). There is ongoing monitoring for the presence of turtles in this area, and the pond would not be affected under Project 3. Therefore, spotted turtle would not be directly affected by this project.

Migratory Birds and Bald and Golden Eagles

Little suitable, undisturbed habitat for the listed bird species, the red knot and gull-billed tern, is found on JBLE-Langley. Although the installation may be used by transients for foraging or roosting, red knots or gull-billed terns are not known to nest on JBLE-Langley (JBLE-Langley, 2019). Thus, effects on these species would be indirect, temporary, and negligible, mostly occurring as a result of minor disturbances from construction and demolition activities. There would be no effects on nesting birds, loss of habitat, or significant disturbance.

Several species of migratory birds are found at JBLE-Langley, and most birds near the installation are accustomed to human activity. There is no known nesting of migratory or special status birds on JBLE-Langley, and the installation actively discourages establishment of nests under its BASH Plan. Birds would be expected to be occasional, transient visitors to the installation, using existing habitat for primarily foraging or roosting. Given the amount of other quality wetlands in the region, disturbances from construction and demolition would result in negligible effects on migratory bird species that visit JBLE-Langley.

No bald eagles would be affected by the Proposed Action, as there are no bald eagle nests in the North Flightline District, and bald eagles in the area would be acclimated to current flightline activity. Golden eagles are not anticipated in the area and thus would not be affected by the Proposed Action.

Essential Fish Habitat

Under the Proposed Action, there would be no direct effects on protected marine species or EFH located near JBLE-Langley, as no in-water work would occur. However, there is potential for increased soil erosion/sedimentation during ground-disturbing construction activities, which could affect water quality of nearby surface waters. Due to their substantial distance from the shoreline, Projects 1, 2, 3, and 5 would not have any indirect effect on any marine species or the EFH within the Back River. However, Project 4 would occur approximately 350 feet away from the riprap shoreline of the Back River, at its closest point. Sea turtles, Atlantic sturgeon, and shortnose sturgeon all have potential to be present within the Back River. BMPs would be implemented, including erosion and sediment control and stormwater management, to minimize sediments from entering local surface waters including the Back River. Thus, there would be no indirect effects on marine species or EFH from sedimentation from the Proposed Action. Since there would be no direct or indirect effects on marine species or EFH from the Proposed Action, consultation with NOAA Fisheries is not required.

Conclusion

Based on the reasons described in the preceding sections, the Proposed Action is not likely to adversely affect any potentially occurring threatened, endangered, or special status species.

3.6 Land Use

The term land use refers to real property classifications that indicate either natural conditions or the types of human activity occurring on a parcel. Two main objectives of land use planning are to ensure orderly growth and compatible uses among adjacent property parcels or areas. However, there is no nationally recognized convention or uniform terminology for describing land use categories. As a result, the meanings of various land use descriptions, labels, and definitions vary among jurisdictions. Natural conditions of property can be described or categorized as unimproved, undeveloped, conservation or preservation area, and natural or scenic area. There is a wide variety of land use categories resulting from human activity. Descriptive terms often used include residential, commercial, industrial, agricultural, institutional, and recreational.

3.6.1 Regulatory Setting

The regulatory environment for land use and planning at JBLE-Langley is governed by a framework of directives, instructions, and laws that ensure sustainable development and compatibility with military operations. DoDI 4165.70 outlines policies for real property management, emphasizing the need for installations to manage their real property assets efficiently and in support of their mission. UFC 2-100-01 provides guidance on installation master planning, setting minimum requirements for processes and products in line with DoDI 4165.70, and includes strategies for sustainable planning and natural resource management. AFI 32-1015 *Integrated Installation Planning*, AFI 32-1020 *Planning and Programming Built Infrastructure*, and AFI 32-1023 *Design and Construction of Military Construction Projects* guide the development and implementation of installation planning, real property management, and military construction. These regulations form a comprehensive approach to land use that seeks to balance operational needs with environmental stewardship and community relations.

3.6.2 Affected Environment

The following discussions provide a description of the existing conditions for land use resources at JBLE-Langley. The affected environment for land use is characterized within future development plans, land use studies, INRMPs, site management plans, joint land use planning initiatives, and other planning documents. The IDP covering JBLE-Langley establishes a Framework Plan to be used for future development and land use. Framework Plans provide functional and geographic perspective for long-term development based on mission-specific requirements. These plans are intended to represent optimal arrangement of functional land use areas, planning districts, and tenant focus areas that can accommodate both existing facility and program needs and long-range development requirements. IDPs also include other land use characterizations including developable/non-developable space, land use constraints, antiterrorism and force protection (AT/FP) considerations, and air installations compatible use zones (AICUZs). JBLE-Langley has established ADPs that provide greater details about specific planning districts within the installation.

The JBLE-Langley framework plan identifies nine planning districts at the installation: Heavier-Than-Air District, Lighter-Than-Air District, Shellbank District, Flightline East District, Flightline West District, Flightline North District, North Base District, Munitions District, and Bethel Recreation District (JBLE, 2017). Within these planning districts, the IDP identifies 13 existing land use categories. The installation currently has deficits within administrative, airfield operations and vehicle maintenance, airfield pavement, community/commercial, and community service space based on desired future conditions for mission sustainment (JBLE, 2017).

Land use constraints at JBLE-Langley can be categorized as operational planning, natural planning, and built planning (JBLE, 2017). A brief summary of these constraints are as follows:

- *Operational Planning Constraints:* These constraints are related to mission activities such as flying and maintaining aircraft, storing fuel and munitions, and training. Examples at JBLE-Langley include explosive safety quantity distance arcs, munitions storage and transportation routes, airfield clearances, and antiterrorism considerations.

- *Natural Planning Constraints:* These constraints are related to natural, environmental, and cultural resources on JBLE-Langley. They can limit facility development and restrict certain mission activities. Examples of natural constraints include wetlands and floodplains, BASH, ERP sites, and threatened and endangered species.
- *Built Planning Constraints:* These constraints are related to existing development and can limit current and future missions. Examples of built constraints include historic structures and historical or archaeological sites. Additionally, the condition, functionality, or effectiveness of infrastructure systems, facilities, and other manufactured improvements can also be considered as built constraints.

A summary of the specific land use planning constraints at JBLE-Langley and their associated effects ratings are shown in Table 3-11.

Table 3-10: JBLE-Langley Land Use Planning Constraints

Operational Constraints	
Explosive Safety Zones	Minor
Airfield Clearances and AICUZ	Minor
Antiterrorism	Minor
Training Lands	No Constraint
Natural Constraints	
Wetlands and Floodplains	Major
Bird/Wildlife Aircraft Strike Hazard	Minor
Environmental Restoration Program	Minor
Threatened and Endangered Species	No Constraint
Soils and Geology	No Constraint
Topography and Physiography	No Constraint
Built Constraints	
Historic Structures	Minor
Historical/Archaeological Sites	Minor

Source: (JBLE, 2017)

AT/FP requirements at JBLE-Langley are also considerations for land use planning and development. Road and parking lot setback requirements for existing facilities at JBLE-Langley cover approximately 267 acres, or 9.2 percent of the installation (JBLE, 2017). Restricted-access facilities at JBLE-Langley must comply with additional security requirements and ensure adjacent developments do not compromise their operations.

The North Flightline District at JBLE-Langley is largely undeveloped and covers approximately 711 acres between the runway and Lee Road, Weyland Bypass, LTA Bypass, and Ward Road. Development is limited in this district due to operational and natural constraints, with only 95.6 acres (13 percent) designated as "developable" within the IDP. There is limited connectivity between the North Flightline District and other areas of the installation and adjacent population centers (JBLE, 2017).

The neighboring communities adjacent to JBLE-Langley include the NASA Langley Research Center (NASA LaRC), City of Hampton, Newport News, Poquoson, and York County. The predominate external land uses within these areas include residential, industrial, public/semi public lands, conservation, and open space. Land uses at the NASA LaRC include research and development labs, office buildings, and industrial areas for aircraft

storage and maintenance (City of Hampton, 2010). Table 3-12 provides a summary of the predominate land uses within a 5-mile radius of JBLE-Langley.

The Hampton-Langley Joint Land Use Study (JLUS) highlights several land use compatibility factors associated with JBLE-Langley operations and the surrounding communities. These factors include existing incompatible land development within aircraft and runway safety zones, noise, light, and glare effects from aircraft operations, vertical obstructions, and AT/FP standoff requirements (City of Hampton, 2010).

The DoD's AICUZ program assesses airfield operations at military bases to ensure public health and safety with noise and risks from aircraft activities. The methodology identifies zones with varying accident potentials: the clear zone, accident potential zone I, and accident potential zone II, with the majority of accidents occurring on the runway or in the clear zone (City of Hampton, 2010). The Hampton-Langley JLUS recommends land use restrictions in these zones to minimize risks to people, with the clear zone requiring particular attention due to a higher chance of accidents (City of Hampton, 2010).

Table 3-11: Adjacent Land Uses Surrounding JBLE-Langley

Land Use Classification	*Within 1 Mile Acres/Percent*		*Within 3 Miles Acres/Percent*		*Within 5 Miles Acres/Percent*	
Residential	840	11%	4,046	15%	6,000	13%
Low-Density Residential	658	9%	4,660	18%	11,447	25%
Medium-Density Residential	18	< 1%	641	2%	1,367	3%
High-Density Residential	131	2%	737	3%	1,342	3%
Commercial / Office	53	< 1%	535	2%	866	2%
Light Industrial	671	9%	1,140	4%	1,729	4%
Heavy Industrial	0	0%	0	0%	36	< 1%
Mixed Use	10	< 1%	1,200	5%	1,449	3%
Public / Semi-Public	347	5%	1,705	7%	3,713	8%
Military[1]	3,661	49%	3,909	14%	4,208	9%
Agriculture	0	0%	18	<1%	176	< 1%
Conservation	242	3%	3,501	13%	5,384	12%
Open Space	162	2%	586	2%	1,900	4%

Source: (City of Hampton, 2010); [1]Land use classification includes JBLE-Langley and NASA LaRC

Table 3-13 shows land use compatibility within the communities surrounding the installation. Overall, incompatible land use acreage surrounding JBLE-Langley has decreased as compared to prior years and the installation is exceeding current strategic goals (JBLE, 2017). Table 3-13 summarizes land use encroachment at JBLE-Langley within the clear zones and accident potential zones.

JBLE-Langley is bounded on the east by the Back River and Chesapeake Bay, both publicly accessible and heavily used navigable waterways. The surrounding waters support public transportation ferries, cruise lines, recreational boating, and recreational and commercial fishing. The Proposed Action would not be expected to affect access or navigability of public waterways adjacent to the installation; therefore, public waterways are not discussed further.

Table 3-12: Land Use Compatibility at JBLE-Langley

Category Description	*Indicator*	*Current Compatibility*	*Additional Information*
Encroachment	Acres in clear zones	413 total acres; 33 incompatible acres	7.99% incompatibility
Encroachment	Acres in accident potential zones	2,066 total acres; 721 incompatible acres	34.89% incompatibility
Encroachment	Total Acres	2,479 total acres; 754 incompatible acres	30.42% incompatibility
Urban Sprawl	Percent land urbanization within 20-mile radius of installation	24.92%	—
Urban Sprawl	10-year percent change in regional population growth	-6.18%	—

Source: (JBLE, 2017)

3.6.3 Environmental Consequences

This section examines the potential environmental consequences on land use, both on and off the installation, including aspects such as zoning, land use compatibility, and current and future land use patterns. It evaluates the effects of implementing the alternatives by considering whether they would alter existing land use designations, affect the compatibility of adjacent land uses, or influence planned future developments.

3.6.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur and there would be no change to existing land use. Therefore, no significant effects on land use and land use compatibility would occur with implementation of the No Action Alternative and existing land use compatibility issues would persist.

3.6.3.2 Proposed Action

The projects evaluated in this EA are included in the North Flightline ADP. The ADP addresses areas of future development in the North Flightline District and projects proposed meet known mission needs over the next 20 years. Consequently, existing and future land uses in the North Flightline District were considered during the ADP development. Overall, the strategic relocation of certain operations to more appropriate land uses is expected to enhance land use compatibility at JBLE-Langley.

Projects 1 and 5 are contingent upon off-base land acquisition and zoning adjustments with the City of Hampton. This consists of 57.75 acres of land west of the runway and flightline. Project 1 would be constructed in an undeveloped area that is covered with trees. The surrounding land use is mixed and includes residences, commercial, institutional, industrial, and military. Future land use is categorized as industrial. There is a privately owned self-storage facility and residences directly adjacent to the Project 1 site that could be affected. This area is in close proximity to major highways, is within the 75–79 A-weighted decibel (dBA) Day-Night Average Sound Level (DNL) noise contours from aircraft operations at JBLE-Langley and is near the Larry King Law's Langley Speedway. Consequently, this area is in an urban setting accustomed to high noise levels and traffic. Before choosing a new site for Project 1, the installation worked closely with the City of Hampton to find a suitable location to relocate the gate and purchase additional land. The City of Hampton has supported this location, it is consistent with their land use plans, and it would alleviate existing land use compatibility issues identified within the Hampton-Langley JLUS. These changes would have minor adverse effects on surrounding land uses,

including increased noise and vehicle trips during the construction phases. Changes to existing land use at the site of the privately-owned self-storage facility and residences could result in short and long-term adverse effects, depending on the exact boundaries and mechanisms for acquisitions. Long-term effects on the adjacent lands could include additional noise and traffic congestion from the vehicles accessing the new gate. Engagement with local communities and proper planning could minimize potential conflicts and enhance compatibility with surrounding land uses.

Within the installation, the Armistead Gate is located within the clear zone and does not meet entry point security or airfield security criteria. There are 18 active waivers and 9 exemptions in the airfield as a result of these violations. Moving the Armistead Gate and the roads out of the clear zone would result in beneficial effects on land use compatibility.

Under Project 2, logistics facilities would be consolidated in the North Flightline District. Currently, fleet vehicle maintenance facilities are in the Shellbank District, and other transportation operations are dispersed throughout the installation. The current fleet vehicle facility is adjacent to dormitories and administration buildings, which are not compatible with transportation land uses. Buildings 26, 27, 28, 30, 31, and 32 and an existing parking area in the Shellbank District would be demolished, allowing for growth in commercial services in that region, which are compatible with the adjacent land uses. The proposed consolidated logistics compound would be built in the North Flightline District in an industrial area next to the proposed consolidated civil engineering compound, which is a compatible land use. In addition, a consolidated compound would make transportation operations more efficient. As a result, the implementation of Project 2 would result in beneficial effects on land use.

The existing civil engineering headquarters, operations, and administration buildings are located in both the South Flightline District and North Flightline District. The headquarters and some shops are located on the flightline in the South Flightline District. Removing the civil engineering buildings on the flightline opens up this space for related operational mission land uses, which is a more compatible use of space. Under Project 3, Buildings 328, 1334, 1349, and 1352 would be demolished. These buildings have been used for industrial storage and administrative uses by the 633d Civil Engineering Squadron. These buildings would be consolidated and replaced under Project 3.

Projects 2 and 3 would result in an overall reduction of open space, outdoor recreation opportunities, and development potential within the North Flightline District. In addition, these projects would introduce new AT/FP constraints associated with the new facilities, limiting space for future development. However, these projects would improve overall land use efficiency within JBLE-Langley, aligning operational needs with appropriate environmental and community considerations.

Project 4, raising the runway above the flood elevation, would result in a reduction of adverse operational effects from frequent flooding. Project 5, rerouting roads outside of the clear zone, would alleviate existing incompatible land uses associated with the airfield clear zone. Projects 4 and 5 would result in beneficial effects on land use compatibility.

While benefiting long-term land use compatibility for JBLE-Langley and the City of Hampton, land acquisitions associated with Project 1 and Project 5 would require changes in existing residential and commercial land uses. The privately owned Sulik Mobile Home Park in the vicinity of North Armistead Avenue and Potter Lane includes an estimated 60 residences that could be adversely affected by the Proposed Action. Figure 2-2 shows a proposed fence going through this mobile home park. Project 1 would include acquisition of lands to include the site of the privately-owned self-storage on North Armistead Avenue. The property owners and tenants that could be adversely affected by the Proposed Action have been notified. Engagement with these affected communities and proper planning would minimize potential adverse effects associated with the land acquisition and subsequent change in land use.

Overall, the Proposed Action would be consistent with existing land use plans for the installation and would increase land use compatibility between the installation and neighboring communities. Minor, short-term, adverse effects on land use compatibility would likely be expected during demolition and construction activities due to increased traffic, noise, and air quality; these effects are analyzed in more detail in other sections of this EA. Long-term effects from Project 1 could include additional noise and traffic congestion from the vehicles accessing the new gate, but these effects are not expected to be significant. Long-term effects resulting from the land acquisition associated with Project 1 and Project 5 would be adverse but could be minimized through community engagement and proper planning by the City of Hampton.

3.7 Noise

This discussion of noise includes the types or sources of noise and the associated sensitive receptors in the human and biological environment.

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air or water, and are sensed by the human ear. Sound is all around us. The perception and evaluation of sound involves three basic physical characteristics:

- Intensity—the acoustic energy, which is expressed in terms of sound pressure, in decibels (dB)
- Frequency—the number of cycles per second the air vibrates, in Hertz
- Duration—the length of time the sound can be detected

Noise is defined as unwanted or annoying sound that interferes with or disrupts normal human activities. Although continuous and extended exposure to high noise levels (e.g., through occupational exposure) can cause hearing loss, the principal human response to noise is annoyance. The response of different individuals to similar noise events is diverse and is influenced by the type of noise, perceived importance of the noise, its appropriateness in the setting, time of day, type of activity during which the noise occurs, and sensitivity of the individual.

3.7.1 Regulatory Setting

The loudest sounds that can be detected comfortably by the human ear have intensities that are a trillion times higher than those of sounds that can barely be detected. This vast range means that using a linear scale to represent sound intensity is not feasible. The dB is a logarithmic unit used to represent the intensity of a sound, also referred to as the sound level. All sounds have a spectral content, which means their magnitude or level changes with frequency, where frequency is measured in cycles per second or Hertz. To mimic the human ear's non-linear sensitivity and perception of different frequencies of sound, the spectral content is weighted. For example, environmental noise measurements are usually on an "A-weighted" scale that filters out very low and very high frequencies to replicate human sensitivity. It is common to add the "A" to the measurement unit to identify that the measurement has been made with this filtering process (i.e., dBA). In this document, the dB unit refers to A-weighted sound levels. Table 3-14 provides a comparison of how the human ear perceives changes in loudness on the logarithmic scale.

Figure 3-6 provides a chart of A-weighted sound levels from typical noise sources. Some noise sources (e.g., air conditioner, vacuum cleaner) are continuous sounds that maintain a constant sound level for some period (Cowan, 1994). Other sources (e.g., automobile, heavy truck) are the maximum sound produced during an event like a vehicle pass-by. Other sounds (e.g., urban daytime, urban nighttime) are averages taken over extended periods of time. A variety of noise metrics have been developed to describe noise over different time periods, as discussed in the following text.

Table 3-13: Subjective Responses to Changes in A-Weighted Decibels

Change	*Change in Perceived Loudness*
3 dB	Barely perceptible
5 dB	Quite noticeable
10 dB	Dramatic—twice or half as loud
20 dB	Striking—fourfold change

Key: dB = decibel

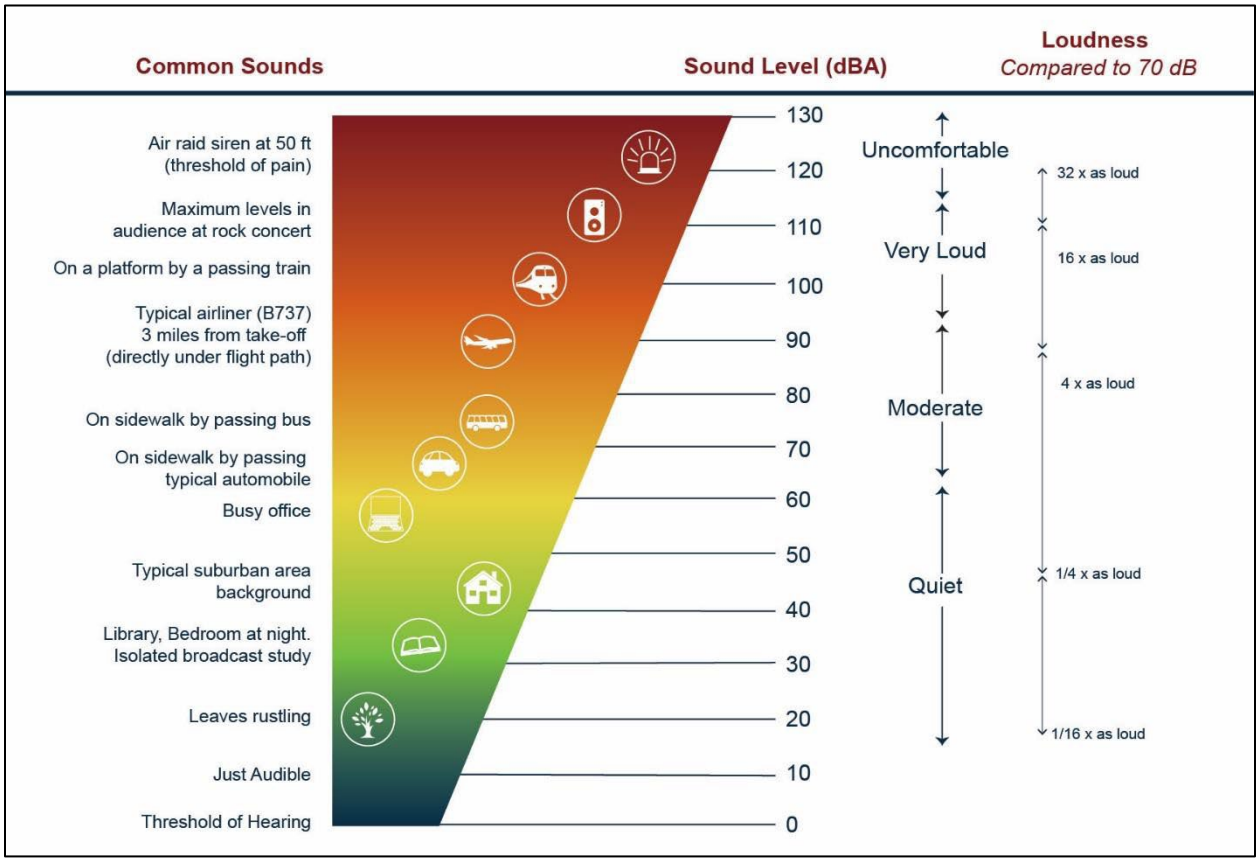

Figure 3-6: A-Weighted Sound Levels from Typical Sources

Noise Metrics

A metric is a system for measuring or quantifying a characteristic of a subject. Because noise is a complex physical phenomenon, different noise metrics help to quantify the noise environment. The noise metrics used in this EA are described in summary format in this section and in a more detailed manner in Appendix C

Day-Night Average Sound Level (DNL)

DNL is defined as the average sound energy in a 24-hour period with an adjustment (in decibels) added to nighttime noise events occurring between the hours of 10:00 p.m. and 7:00 a.m. DNL provides a measure of the overall acoustical environment, but it does not directly represent the sound level at any given time. It is an average quantity mathematically representing the continuous A-weighted sound level that would be present if all the variations in sound level that occur over a 24-hour period were smoothed out to contain the same total sound energy. DNL accounts for the maximum noise levels, the duration of the events (operations), the number of

events, and the timing of their occurrence over a 24-hour period. DNL contours are based on the average annual day and averaged over 365 days for long-term compatible land use planning.

Maximum Sound Level

The highest A-weighted sound level measured during a single event where the sound level changes value with time is called the maximum A-weighted sound level or Lmax. This is the highest sound level within a stated time interval. The time interval is typically the duration of the noise event.

3.7.2 Affected Environment

The main sources of noise at JBLE-Langley are from military aircraft operations, weapons systems, and munitions. Flight operations at JBLE-Langley are conducted by aircraft and helicopters. About 83 percent of flights occur during the day from 7:00 a.m. to 10:00 p.m. while the remaining 17 percent occur from 10:00 p.m. to 7:00 a.m. AICUZ noise contours, including 65, 70, 75, 80, and 85+ dBA DNL, extend from the installation onto the Back River to the west, the City of Poquoson to the north, and the City of Hampton to the east and the south. Within the 65–69 dBA DNL noise contours, there are approximately 7,000 people; within the 70–74 dBA DNL noise contours there are approximately 4,900 people; within the 75–79 dBA DNL noise contours there are approximately 1,080 people, and within the 80–84 dBA DNL noise contours there are approximately 175 people (JBLE, 2020a).

Table 3-15 shows typical sound levels for various types of residential land uses. Urban/noisy suburban areas have sound levels at 55 dBA during the daytime and 49 dBA during nighttime hours. Normal suburban areas are 50 dBA during the day and 44 dBA at night. Populations adjacent to the installation would be accustomed to noise levels from aircraft operations that would fluctuate; the ambient noise environment would likely be considered very noisy urban.

Table 3-14: Typical Residential Sound Levels

Residential Land Use	*Daytime Sound Level*	*Nighttime Sound Level*
Very Noisy Urban	66 dBA	58 dBA
Noisy Urban	61 dBA	54 dBA
Urban/Noisy Suburban	55 dBA	49 dBA
Quiet Urban/Normal Suburban	50 dBA	44 dBA
Quiet Suburban	45 dBA	39 dBA
Very Quiet Suburban/Rural	40 dBA	34 dBA

(ANSI/ASA, 2013)
Key: dBA = A-weighted decibels

3.7.3 Environmental Consequences

Analysis of potential noise effects includes estimating noise levels from the Proposed Action and determining potential effects on sensitive receptor sites. Effects on the noise environment would be significant if the Proposed Action would change the existing noise environment such that it increases exposure to unacceptable noise levels.

3.7.3.1 No Action Alternative

The Proposed Action would not occur under the No Action Alternative and noise levels would remain the same as existing conditions. The noise environment under the No Action Alternative would continue to be affected by noise sources like military aircraft operations, weapons systems, and munitions. Therefore, no significant effects on the noise environment would occur under the No Action Alternative.

3.7.3.2 Proposed Action

The study area for noise effects includes the project sites and surrounding areas. Short-term effects from the Proposed Action would include intermittent noise from demolition and construction activities. Noise levels from these activities would diminish with distance from the project sites. Table 3-16 lists typical noise levels at 50 feet from the source of heavy equipment that could be used during the proposed demolition and construction activities.

Project 1 is located west of the flightline, adjacent to Armistead Avenue North, and within the 75–79 dBA DNL noise contours. It would be the closest site to a noise sensitive area located outside of the installation, approximately 50 feet southeast of the Langley Mobile Home Village. A new road to facilitate large vehicle traffic would extend along Armistead Avenue and the eastern boundary of the mobile home village. Project 1 would also run along North Armistead Avenue, approximately 300 feet south of Les Hommes Civic and Social Club. Other than the Langley Mobile Home Village and roadways, trees surround the Project 1 site in each direction.

The demolition aspect of Projects 2 and 3 are within the industrial land use areas of the installation, which are not considered noise sensitive. The proposed construction site of Projects 2 and 3 are within an outdoor recreation area of the installation, across the Eaglewood Golf Course, on the south side of Weyland Road. Projects 2 and 3 are within the 75–79 dBA DNL noise contours.

Projects 4 and 5 are within the airfield of JBLE-Langley and within the 85+ dBA DNL noise contours. Project 4 would affect aircraft operations during the construction period, which could result in reduced flights and decreased noise levels beneath flight paths and near the runway. This effect, however, would be short-term.

As shown in Table 3-16, the maximum noise (Lmax) from construction equipment and trucks can range from 74 dBA to 90 dBA at 50 feet. Most of the equipment used would generate intermittent noise levels in the 80 dBA range during the duration of their use, which would be confined to daytime hours. The closest noise sensitive receptor is the Langley Mobile Home Village. Given the anticipated noise levels, construction at 40 feet would range from 76 dBA to 92 dBA (see Appendix C, Noise Calculations). Populations at Langley Mobile Home Village could experience effects from increased noise levels during the construction period from Project 1; however, these effects would be short-term and existing trees surrounding the project site would provide a buffer. Additionally, this area outside the installation already experiences noise from military aircraft operations, weapons systems, and munitions at JBLE-Langley. The Langley Mobile Home Village is within the 75–79 dBA DNL from aircraft operations and is therefore accustomed to fluctuations in noise levels during the day. Short-term effects would occur on the noise environment from construction with the implementation of the Proposed Action, but these effects would not be significant.

The Langley Mobile Home Village is the closest off-installation noise sensitive receptor and would be situated adjacent to the Project 1 site. New roadways would be constructed approximately 50 feet from the residences of the Langley Mobile Home Village to facilitate large vehicle and truck access to the LVIS. Vehicles already traverse a road to access the existing JBLE-Langley LVIS, so there would not likely be a notable increase in the number of large vehicles along this roadway. The Commander Shepard Blvd./Armistead Avenue North is a primary state highway with four lanes that is a main route to the installation and the associated facilities. The mobile home village is adjacent to this highway and within the 75–79 dBA DNL noise contours from aircraft operations at JBLE-Langley. In addition, the Larry King Law's Langley Speedway is north of the mobile home village. Consequently, residents are already accustomed to noise from vehicle and aircraft operations. The Les Hommes Civic and Social Club is on NASA Drive, approximately 300 feet from the Project 1 site. Depending on the amount of traffic at a given time, populations at this club would be exposed to noise from vehicles at the proposed gate access roads. However, noise levels diminish with distance from the source and a tree buffer would likely remain between the proposed gate and the Les Hommes Civic and Social Club. Overall, populations adjacent to the proposed North Gate and joint LVIS would be exposed to increased noise levels from vehicle traffic. However, these populations are already accustomed to noise from vehicle and aircraft operations in the

region. In addition, the proposed gate would conform to criteria established in the Air Force Corporate Facilities Standard, Installation Facilities Standards, and would employ the standard facility design for ACP facilities. Projects 2 and 3 consist of consolidating existing operations. These projects would not introduce different types of operations or equipment within JBLE-Langley and would not result in a change to the ambient noise environment.

Table 3-15: Construction Equipment Noise Emission Levels

Equipment	*Typical Noise Level (dBA) 50 feet from Source*
Air compressor	81
Backhoe	80
Compactor	82
Concrete mixer	85
Concrete pump	82
Crane	88
Dozer	85
Generator	81
Grader	85
Impact wrench	85
Jack hammer	88
Loader	85
Paver	89
Pump	76
Rail saw	90
Roller	74
Saw	76
Scarifier	83
Scraper	89
Shovel	82
Spike driver	77
Tie cutter	84
Tie inserter	85
Truck	88

Source: (Federal Transit Administration., 2006).
Key: dBA = A-weighted decibels.
Note: Table based on a USEPA Report, which measured data from railroad construction equipment taken during the Northeast Corridor Improvement Project, and other measured data.

Under Project 4, the runway would be elevated in the same location as the existing runway. Therefore, during the construction phase, the runway would be closed and aircraft operations would occur at other airfields. Noise from the current aircraft operations at JBLE-Langley would be present at the new airfields while construction was ongoing. Once construction was complete, and the runway was raised, aircraft Instrument Approach Procedures might be modified slightly. However, because the runway would remain in the same location, it is not anticipated that the basic arrival and departure patterns would change.

Under Project 5, the perimeter road would be rerouted outside of the clear zone. The area immediately adjacent to the clear zone consists of undeveloped land and some commercial establishments. These land uses are not considered noise sensitive and are within the 80–84 dBA DNL contour. Noise from vehicle traffic on the perimeter road would not affect these populations.

Overall, short-term noise levels would increase due to additional traffic from construction trucks and equipment. Long-term changes in local traffic patterns from the proposed North Gate and LVIS would shift noise levels to a different region outside of the installation. However, the affected areas currently experience high levels of noise from adjacent roadways, aircraft operations, and a local speedway; therefore, the Proposed Action is not expected to contribute a notable increase in noise levels as compared to the ambient environment. Therefore, the Proposed Action would not result in a significant effect on noise.

3.8 Infrastructure

3.8.1 Regulatory Setting

The regulatory framework for infrastructure at JBLE-Langley is governed by a series of instructions and strategies that ensure the development, management, and modernization of military facilities align with established standards and objectives. AFI 32-1015, *Integrated Installation Planning* provides the overarching guidance for installation planning, emphasizing resilience and adaptation to environmental challenges.

3.8.2 Affected Environment

The following discussions provide a description of the existing conditions and capacity for each of the categories of infrastructure at JBLE-Langley, including electrical, potable water, wastewater collection and treatment, stormwater collection and discharge, natural gas, and telecommunications. Overall, existing utility infrastructure on JBLE-Langley is adequate to meet current mission demands, though condition ratings range from adequate to degraded, and some systems would benefit from repairs and upgrades (JBLE, 2017).

3.8.2.1 Electrical

Electrical service at JBLE-Langley is provided by Dominion Energy Virginia, which owns and maintains 34.5 kilovolt lines, switch gear, and transformers (JBLE, 2017). Multiple feed lines provide redundancy to the installation, and backup generators provide electricity to critical systems at the installation during outages (City of Hampton, 2018). Total electricity supply capacity for the installation is approximately 80 mega-volt amperes, with 24 mega-volt amperes available through additional auxiliary generator capacity. Peak demand on the electrical supply system is 33 mega-volt amperes. Overall, the electrical infrastructure at JBLE-Langley has a capacity rating of "adequate" and a condition rating of "degraded." Known issues with infrastructure include code violations at multiple substations and limited opportunities for solar and wind development (JBLE, 2017).

3.8.2.2 Potable Water

Potable water for the installation is supplied by Newport News Waterworks, which owns and maintains the potable water supply infrastructure at the installation (JBLE, 2017). A separate water connection provides backup water supplies to on-base fire protection systems, but past instances of water freezing within the above-ground portions of the line are a known concern (City of Hampton, 2018). Three water storage tanks at the installation provide a total of 2.6 million gallons of storage capacity (JBLE, 2017). Average potable water demand is 0.49 million gallons per day (mgpd) with peak demand nearing 0.90 mgpd. Capacity of the system is 0.50–0.90 mgpd with an additional 2.6 mgpd available for fire suppression (JBLE, 2017). The capacity for potable water at JBLE-Langley is rated as "adequate" and a condition rating as "degraded." Known issues include inadequate backflow prevention, deteriorating cast iron piping, and lack of automated controls (JBLE, 2017). Based on historical data, water usage, and employee population at JBLE-Langley, potable water usage is approximately 25.5 gallons per

person per day at the installation. This metric is a recommended indicator for water usage effects caused by increases or decreases in the base population (JBLE, 2017).

3.8.2.3 Wastewater

The wastewater sewer system at JBLE-Langley is composed of 95,000 linear feet of concrete, clay, and polyvinyl chloride (PVC) pipe, with 65 lift stations, and maintained by the 633d Civil Engineer Squadron. Wastewater is transferred off base to the Hampton Roads Sanitation District and treated at the York River Wastewater Treatment Facility (JBLE, 2017). No wastewater treatment occurs on base. Wastewater capacity at JBLE-Langley is approximately 792,000 gallons per day with a current average/peak demand of 492,000/741,000 gallons per day. Overall, wastewater infrastructure at the installation has a capacity rating of "adequate" and a condition rating of "degraded," with known issues relating to aging piping, pump stations, and connections to storm drain systems (JBLE, 2017). Groundwater and saltwater intrusions into older lines within the system is also a concern at JBLE-Langley (JBLE, 2017).

3.8.2.4 Stormwater

The affected environment for stormwater infrastructure would include JBLE-Langley, NASA LaRC, and the City of Hampton. Potentially affected stormwater infrastructure was inventoried and evaluated through a joint effort between the 633d Civil Engineer Squadron and the City of Hampton (Kimley-Horn, 2022).

Stormwater infrastructure at JBLE-Langley consists of concrete and terracotta piping, drainage ditches, and 118 outfalls along the Back River and its tributaries (JBLE-Langley, 2022a). The installation's low-lying elevation and proximity to the coast creates problems for the stormwater system through wind- and tide-driven storm surges, with frequent flooding and ponding throughout the installation regularly occurring after storms. Aging infrastructure, replacement of terracotta piping, and the need for additional low-impact development at the installation are known issues with the stormwater system. Overall, stormwater collection and discharge infrastructure on the installation is rated as "adequate" for condition and capacity (JBLE, 2017).

Potentially affected stormwater infrastructure associated with the NASA LaRC consist of 28 inlets, 12 outfalls, ditches, and a network of underground stormwater pipes draining into the Southwest Branch Back River. The stormwater infrastructure inventory noted that the majority of the underground piping was 12 inches or less, with larger diameter main lines (Kimley-Horn, 2022).

The existing City of Hampton stormwater infrastructure at the site of the proposed North Gate and LVIS, consisting of trunklines, culverts, and shallow ditches, is inadequate for major storm events, leading to high ponding and flooding within the surrounding areas, particularly along North Armistead Avenue and Commander Shepard Boulevard (Kimley-Horn, 2022). Stormwater runoff at the site flows southeast towards NASA LaRC and southwest towards Langley AFB, draining 126 acres and 286 acres, respectively, through culverts (Kimley-Horn, 2022). To the west of the proposed North Gate and LVIS site, drainage mainly consists of culverts and large trapezoidal ditches, most of which drain into a large ditch along Commander Shepard Boulevard. This ditch had additional storage capacity but did not effectively drain southwest, with only one culvert under Commander Shepard Boulevard connecting it to the rest of the watershed (Kimley-Horn, 2022).

3.8.2.5 Natural Gas

Natural gas service at JBLE-Langley is provided by Virginia Natural Gas, which owns and maintains approximately 87,000 linear feet of underground pipeline infrastructure to service the JBLE-Langley main base (JBLE, 2017). Average demand for the installation is 43,500 cubic feet per hour, representing approximately 0.0004 percent of Virginia Natural Gas's 9.5 billon cubic feet storage capacity and 0.0021 percent of total transmission capacity (API, 2017). Overall, capacity and condition of the natural gas infrastructure at JBLE-Langley are rated as "adequate" (JBLE, 2017).

3.8.2.6 Telecommunications/Data

Telecommunications and data services are provided to JBLE-Langley through several commercial vendors via both land- and air-based systems that include multiple redundancies and backup power systems (City of Hampton, 2010). Data capacity and speeds are ongoing problems within some buildings at JBLE-Langley and expansion of existing infrastructure would likely be required for additional development of the installation's northside and residential areas to meet capacity demands. Heating, ventilation, and air conditioning improvements would also likely be required for network upgrades within several facilities. Overall, telecommunications and data network infrastructure are rated as "degraded" capacity and condition (JBLE, 2017).

3.8.3 Environmental Consequences

This section analyzes the magnitude of anticipated increases or decreases in public works infrastructure demands considering current condition ratings and storage capacities, and it evaluates potential effects on public works infrastructure associated with implementation of the Proposed Action. Effects are evaluated by whether they would result in the use of a substantial proportion of the remaining system capacity, reach or exceed the current capacity of the system, or require development of facilities and sources beyond those existing or currently planned.

3.8.3.1 No Action Alternative

Under the No Action Alternative, none of the five proposed short-, mid-, and long-term projects would occur. There would be no effects on existing infrastructure on JBLE-Langley.

3.8.3.2 Proposed Action

Under the Proposed Action, short-term, minor effects on infrastructure would be expected during demolition and construction activities to include temporary disruptions in utility services. These disruptions would be planned and coordinated to avoid major effects on mission-essential functions or activities. There would be no change in the installation workforce under the Proposed Action, so any increases in infrastructure demand would be associated with new built facilities on the installation.

Electrical

During construction and demolition activities, there could be temporary disruptions in the electrical service as infrastructure is relocated or upgraded to accommodate new facilities. Electrical demand for new facilities and operations is expected to be within the current capacity. However, some of the electrical infrastructure is already in a degraded state and in need of upgrades. The proposed facilities would incorporate design elements aimed at energy efficiency, minimizing the overall increase in electrical demand. New electrical infrastructure installed within the North Flightline District as part of the Proposed Action would increase future development potential within the northern portion of the installation and improve the overall condition of associated infrastructure. Therefore, the Proposed Action would result in long-term minor effects on electrical infrastructure.

Potable Water

During construction and demolition activities there could be temporary and minor disruptions to the water supplies as new buildings are connected and old structures are demolished. Modern facility design and efficiency standards including low-flow fixtures, more efficient plumbing systems, and smart water management technologies would likely be incorporated into the new infrastructure. The current capacity of potable water infrastructure would be adequate to meet the current demands on the system. Therefore, the Proposed Action would result in long-term, minor effects on potable water.

Wastewater

Given that there would not be an increase in personnel and the new facilities are a consolidation of existing facilities, wastewater generation is not expected to change as a result of the Proposed Action. However, existing wastewater condition issues could exacerbate in the future without capitalization and modernization. Currently, peak demand on wastewater infrastructure represents approximately 93 percent of capacity, leaving little headroom for future demand. New facilities included in the Proposed Action would include modern design and efficiency standards that would likely reduce the overall wastewater demand when netted against the facilities planned for consolidation and replacement. Current wastewater infrastructure capacity is adequate to handle this demand. Overall, the Proposed Action would result in long-term, minor effects in wastewater demand.

Stormwater

Construction and demolition activities would likely result in short term, temporary effects on stormwater infrastructure within the vicinity of project sites. Disturbed and exposed soils during construction and demolition could lead to an increase in sedimentation during precipitation events, resulting in overwhelmed storm drains and reduced runoff capture capacity. Additionally, heavy equipment used at project sites can compact soils, reducing their ability to absorb water, increasing the volume of runoff that must be managed by stormwater systems. These effects on stormwater infrastructure would be minimized through the implementation of required stormwater BMPs and erosion and sediment control plans and would be short-term.

In the long term, the proposed North Gate and LVIS (Project 1) would convert forested areas to impervious surfaces (see Table 3-5 and Section 3.5.3.2, *Vegetation,* of this EA, for further detail). These areas are located upstream of stormwater infrastructure that drains into the NASA LaRC and JBLE-Langley stormwater systems. This landcover change has the potential to increase surface water runoff into the NASA Langley stormwater system, potentially impacting flight operations. To minimize effects to stormwater infrastructure capacity as a result of Project 1, the JBLE-Langley Stormwater and Environmental Due Diligence assessment (Kimley-Horn, 2022) recommends several courses of action and mitigation measures. Recommended mitigation includes the installation of stormwater backflow preventers, construction of a floodwall, a flood gate and pumpstation, stormwater infrastructure upgrades, and underground storage detention at the site of the proposed North Gate and LVIS, along with upgraded stormwater infrastructure to include underground storage detention on NASA LaRC property. Assuming appropriate mitigation measures are incorporated into the final designs for the North Gate and LVIS project and continuous coordination between JBLE-Langley, NASA, and the City of Hampton, no significant effects to stormwater capacity would be expected.

Overall, increases in stormwater demand from the Proposed Action would be minimized through stormwater management and control elements incorporated into the design of planned facilities. Incorporating low impact design features would improve overall stormwater capacity, offsetting any effects associated with increased impervious surfaces. As a result, the Proposed Action would likely improve current stormwater infrastructure condition and capacity within the North Flightline District and surrounding areas.

Natural Gas

Construction and demolition activities can temporarily disrupt natural gas service during connections for new facilities. Major disruptions in service would be avoided through coordination to minimize effects on mission-essential activities and services. The existing natural gas infrastructure is adequate to handle the current demand. Overall, the Proposed Action would result in minor effects on natural gas.

Telecommunications/Data

Similar to other categories of infrastructure, land-based telecommunications and data networks could experience short-term, minor disruptions due to demolition and construction activities. Air-based infrastructure would be expected to be immune from most of these effects. Long-term effects would be largely beneficial as the proposed

facilities and associated utilities would be raised out of the floodplains and better suited to house local telecommunications and data equipment, eliminating many of the issues with degraded communications networks in other areas of the installation. This would be in alignment with recommendations for resiliency as proposed by the *Hampton-Langley Air Force Base Joint Land Use Study Addendum: Resiliency and Adaptation* (City of Hampton, 2018).

Overall, effects on infrastructure at JBLE-Langley under the Proposed Action would result in short-term, minor disruptions in utility services on an intermittent basis as construction and demolition occurs. The Proposed Action would have long-term benefits from the incorporation of water and energy efficiency standards. The infrastructure demand from the Proposed Action would have long-term, minor effects on the overall infrastructure capacities on the installation, adding additional stress to aging systems already in need of upgrades. However, no significant effects on infrastructure are expected.

3.9 Public Health and Safety

A safe environment is one in which there is no, or an optimally reduced, potential for death, serious bodily injury or illness, or property damage. Human health and safety address workers' and public health and safety during and following construction, demolition, and training activities.

Site safety requires adherence to regulatory requirements imposed for the benefit of employees and the public. Site safety includes implementation of engineering and administrative practices that aim to reduce risks of illness, injury, death, and property damage. The health and safety of on-site military and civilian workers are safeguarded by numerous DoD and military branch-specific requirements designed to comply with standards issued by the Occupational Safety and Health Administration (OSHA), USEPA, and state occupational safety and health agencies. These standards specify health and safety requirements, the amount and type of training required for workers, the use of personal protective equipment (PPE), administrative controls, engineering controls, and permissible exposure limits for workplace stressors.

3.9.1 Regulatory Setting

With the Occupational Safety and Health Act of 1970, Congress created OSHA to ensure safe and healthful working conditions for workers by setting and enforcing standards and by providing training, outreach, education, and assistance. Under the Occupational Safety and Health Act, employers have the responsibility to provide a safe workplace. Pertinent regulations cover potential exposure to a wide range of chemical, physical, and biological hazards as well as ergonomic stressors. The regulations are designed to control these hazards by eliminating exposure to the hazards via administrative or engineering controls, substitution, or use of PPE. Occupational health and safety are the responsibility of the employer, as applicable. Employer responsibilities are to review potentially hazardous workplace conditions; monitor exposure to workplace chemical (e.g., asbestos, lead, hazardous substances), physical (e.g., noise propagation, falls), and biological (e.g., infectious waste, wildlife, poisonous plants) agents, and ergonomic stressors; recommend and evaluate controls (e.g., prevention, administrative, engineering, PPE) to ensure exposure to personnel is eliminated or adequately controlled; and ensure a medical surveillance program is in place to perform occupational health physicals for those workers subject to the use of respiratory protection or engaged in hazardous waste, asbestos, lead, or other work requiring medical monitoring.

Furthermore, each branch of the military has its own policies and regulations that act to protect its workers, despite their work location. Air Force Policy Directive 91-2, *Safety Programs*, and parts of Title 29 CFR, Chapter XVII, *Occupational Safety and Health Administration, Department of Labor*, implement Air Force Manual 91-203, *The U.S. Air Force Occupational Safety, Fire, and Health Standards*, which defines the Air Force's minimum safety, fire protection and occupational health standards, including additional requirements not addressed by OSHA standards. While Air Force Manual 91-203 is maintained by Air Force Safety, it is a

collaborative publication authored by subject matter experts from Air Force Fire Protection, Air Force Bioenvironmental Engineering, and other agencies across the force.

3.9.2 Affected Environment

JBLE-Langley has its own on-installation police force, the 633d Security Forces Squadron. They are charged with providing community police services, conducting investigations, providing anti-terrorism activities, and operating the visitor control center. There is also the 633d Air Base Wing Safety Office, whose mission is to safeguard airmen, soldiers, guardians, and civilians while protecting resources and preserving missing capabilities. This office focuses on both occupational safety and weapons safety on the installation. Fire services are provided by the JBLE-Langley Fire Department, in partnership with members of the Hampton Division of Fire and Rescue's 11 fire stations, as needed. For regular and emergency healthcare services at the installation, the 633d Medical Group offers general surgery, physical therapy, primary care appointments, preventative medicine, mental health services, and urgent care treatments.

3.9.3 Environmental Consequences

The following public health and safety analysis addresses issues related to the health and well-being of military personnel and civilians living on or in the vicinity of JBLE-Langley, and any possible effects on the overall environment. Potential effects of a proposed action on safety and occupational health would be considered significant if the action would create a safety risk inconsistent with Air Force Occupational Safety and Health program and OSHA standards.

3.9.3.1 No Action Alternative

Under the No Action Alternative, none of the proposed projects would occur. The current LVIS would remain just outside the Armistead Gate and would continue to remain noncompliant with UFC regulations. Commercial vehicles would be searched outside of the gate, posing a safety and security risk to installation personnel and residents. The gate and installation roadway configuration would not be updated to support an anticipated increase in traffic over the next 5 to 7 years, putting motorists and pedestrians at greater risk of accidents and injuries from vehicle crashes. The runway would remain below sea level, leaving the possibility of risks to flight operations personnel during significant rainstorm, flooding, high tide, and sea level rise events. Existing roads (Lee Road, Armistead Avenue, and Sweeney Boulevard) and the Armistead Gate would remain in the clear zone, allowing visitors and vehicles to traverse the clear zone, putting them and flight operations at risk. Under the No Action Alternative, these safety risks would not be addressed. Therefore, personnel and the public would continue to be exposed to long-term, moderate, adverse effects on safety, that could, in the long term, become more substantial if not addressed.

3.9.3.2 Proposed Action

Activities associated with the Proposed Action would be conducted in accordance with applicable federal, state, and local regulations. Any secondary effects on public health and safety, such as air quality and noise, are discussed in more detail in those resource sections.

The study area for public health and safety includes sites where demolition and construction would occur, which would be within portions of the North Flightline District, Shellbank District, and South Flightline District on JBLE-Langley, as well as a parcel west of the flightline that the City of Hampton is in the process of acquiring. The Proposed Action would increase short-term safety risks associated with the construction activities, as the work would span multiple years.

Public health and safety during demolition and construction is generally associated with the safety of personnel within or adjacent to construction zones. Contractors performing these activities would be required to prepare and follow safety protocols appropriate for specific tasks, and to comply with applicable worker safety laws, to

include the use of required PPE. The demolition and construction sites would be clearly marked to discourage members of the public from illegally accessing the area. The construction site would be entirely on installation property, or property that would be owned by the City of Hampton and conveyed to the installation for use. Although the public visits the installation occasionally, members of the public do not routinely walk through the installation.

Implementation of the Proposed Action could result in long-term changes to operations. These operations would be safer for installation personnel, residents, and visitors through the construction of a new gate and LVIS that are UFC-compliant, as opposed to the existing non-compliant Armistead Gate. However, increased traffic entering the North Gate and LVIS through the northern portion of the installation is likely to increase existing traffic conflicts with the NASA taxiway that intersects Lee Road. The placement of signage and traffic signals at that intersection, combined with continued coordination with NASA flights operations, would ensure that these long-term effects to public safety would likely be minor. Elevating the runway, constructing a new perimeter road outside of the clear zone, and removing existing pavements within the clear zone, would result in long-term, moderate beneficial effects on public health and safety. The Proposed Action would not result in significant effects on public health and safety.

3.10 Hazardous Materials and Waste

This section discusses hazardous materials and waste, toxic substances, and Environmental Restoration Program (ERP) sites.

3.10.1 Regulatory Setting

Under the ***Resource Conservation and Recovery Act*** (RCRA; 42 U.S.C. 6901 et seq.), the USEPA has the authority to control hazardous waste from, "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. To adhere to RCRA, the USEPA has developed regulations, guidance, policies, and programs to ensure safe management and cleanup of solid and hazardous waste and to encourage source reduction and beneficial reuse. RCRA creates the framework for the proper management of both hazardous and nonhazardous solid waste.

The Department of Air Force Manual 32-7002 outlines comprehensive guidelines for the management of hazardous materials and waste. It establishes the Hazardous Materials Management Process as an essential part of the Air Force Environmental Management System. The Hazardous Materials Management Process is designed to ensure compliance with various federal laws, such as the RCRA. This process involves the continuous identification, authorization, and tracking of hazardous materials to minimize their use and associated risks. Furthermore, the manual assigns specific responsibilities to various U.S. Air Force units, emphasizing a coordinated approach to hazardous materials management.

The Toxic Substances Control Act (TSCA) of 1976 (15 U.S.C. 2601 et seq.) provides the USEPA with the authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. Certain substances are generally excluded from TSCA, including food, drugs, cosmetics, and pesticides. TSCA addresses the production, importation, use, and disposal of specific chemicals including polychlorinated biphenyls (PCBs), asbestos-containing materials (ACM), radon, and LBP.

In 2022, the USEPA proposed designating two PFAS—perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS)—as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act, also known as Superfund. This proposed rulemaking was intended to increase transparency around the release of these harmful chemicals and hold polluters accountable for cleaning up their contamination. Finalized in May 2024 and effective beginning in July 2024, the rule requires entities to immediately report releases of PFOA and PFOS that meet or exceed the reportable quantity to the National Response Center, state or Tribal emergency response commission, and the local or Tribal emergency planning

committee (local emergency responders). Entities are not required to report past releases of PFOA or PFOS, as they were not yet listed as hazardous substances (USEPA, 2024d).

In February 2024, the USEPA proposed listing nine PFAS, including PFOA and PFOS—as RCRA hazardous constituents. If finalized, this proposed rulemaking would ensure that USEPA's regulations clearly reflect the authority of the USEPA and authorized States to require the cleanup of the full range of substances that RCRA intended (USEPA, 2024e).

3.10.2 Affected Environment

Operations at JBLE-Langley require the use and storage of hazardous materials. Storage of hazardous materials at JBLE-Langley is governed by Air Force Manual 32-7002 *Environmental Compliance and Pollution Prevention—Chapter 3 Hazardous Material Management*, occupational safety and health standards in 29 CFR 1910, and the safety data sheet for each specific hazardous material. The Air Force has initiated numerous programs on the installation to track, manage, and minimize the use of hazardous materials and the generation of hazardous waste. Any releases of hazardous material specific to any building or tenant facility and JBLE-Langley must be addressed via the directions provided in the base's Hazardous Waste Management Plan (HWMP) and SPRP. The following sections detail various types of hazardous materials and waste found at JBLE-Langley.

3.10.2.1 Hazardous Materials and Waste

Hazardous materials at JBLE-Langley are primarily used for aircraft operation, maintenance, and training. They include pesticides, hydrazine, paints, solvents, corrosives, refrigerants, detergents, adhesives/sealants, batteries, antifreeze, and deicing chemicals. Hazardous materials are procured, controlled, and tracked through the Hazardous Materials Pharmacy. Hazardous waste must be properly segregated, stored, characterized, labeled, and packaged for collection at designated initial accumulation points. Waste is then transported from the initial accumulation point to a designated 90-day Hazardous Waste Storage Area on JBLE-Langley by a licensed contractor. Accumulated waste at a 90-day Hazardous Waste Storage Area is categorized and prepared for shipment. Once signed off on by a 633d Civil Engineer Squadron Hazardous Waste Manager, a licensed disposal contractor transports the waste off base for disposal before the 90 days has expired. Waste at JBLE-Langley is forwarded to the Defense Reutilization and Marketing Office in Norfolk, which is responsible for arranging permanent disposal (JBLE-Langley, 2022a). Because the installation generates hazardous waste, it is governed by the Virginia Waste Management Act.

Numerous facilities at JBLE-Langley use and store petroleum products, ranging from small heating oil tanks to large storage tanks used to store aviation fuel. These tank systems are managed by the 633d Civil Engineer Squadron and are currently compliant with regulations with no known releases. Past releases of petroleum products have occurred on the installation and have been addressed or are being addressed by the installation's ERP. The ERP is discussed in more detail in Section 3.10.2.3.

There are no active or inactive underground storage tanks (USTs) within or adjacent to the proposed project sites. Ten aboveground storage tanks (ASTs) are located near or within the project sites. Two ASTs are located along Lee Road near Project 1 at the North Gate and LVIS. Seven ASTs would be removed to accommodate demolition and new construction within the footprint of Projects 2 and 3. One AST is located within (or adjacent to) the footprint of Project 4. Three ASTs, including the two previously mentioned along Lee Road, are within the area slated for demolition for Project 5 (JBLE-Langley, Received 2024).

The total oil storage capacity at the installation is 4 million gallons. JBLE-Langley maintains an SPRP that contains a listing of regulated POL storage containers. The SPRP also describes administrative and engineering controls to prevent and mitigate spills of POL into water bodies (JBLE-Langley, 2022a). JBLE-Langley has implemented a Joint Base Emergency Management Plan that contains procedures to execute emergency management at the joint base level. Together with the HWMP, it contains plans and BMPs that are implemented

to store hazardous materials and waste properly and safely during inclement weather. If a spill were to occur, procedures in the HWMP and the SPRP would be followed to respond and clean up (JBLE-Langley, 2022a).

3.10.2.2 Toxic Substances

Asbestos. ACM includes materials that contain more than one percent asbestos. Asbestos is generally found in building materials, such as floor tiles, pipe wrap, wall plaster, and roofing materials. The 633 Air Base Wing Asbestos Management and Operations Plan provides guidance on the identification and management of ACM. An asbestos facility register is maintained by 633d Civil Engineer Squadron Operations Element. Persons inspecting, designing, or conducting asbestos response actions in public or commercial buildings must be properly trained and accredited through an applicable asbestos training program. Structures with construction dates before 1989, the year USEPA regulations were promulgated to restrict the use of ACM, could contain asbestos.

Lead-Based Paint. LBP includes paint with lead levels equal to or exceeding 0.5 percent by weight. The 633 Air Base Wing Lead-Based Paint Management and Operations Plan contains policies and procedures associated with the management of LBP. The plan is designed to establish operations and management organizational responsibilities and procedures so that personnel at JBLE-Langley are not exposed to excessive levels of lead-contaminated dust or soil. Plan components identify management actions for worker training, notification, and labeling; the JBLE-Langley Work Request program; recordkeeping; PPE; construction inspection; the disposal of LBP-containing waste; and lead toxicity investigations. DoD officially banned LBP use in 1978; therefore, any building constructed prior to 1979 could contain LBP. The buildings proposed for demolition under the Proposed Action were built after 1979 and are unlikely to contain LBP. Thus, effects due to LBP are not further analyzed.

Polychlorinated biphenyls. PCBs are a group of chemical mixtures used as insulators in electrical equipment, such as transformers and fluorescent light ballasts. Chemicals classified as PCBs were widely manufactured and used in the United States until they were banned in 1979. The disposal of PCBs is regulated under the Federal TSCA, which banned the manufacture and distribution of PCBs except for PCBs used in enclosed systems. Per Air Force policy, all installations should have been PCB-free as of December 21, 1998. The JBLE-Langley HWMP states all known PCB-containing items were removed from the installation in December 1998. Therefore, PCBs are not further analyzed.

Although unlikely, the discovery of PCB-containing items during demolition or construction activities is managed in accordance with the JBLE-Langley HWMP and all federal, Commonwealth of Virginia, and local regulations.

Per- and Polyfluoroalkyl Substances. In 1970, the Air Force began using aqueous film forming foam (AFFF), firefighting agents containing PFAS, to extinguish petroleum fires. AFFF was used for years by the aviation industry and military aviation for fire suppression; the U.S. Air Force has discontinued use of AFFF. Six sites on JBLE-Langley with potential AFFF discharges were selected for further PFAS inspection through the Site Inspection process at JBLE-Langley in 2015. The Site Inspection was finalized in July 2017 and recommended that the six sites move onto the Remedial Investigation phase. Remedial Investigation activities at these sites will be managed by the Air Force Civil Engineer Center (AFCEC) in future years. Only one of the PFAS sites is within the North Flightline District; it is the result of a plane crash on the airfield runway.

Radon. USEPA rates the Hampton Roads region and City of Hampton as radon zone 3. Locales in radon zone 3 have a low potential with predicted average indoor radon levels less than 2 picocuries/liter (USEPA, 2024c). Since JBLE-Langley radon levels are below the USEPA regulatory permissible level of 4 picocuries/liter, radon is not analyzed further.

Pesticides. USEPA regulates pesticides under the Federal Insecticide, Fungicide, and Rodenticide Act, which provides the basis for the regulation, sale, distribution, and use of pesticides in the United States. The term pesticide encompasses all pesticides, herbicides, and algaecides used on JBLE-Langley. Only pesticides approved for use in the Commonwealth of Virginia, with a current valid USEPA registration number, and approved for use

on the installation are used at JBLE-Langley. JBLE-Langley pest management personnel who apply or supervise the application of pesticides must be trained and have a DoD Pesticide Applicator Certification. Contracted pest applicators must have a Virginia Pesticide Certification and Virginia Pesticide Business License issued by the Virginia Department of Agriculture and Consumer Services. A former pesticide and herbicide storage yard was in the long-term monitoring (LTM) phase of the ERP; however, no further action is required per its Final Record of Decision (JBLE-Langley, 2022c). There are currently no known violations associated with pesticide use or storage at the installation, and the Proposed Action does not involve increased use or storage of pesticides on the installation; therefore, effects from pesticides are not further analyzed.

3.10.2.3 Environmental Restoration Program

JBLE-Langley's environmental clean-up program is managed under the Defense Environmental Restoration Program (DERP). The ERP at JBLE-Langley began in June 1981 and focuses on identifying, investigating, and cleaning up hazardous substances and pollutants on the installation to eliminate unacceptable risk to human health and the environment. Construction cannot be conducted on ERP sites that have current land use controls or any active investigation or clean-up activities.

There are two clean-up sub-programs under the DERP: the Installation Restoration Program (IRP) and the Military Munitions Response Program (MMRP).

Sixty-six sites are currently being tracked under the IRP, with 54 sites considered to be at Site Closure and 12 sites under LTM. Twenty-five sites that are Site Closure are former POL sites that might have some residual contamination in place. These sites are located within the flightline and housing areas. Sites under LTM include a former fire training area, storage area, paint shop, wastewater treatment plant, and former landfills. The runway at JBLE-Langley is near two former landfills (LFs), LF-01 and LF-22. The proposed eastern runway overrun would overlap LF-22 by approximately 27 feet. Several of the buildings proposed for demolition in the Shellbank District are near a former LF, LF-07. One of the buildings, Building 31, is within LF-07. Both LFs are capped and closed with no known leaks or issues.

The MMRP addresses unexploded ordnance, discarded military munitions, and munitions constituents at sites other than on operational ranges. There are 16 MMRP sites at JBLE-Langley. Eleven sites require no further action. Five moved forward into a Remedial Investigation phase, which was scheduled to be complete in 2020.

Site restrictions and land use controls have been placed on 12 IRP sites and several MMRP sites to reduce potential risks and restrict property use. Installation activities and project proponents are required to coordinate with the AFCEC Restoration Program Manager and 633d Civil Engineer Squadron prior to proposed projects taking place on or in a manner that might affect these sites. Coordination includes the preparation of a construction notice and/or the submission of a dig permit.

3.10.3 Environmental Consequences

The hazardous materials and waste analysis contained in the respective sections addresses issues related to the use and management of hazardous materials and waste and the presence and management of specific clean-up sites at JBLE-Langley. Adherence to the Virginia Waste Management Act would be maintained for the following alternatives.

3.10.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur and there would be no associated change to hazardous materials and waste, toxic substances or ERP sites. Therefore, no significant effects on hazardous materials and waste would occur with implementation of the No Action Alternative.

3.10.3.2 Proposed Action

Hazardous Materials and Waste. Construction and demolition activities would result in short-term, negligible to minor effects. Construction contractors would ensure the handling and storage of hazardous materials and petroleum products are carried out in compliance with applicable laws and regulations. Construction equipment would use small quantities of hazardous materials and petroleum products (such as solvents, hydraulic fluid, oil, antifreeze, and other hazardous materials) for minor equipment servicing and repair activities. Should hazardous materials or petroleum products be released into the environment, applicable management plans such as the installation's SPRP would be adhered to. The severity of a potential effect from an accidental release would vary based on the extent of a release and the substance(s) involved. The implementation of BMPs and environmental protection measures would reduce the potential for an accidental release of hazardous materials. BMPs include maintaining construction equipment according to the manufacturer's specifications and placing drip mats under parked equipment as needed. The hazardous and petroleum waste generated would be handled and disposed of in accordance with federal, state, and local regulations.

Should unknown, potentially hazardous waste be discovered or unearthed during construction and demolition, construction contractors would immediately cease work, contact appropriate installation personnel, and await sampling and analysis results before taking further action. Unknown waste determined to be hazardous would be managed or disposed of in accordance with applicable laws and regulations.

Operation and maintenance of the new infrastructure would result in long-term, negligible effects. Negligible amounts of hazardous materials such as paints, adhesives, solvents, and cleansers would be used during operation and maintenance of the new infrastructure. No USTs would be affected by the Proposed Action. If ASTs were removed under the Proposed Action, it would minimize the potential for future POL leaks. This beneficial effect would be offset by the installation of POL ASTs for backup generators for the new facilities. The removal and installation of POL storage tanks under the Proposed Action would be done in accordance with applicable laws and regulations. Should hazardous materials or petroleum products be released into the environment during operation or maintenance of the new infrastructure, applicable management plans such as the installation's SPRP would be strictly adhered to. Therefore, the Proposed Action would not result in a significant effect on hazardous materials or wastes.

Toxic Substances. Short-term, minor effects would result from the potential for exposure to toxic substances. Due to the ages of construction of Buildings 26, 28, and 30 proposed for demolition (1985, 1986, and 1986, respectively), ACM is presumed to be present. Prior to demolition, surveys would be completed, as necessary, by a certified contractor to ensure that appropriate measures are taken to reduce the potential for exposure to, and release of, toxic substances. Contractors would wear appropriate PPE and adhere to federal, state, and local regulations as well as the installation's management plans for toxic substances. If present, ACM would be handled and disposed of in accordance with applicable federal and U.S. Air Force regulations. New construction would not use toxic substances because federal policies and laws limit their use in building construction applications.

A plane crash site on a portion of the runway has been identified as an emergent contaminant area for PFAS. AFFF was discharged at the site to extinguish the resultant fire. A site investigation will be conducted. Should the site investigation show PFAS presence, construction would stop and applicable environmental compliance regulations would be followed.

Demolition of facilities containing toxic substances would result in long-term, negligible, beneficial effects from the reduced potential for future human exposure to and reduced amounts of ACM to maintain at JBLE-Langley. If PFAS were encountered during the construction of Project 4, it would be dealt with accordingly under applicable environmental regulations. No short- or long-term, adverse effects on toxic substances are expected from operation and maintenance of the new infrastructure. Therefore, the Proposed Action would not result in a significant effect on toxic substances.

Environmental Restoration Program. Short-term, minor effects on or from ERP sites could result from construction and demolition activities. Demolition and construction activities for Project 2 would take place adjacent to MMRP site Defense Guidance Initiative West—Historic Bombing Range. Projects 2 and 3 would be within MMRP site Munitions Unit 157b—Historic Bombing Range Target Area. Two landfills under LTM are near the Project 4 site. The project site would not overlap LF-01; however, it would overlap with LF-22. Several of the buildings proposed for demolition in the Shellbank District are near LF-07, which is under LTM. One building, Building 31, is within LF-07.

Project proponents would coordinate with the AFCEC Restoration Program Manager and 633d Civil Engineer Squadron prior to construction, demolition, or alteration, including the submission of a dig permit. Activities would adhere to the guidelines established by the installation and VDEQ. Should potentially hazardous waste be discovered or unearthed during demolition, the contractor would immediately cease work, contact appropriate installation personnel, and await sampling and analysis results before taking any further action. Waste determined to be hazardous would be managed or disposed of in accordance with applicable laws and regulations.

Land use controls (LUCs) are in place at MMRP sites Defense Guidance Initiative West—Historic Bombing Range and Munitions Unit 157b—Historic Bombing Range Target Area. These include no unauthorized digging, unexploded ordnance support when digging, and warning signs in a GeoBase data layer. Similarly, LUCs are in place at LF-22 and LF-07 to include no unauthorizing digging and warning signs in a GeoBase data layer. Strict adherence to these LUCs would minimize effects on or from ERP sites during construction.

New infrastructure would be constructed and operated in accordance with applicable federal, state, and local laws and regulations. Therefore, the Proposed Action would result in short-term, minor effects from the removal of special hazards and construction within ERP LTM sites, but long-term, beneficial effects from the reduced potential for future human exposure to and reduced amounts of special hazards at JBLE-Langley. Therefore, the Proposed Action would not result in a significant effect on ERP sites.

Overall, the Proposed Action would result in short-term, minor effects and long-term, negligible, beneficial effects on hazardous materials and waste. There would be no significant environmental effects from hazardous materials or waste under the Proposed Action.

3.11 Transportation

3.11.1 Regulatory Setting

The Hampton Roads Transportation Planning Organization serves as the federally mandated Metropolitan Planning Organization for the Hampton Roads area, focusing on transportation planning and programming. Its Long-Range Transportation Plan, titled “Navigating the Future,” envisions the region's transportation system up to 2034, setting goals and policies (Hampton Roads TPO, 2024). This plan was officially adopted in January 2012. Additionally, the Hampton Roads Transportation Planning Organization conducted a study in 2011 to address the transportation needs of local military, collaborating with stakeholders to identify key roadways and propose projects enhancing military travel. These findings are intended to be integrated into future transportation planning tools to guide project selection (JBLE, 2017).

3.11.2 Affected Environment

The discussion of transportation for the North Flightline ADP includes the installation roadways and streets, ACPs, and the transportation network outside the installation. The road network at JBLE-Langley creates a typical traffic pattern where vehicles mainly enter through the Armistead or LaSalle Gates and use main roads to reach collector and local roads. The King St and LaSalle Gates serve the southern part of the installation, while the Armistead Gate connects to major roads outside the base. Traffic peaks during lunchtime (JBLE-Langely, 2023).

Pedestrian areas are mainly in the southern part of the installation, near the munitions area, and in the LTA District. Sidewalks along roadways and scattered crosswalks support pedestrian movement, though the infrastructure may be inconsistent. While there is interest in alternative transportation like electric scooters and cycling, personal vehicles are still the primary mode of transportation at the installation (JBLE-Langely, 2023).

3.11.2.1 Roadways/Streets

Existing vehicle infrastructure at JBLE-Langley includes approximately 50 miles of paved roadways and 3 miles of unpaved roads (JBLE, 2017). JBLE-Langley has several main roads around the central airfield and runways, including Weyland Rd, Ward Rd, Lee Rd, and Sweeney Blvd. These primary roads carry most of the installation's traffic, while collector roads direct traffic from these main routes to local streets and destinations (JBLE-Langely, 2023). Sweeney and Dodd Boulevards are key east-west routes providing access to the Headquarters Air Combat Command campus at the installation's southeast, but their route through residential areas poses traffic safety concerns due to high volumes. The installation's northern perimeter, formed by Ward Road, Clarke Avenue, Weyland Road, and Lee Road, is expected to see increased traffic with further development in northern portions of the base (JBLE, 2017). Overall, the existing road network at JBLE-Langley is considered adequate and is not in need of major expansion, but improvements could be made; the aging road network is regularly impacted by severe weather events, which necessitate repaving (JBLE, 2017).

North Armistead Avenue is a primary north to south roadway that serves the community of Hampton Roads and provides access to the existing Armistead Gate entry point into the installation. The Hampton-Langley JLUS identifies the portion of North Armistead Avenue that intrudes into the airfield clear zone as a bottleneck for commuter traffic and a vulnerability to local resilience due to frequent flooding (City of Hampton, 2018).

3.11.2.2 Access Control Points

ACPs, or gates, provide secured entryways into JBLE-Langley. Currently, the installation has a total of four active ACPs, with a few secondary, inactive ACPs (JBLE, 2017). Active ACPs include the Armistead Gate, LaSalle Gate, King Street Gate, and NASA (Durand) Gate. The overall capacity/processing rate of JBLE-Langley ACPs has an "adequate" rating, with a total capacity of 22,277 people per hour, and a peak demand of 15,722 people per hour (JBLE, 2017).

The Armistead Gate, located on the west site of the installation, includes the adjacent LVIS that processes commercial vehicles entering the installation (JBLE, 2017). This ACP is non-compliant with UFC design standards and currently exists within the airfield clear zone, which creates safety hazards and land use conflicts. During peak hours, traffic at the Armistead Gate creates a bottle neck at the intersection of Sweeny Boulevard and Lee Road, a problem that is expected to be exacerbated with increased development within northern portions of the installation (JBLE, 2017). Recent traffic volume analysis indicates approximately 4,700 entries and 5,700 exits occurring on a daily basis at the Armistead Gate (JBLE-Langely, 2023).

The LaSalle Gate, located on the south side of the installation, is the primary gate for installation visitors (JBLE, 2017) and facilitates approximately 3,300 entries and 2,400 exits from the installation on a daily basis (JBLE-Langely, 2023)

Located on the south side of the installation, the King Street Gate processes approximately daily 1,200 entries and exits (JBLE-Langely, 2023). Its location on the south bank of the Back River limits expansion opportunities for both JBLE-Langley and the City of Hampton (JBLE, 2017).

The NASA Gate (Durand Gate), located between JBLE-Langley and the NASA-Langley Research Center, provides access to the installation from the north side and processes between 300 and 400 daily entries and exits (JBLE-Langely, 2023). This ACP has limited use due to access constraints associated with traveling through the NASA-Langley Research Center to reach the gate; no long-term use agreement exists between the two entities (JBLE, 2017). Flooding issues within the eastern and western portions of JBLE-Langley create a situation where

the NASA Gate is the only option for exiting the northern portions of the installation during flood events.

The Hampton-Langley JLUS notes ongoing issues with the installation ACPs. Specifically, all the ACPs are located within the 100-year floodplain, along with most of the installation, creating concerns of flooding and long-term resilience (City of Hampton, 2018). The land use study recommends several improvements for the installation's APCs to improve traffic flow including modified entry gate designs and circulation patterns, redistribution of peak traffic through specific gates, and support for alternative routes through the installation (City of Hampton, 2018).

3.11.2.3 Local Transportation Networks

Outside the installation, the Hampton Roads community is a major transportation hub that is served by multiple interstate (I-) highways, including I-64, I-664, I-264, and I-564, and provides vital transportation corridors to the cities of Chesapeake, Hampton, Newport News, Norfolk, Portsmouth, Suffolk, and Virginia Beach (JBLE, 2017). Interstate 64 and US Route 60 are the main north-south routes in the area, linking southern Virginia and Richmond to the north. State Highway 134 connects to US Route 17 and Interstate 64 near JBLE-Langley. There are several ongoing and recently completed major transportation infrastructure projects within the Hampton Roads region including widening of the Hampton Roads bridge-tunnel, construction of a new Amtrak station in Norfolk, and the new multi-modal station in Newport News (Hampton Roads TPO, 2024). Bridge infrastructure is a vital component of the Hampton Roads transportation region, including those in the immediate vicinity of JBLE-Langley.

3.11.3 Environmental Consequences

3.11.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur and there would be no change in existing conditions to transportation infrastructure. The proposed North Gate and LVIS would not be constructed, and existing compliance and safety issues associated with the Armistead Gate would persist. The roads located within the clear zone (Lee Road, Armistead Avenue, and Sweeney Boulevard) would remain in place, in violation of airfield planning and known safety issues with the perimeter roadways within the airfield clear zone. Overall, without addressing known safety issues that affect the existing transportation network and traffic, long-term, moderate effects would be expected, that could, in the long term, become more substantial if not addressed.

3.11.3.2 Proposed Action

The Proposed Action would have short-term and long-term effects on roadways within the installation and surrounding communities. Short-term effects would include temporary disruptions to traffic flow on key routes within the installation due to construction and demolition activities for the proposed North Gate and joint LVIS, new consolidated logistics and civil engineering compounds, and roadway demolition and rerouting projects. These disruptions include increased traffic congestion, detours, and potential delays due to construction vehicles and equipment.

Additionally, the movement of heavy equipment and trucks would likely cause minor wear and tear on the existing roads, impacting road surface conditions. Across all five projects, approximately 220,000 cubic yards of fill material would likely be required to raise new facilities, roadways, and runway surfaces out of existing floodplains. Depending on the size of hauling trucks, this would equate to between 15,174 and 22,000 loads over the total duration of project execution. There would also be considerable amounts of construction and demolition debris that would be hauled off site as part of the Proposed Action. Temporary haul routes for heavy equipment and trucks would likely be established for each project to divert construction traffic, prevent excessive wear on roadway surfaces, and reduce traffic congestion. Most of the fill material would be required after construction of the North Gate and LVIS which is projected to increase the installation's capacity to process commercial traffic

and large vehicles entering the installation. Overall, these short-term effects would be minor, and construction activities would be closely coordinated to ensure there are no major disruptions to critical installation activities or infrastructure.

Long-term effects are expected to include improvements in overall traffic flow and safety within the installation. The construction of new roadways and the rerouting of existing roads would provide more efficient and safe routes for vehicles, reducing traffic congestion and enhancing the movement of both personnel and goods. The improvements to the road network would reduce the traffic safety concerns posed by heavy traffic flows through Sweeney Boulevard and Lee Road in the clear zone. Additionally, the relocation of mission activities would align with recommendations for installation and community resilience established by the Hampton-Langley JLUS through improved vehicular patterns and alternate traffic routes. These effects would be most pronounced within the installation itself, particularly around the proposed North Gate and LVIS area, and the northern perimeter roads.

Increased traffic entering the North Gate and LVIS through the northern portion of the installation is likely to increase existing traffic conflicts with the NASA taxiway that intersects Lee Road. Proper signage and traffic signals at the intersection along with continued coordination with NASA flight operations would likely ensure these long-term effects would be minor.

Off-installation effects could include increased traffic and congestion on adjacent public roads, especially during peak construction periods, and long-term modifications in local traffic patterns. Coordination with local authorities would assist with potential congestion during the construction periods. Although the number of vehicles accessing the installation would not change with the construction of the North Gate and LVIS, some of the vehicles commuting to the installation would alter their local traffic patterns. Traffic coming from the Newport News area would still likely take the same roads (i.e., I-64 or Commander Shepard Boulevard) to access the North Gate as compared to the Armistead Gate, although there might be additional traffic on Commander Shepard Boulevard/Armistead Avenue North. With the demolition of the portion of North Armistead Avenue within the airfield clear zone, traffic that would normally utilize that route would likely be diverted Commander Shepard Boulevard, Neil Armstrong Parkway, and Hampton Roads Center Parkway. This could potentially increase the commute for some users by up to 3 miles until a reroute for that portion of North Armistead Avenue is constructed by the City of Hampton. As planning for this reroute hasn't been finalized, this would likely result in long-term, minor effects to transportation capacity for the local community until a reroute is established.

Traffic coming from the south would likely travel along Armistead Avenue, north of the installation and near the Langley Mobile Home Village, to access the new gate. This would result in additional traffic in residential areas on Commander Shepard Boulevard/Armistead Avenue North. The proposed gate would conform to criteria established in the Air Force Corporate Facilities Standard, Installation Facilities Standards, and would employ the standard facility design for ACP facilities. Consequently, traffic capacity on the adjacent roads would be assessed before the design is finalized.

The construction of the proposed North Gate and joint LVIS would provide a modern, UFC-compliant entry control point, replacing the non-compliant Armistead Gate. The North Gate would be outside of the 100-year floodplain, providing an additional gate for egress during a flooding event on the installation. The new facilities would also enhance the security and processing capacity of the installation, benefiting both personnel and visitors.

The Proposed Action would have short-term, minor effects on local transportation infrastructure and traffic flows within the installation and surrounding communities, which would persist during construction and demolition activities as specific projects are implemented. In the long-term, the Proposed Action would improve the condition of transportation infrastructure within the North Flightline District on the installation. Long-term traffic patterns on the local roadways used to access JBLE-Langley would likely change some, as described above. Traffic capacity on these roadways would be assessed further prior to final designs for Project 1. Therefore, the Proposed Action is not expected to result in significant effects on transportation.

4 Reasonably Foreseeable Actions and Cumulative Effects

Cumulative effects are those effects that result in the incremental effect of the action when added to other past, present, or reasonably foreseeable future actions. Cumulative effects can result from individually minor, but collectively significant, actions taking place over a period of time. The scope of the cumulative effects analysis involves both the geographic extent of the effects and the time frame in which the effects could be expected to occur. The cumulative effects analysis qualitatively considers other reasonably foreseeable projects occurring within the same time frame and geographic extent as the Proposed Action. This EA does not consider future actions that are speculative.

4.1 Past, Present, and Reasonably Foreseeable Actions

4.1.1 Cumulative Projects on JBLE-Langley Property

Past, current, and reasonably foreseeable projects at JBLE-Langley are summarized below.

Fifth Generation Formal Training Unit (FTU) Optimization. The Air Force relocated F-22 FTU from Eglin AFB to JBLE-Langley. Implementation of the action resulted in an increase of approximately 760 personnel at JBLE-Langley. In addition, the beddown of the F-22 FTU mission at JBLE-Langley required sufficient facilities and infrastructure, including both new construction and modification of existing facilities (JBLE-Langley, 2021). Construction of new facilities began in 2021 (JBLE, 2022c). FTU F-22 personnel began arriving at JBLE-Langley in March 2023 (JBLE, 2023d). The beddown of the F-22 FTU mission at JBLE-Langley has been completed.

Shoulder Construction for Runway 08-26 and Taxiways. An EA for the construction of asphalt pavement shoulders along the borders of Runway 08-26 and various taxiways on JBLE-Langley was completed in January 2024. The new shoulders could vary in width from 10 to 25 to 50 feet wide. Existing shoulder pavement across the airfield is being demolished, and existing decommissioned pavement south of Runway 08-26 is being removed (JBLE-Langley, 2023a).

Intelligence, Surveillance, and Reconnaissance (ISR) Campus Area Development. In 2022, JBLE-Langley began facility construction, infrastructure improvements, and demolition to consolidate cyber functions and improve walkability within the ISR Campus. Projects include road improvements, sidewalk creation, and construction of buildings above the flood zone. Activities are expected to be completed by 2027 (JBLE, 2022c).

Live Mission Operations Capability Master Node Facility. JBLE-Langley finalized its EA for the construction of a new Live Mission Operations Capability Master Node Facility in May 2023. The project's purpose is to support exercise mission planning, execution, monitoring, and debriefing, as well as administrative functions. The facility would increase impervious surfaces on base and be situated at the southwest intersection of Sweeney Boulevard and Bryant Avenue just south of the South Flightline District (JBLE, 2023c). Project construction is expected to start within 5 years of 2022 (JBLE, 2022c).

Airfield and Drainage Projects. Starting in 2021, JBLE-Langley implemented drainage improvements and the removal of wetlands in the airfield area, construction of a new recreational vehicle parking lot near Durand Loop, and drainage improvements at Brick Kiln Creek (JBLE-Langley, 2021). The purpose of the projects was to eliminate abrupt grade changes and standing water on the airfield; provide service members with a single, secure location that could accommodate 250 recreational vehicles, trailers, and boats; and reduce flooding and improve stormwater flow along Brick Kiln Creek. Approximately 20 acres of wetlands were removed (JBLE, 2020b). The U.S. Air Force paid for wetland mitigation to establish off-base wetlands, which was administered by the USACE Norfolk District (JBLE-Langley, 2022b).

Installation Infrastructure Capital Improvement Projects. Implementation of construction, renovation, repair, and demolition of infrastructure projects at JBLE-Langley is ongoing. Such projects include a Fuels Automated

System Complex; new Fuels System Maintenance Hangar; internal renovations of aircraft maintenance hangars and administrative facilities; and repair/replacement/addition of transportation, parking, and utility systems. Once completed, 371,968 square feet would be constructed and 22 buildings would be demolished (JBLE-Langley, 2021).

Consolidated Communications Facility (CCF). The North Base ADP lists a new CCF as high on the installation's priority list. The project would consolidate the functions of five separate buildings located throughout the installation. The new CCF would be constructed in the mid-term and measure approximately 86,000 square feet (JBLE, 2023e).

South Flightline District Maintenance and Operations Projects. A new Consolidated Maintenance Compound and two new Mission Support Facilities, one that could support Maintenance Group Headquarters and one that could support a consolidated Operations Group, Operations Support Squadron, and Maintenance Squadron facility, would be constructed in the mid-term. The Consolidated Maintenance Compound would be 76,024 square feet. Mission Support Facility 1 would be 46,000 square feet. Mission Support Facility 2 would be 56,000 square feet (JBLE, 2020c).

363 ISR Wing Air Force Targeting Center. JBLE-Langley is constructing an approximate 103,428-square-foot intelligence targeting center in the North Base District, just north of the North Flightline District (JBLE, 2023e). The center will be fully functional in September 2025. Once functional, the center will deliver content-dominant analytical expertise, targeting, and special operations ISR support (JBLE, 2024a).

Air Force Reserve Command Intelligence Group Facility. The 755th ISR Group established its future headquarters facility in April 2024 at JBLE-Langley. This building is the first building dedicated exclusively to the U.S. Air Force Reserve (U.S. Air Force 445th Airlift Wing, 2024).

Low Observable Component Repair Facility. Construction of this new low observable composite repair facility began in November 2022. This project will support the F-22 FTU (JBLE, 2023b).

Training Support Squadron Facility. This project at JBLE-Langley involves the construction of a new F-22A Raptor Training Support Squadron facility (JBLE, 2024b).

Renovation of Dormitories. JBLE-Langley renovated its residence halls starting around 2012. Currently, there are two dormitories under renovation (JBLE, 2012).

New Dormitories. This project at JBLE-Langley involves the construction of three new dormitories: the F-22 Dormitory, Dormitory 1, and Dormitory 2. The F-22 Dormitory includes construction of 12 rooms to house additional personnel (Air Force, 2023).

Seawall Improvement for Base Resiliency. This proposed seawall improvement would combat the flooding and future flooding at JBLE-Langley as a result of sea level rise. It involves the installation of water barriers and one tidal flood gate to improve resilience against flooding (DoD, 2024).

4.1.2 Projects Outside of JBLE-Langley Property

Past, current, and reasonably foreseeable projects outside of JBLE-Langley are summarized below.

Hampton-Langley Joint Land Use Study. The Hampton-Langley JLUS recommended land acquisition to mitigate compatibility issues within the JBLE-Langley clear zone. Through this program, the city plans to acquire land or land rights within the clear zone through fee simple purchase or acquisition of development rights. REPI funds have been identified to support parcel acquisition within the clear zone (City of Hampton, 2010; City of Hampton, 2018).

Hampton-Langley Joint Land Use Implementation—Clear Zone Land Acquisition and Transfer. This land acquisition and zoning adjustment is ongoing with the City of Hampton. An Environmental Baseline Survey will be conducted prior to the land acquisition.

Magruder Boulevard Northbound Bridge Replacement. Virginia Department of Transportation replaced the northbound bridge over Brick Kiln Creek along Magruder Boulevard (VA-134). This project is 2.2 miles northwest of JBLE-Langley and was completed in 2021 (JBLE, 2022c).

Hampton Roads Bridge Tunnel Expansion. In 2020, Virginia Department of Transportation began construction on twin underground tunnels and the widening of 10 miles of the I-64 corridor from I-564 in Norfolk to Settlers Landing Road in Hampton (Virginia Public Media, 2024). This is the largest highway construction project in Virginia's history. The tunnel expansion is ongoing, with project completion expected in February 2027 (VDOT, 2024a).

Wythe Creek Road (Route 172) Widening. In Hampton, Virginia Department of Transportation will widen Wythe Creek Road to three lanes, install new curbs and gutters, and construct a 10-foot sidewalk to the east side of the expanded roadway. In Poquoson, Virginia Department of Transportation will construct an 8-foot sidewalk on the east side of the road and a 5-foot sidewalk on the west side of the road from the Cary's Chapel intersection to the northern project limit 2,000 feet south of Victory Boulevard (JBLE-Langley, 2023a). Project construction began in spring 2024. Estimated project completion date is fall 2027 (VDOT, 2024a).

U.S. Navy Atlantic Fleet Training and Testing (AFTT). In 2018, the Navy completed a Final EIS to conduct military readiness training activities using active sonar and explosives within existing range complexes and areas located in the Atlantic Ocean, Caribbean Sea, and the Gulf of Mexico (U.S. Navy, 2024). In November 2023, the Navy announced that a Supplemental EIS for the project would occur to assess the potential environmental effects associated with ongoing and future at-sea military readiness activities conducted within the AFTT study area beyond 2025. The Final Supplemental EIS is anticipated in fall 2025 (U.S. Fleet Forces Command, 2023). AFTT would likely coincide with implementation of the Proposed Action.

Armistead Avenue Flood Reduction. The City of Hampton received funding from the Virginia Department of Emergency Management and FEMA to rebuild a portion of Armistead Avenue that frequently floods. A half-mile stretch of Armistead Avenue, between Convention Center Drive and Newmarket Creek Bridge, will be elevated as much as 5.25 feet in order to be a minimum of 7.5 feet above sea level. Project start is tentatively scheduled for fall 2024 (City of Hampton, 2023).

4.2 Assessment of Cumulative Effects by Resource

4.2.1 Air Quality

For present and future actions, construction would generate short-term criteria pollutant and fugitive dust emissions while ground-disturbing activities occur. Air emissions are based on the size and complexity of the project and the extent to which activities would disturb the soil. All present and reasonably foreseeable future actions could collectively increase emissions of criteria pollutants temporarily in and around the project sites at JBLE-Langley. New or modified stationary emissions sources would undergo appropriate permitting. Development surrounding JBLE-Langley could increase mobile source emissions and result in new stationary sources.

Estimated construction and operational emissions resulting from the Proposed Action in this EA are well below *de minimis* thresholds. Per regulation, by demonstrating that this project would be below *de minimis* thresholds, the Proposed Action would be considered insignificant individually and cumulatively within the airshed.

The intensity of the Proposed Action's GHG emission effects was measured by comparing the estimated GHG emissions of the Proposed Action to the state, U.S., and global baseline GHG inventories. The effect intensity was

determined by its annual net change in the GHG emissions relative to global, national, and regional emissions. To contextualize the impact on a global scale, the Proposed Action's GHG emission change was evaluated against the state and U.S. annual emissions. Although the Proposed Action and other past, present, and reasonably foreseeable projects have increased or would further increase global GHG emissions, cumulatively, these emissions would be negligible when compared to regional and global emissions.

Therefore, the Proposed Action, when combined with other past, present, and reasonably foreseeable projects, would not result in significant cumulative effects on air quality or GHG emissions.

4.2.2 Water Resources

Concurrent construction, demolition, or other activities might cause short-term, minor cumulative effects on water resources from runoff into local surface waters (i.e., the Back River, nearby creeks, and wetlands). Projects disturbing more than one acre must obtain NPDES permits and implement erosion and sediment control and stormwater management plans to minimize adverse effects, including cumulative effects. Fill or removal of wetlands can alter local hydrology, but demolition and construction at JBLE-Langley would comply with permits from USACE, VMRC, and VDEQ to ensure effects are not significant.

Construction within floodplains at JBLE-Langley must meet regulatory criteria to offset flooding risks. Increased impervious surfaces from cumulative projects could increase flooding vulnerability; however, pursuant to Section 438 of the Energy Independence and Security Act, post-development hydrology of project sites would meet or improve the pre-development hydrology. Strict permit requirements and the implementation of BMPs and other management actions for projects would minimize overall effects on the floodplain.

The Proposed Action, when combined with other past, present, and reasonably foreseeable projects, would contribute cumulatively to effects on water resources; however, for reasons mentioned above, this cumulative effect is not anticipated to be significant.

4.2.3 Soils and Geological Resources

Ongoing and planned projects in the study area would require grading and other types of soil disturbance associated with construction and demolition, potentially causing erosion, soil destabilization, and related effects on surface waters in the vicinity. Individual projects would be subject to state and federal stormwater construction permits, including NPDES permits, which require erosion and sediment control and stormwater management plans to minimize effects associated with soil.

New construction projects sited within the floodplain might require fill material to elevate structures to above the floodplain level, which would alter the topography of the study area, if used. However, most effects would only occur during the demolition or construction period and be restricted to the project site and surrounding areas, and all post-development hydrology of project sites would meet or improve the pre-development hydrology. Therefore, the Proposed Action, when combined with past, present, and reasonably foreseeable future projects, would not contribute to significant cumulative effects on regional soil or geological resources.

4.2.4 Cultural Resources

The Proposed Action would not affect historic properties. The U.S. Air Force meets its stewardship requirements for cultural resources under Sections 106 and 110 of the NHPA. The installation has an ICRMP that is a reference and planning tool for managing and preserving cultural resources while maintaining mission readiness. Consultation with the Virginia SHPO and other appropriate parties is required prior to undertaking any action that might affect historic properties. In this way, the U.S. Air Force works to identify, avoid, minimize, and/or mitigate potential adverse effects on cultural resources, when implementing individual projects. Therefore, the cumulative effect of the Proposed Action on cultural resources, when combined with past, present, and reasonably foreseeable future projects, would not be significant.

4.2.5 Biological Resources

Cumulative effects on biological resources from construction projects might include loss of vegetation, habitat disruption, displacement or mortality of wildlife, and short-term noise disturbances. BMPs and timing restrictions on activities, particularly during sensitive periods, would minimize effects on wildlife, including threatened and endangered species and migratory birds. The U.S. Air Force would coordinate with USFWS and implement conservation measures to minimize effects on threatened and endangered species, if warranted. The Proposed Action would not contribute to any cumulative effects on aquatic species, including marine species and EFH.

The cumulative effects on biological resources from past, present, and reasonably foreseeable projects at JBLE-Langley would be managed through stringent mitigation measures and regulatory compliance. While there might be minor to moderate, adverse effects due to vegetation loss, wildlife disruption, and habitat changes, effective planning and conservation efforts would minimize significant adverse cumulative effects. Therefore, the implementation of the Proposed Action, combined with past, present, and reasonably foreseeable projects, would not result in significant effects on biological resources.

4.2.6 Land Use

Concurrent construction and demolition activities might cause short-term effects on land use compatibility due to increased traffic, noise, and air quality. Construction projects could increase planning constraints and limit future development. However, past, present, and reasonably foreseeable future construction on JBLE-Langley would be consistent with installation development goals and mission sustainment. In addition, demolition, consolidation, and strategic relocation of operations would reduce some constraints and increase land use compatibility, benefitting the installation. Most reasonably foreseeable off-installation projects are expansion or improvement projects to existing infrastructure or facilities and would, therefore, not significantly affect land use. Implementation of the Hampton-Langley JLUS, specifically the land acquisition within the airfield clear zone, would help to ensure compatible land use within the clear zone. Thus, the implementation of the Proposed Action, combined with past, present, and reasonably foreseeable future projects, are not expected to result in significant effects on land use.

4.2.7 Noise

Short-term, localized increases in noise levels would occur from construction and demolition activities. These effects would be temporary and primarily affect areas immediately adjacent to the construction sites. Cumulative noise effects could occur from nearby activities with overlapping schedules. However, most other construction and demolition projects are not expected to happen within the same time frame or location as the Proposed Action. Long-term changes in noise levels might occur from cumulative projects due to increased operational activities associated with new facilities and infrastructure. This includes noise from aircraft operations, other base activities, and vehicular traffic. However, these effects are not expected to be significant. A noise analysis would be completed for major actions such as the AFTT EIS to assess potential impacts. Therefore, the implementation of the Proposed Action, combined with past, present, and reasonably foreseeable projects, would not result in significant effects on noise.

4.2.8 Infrastructure

The Proposed Action, when combined with past, present, and reasonably foreseeable actions, would result in continued increases in demand on JBLE-Langley's infrastructure, including electrical, potable water, wastewater, stormwater, natural gas, and telecommunications. Much of this infrastructure is interconnected with entities outside of the installation, such as Dominion Energy Virginia and Newport News Waterworks. Continued modernization of facilities is likely to equate to overall increased efficiencies. Improved technologies, infrastructure upgrades, and new construction design elements aimed at energy efficiency will likely reduce the

overall increase in infrastructure demands, as more efficient facilities typically require less energy, water, and other resources to operate.

Concurrent construction activities might cause temporary disruptions to infrastructure services, like utility outages and road closures. However, on-base disruptions would be carefully coordinated to ensure no significant effects on mission-essential functions or activities would occur.

Therefore, the implementation of the Proposed Action, when combined with past, present, and reasonably foreseeable projects, would contribute cumulatively to effects on infrastructure, but is not anticipated that these effects would be significant.

4.2.9 Public Health and Safety

The cumulative effects on public health and safety would be negligible because the activities would follow federal and state safety regulations and be conducted in a manner that does not increase risk to workers or the public. Infrastructure improvements on and off base would result in long-term benefits on public health and safety and overall resiliency to extreme weather events. Therefore, the implementation of the Proposed Action, combined with past, present, and reasonably foreseeable projects, would not result in significant effects on public health and safety.

4.2.10 Hazardous Materials and Waste

The Proposed Action, and other actions listed in Section 4.1, would be carried out in compliance with applicable laws and regulations applicable to hazardous materials and waste. Implementation of BMPs and environmental protection measures would reduce the potential for an accidental release of hazardous materials. BMPs include maintaining construction equipment according to the manufacturer's specifications and placing drip mats under parked equipment as needed. All hazardous and petroleum waste generated would be handled and disposed of in accordance with federal, state, and local regulations. Therefore, cumulative effects from hazardous materials and waste from the Proposed Action when combined with past, present, and reasonably foreseeable projects would not be significant.

4.2.11 Transportation

Concurrent construction activities might temporarily impact transportation in the area, causing increased congestion, detours, and potential delays. However, most other construction and demolition projects are not expected to happen within the same time frame or location as the Proposed Action, minimizing significant transportation effects. In the long-term, the Proposed Action would improve transportation infrastructure, traffic flow, and safety and reduce congestion at installation access points. Therefore, the implementation of the Proposed Action, combined with past, present, and reasonably foreseeable projects, would not result in significant effects on transportation.

5 Summary of Environmental Management and Mitigations

Environmental management and mitigations discussed in Chapter 3 of this EA to offset potential effects from the Proposed Action are summarized in Table 5-1.

Table 5-1: Environmental Management to Minimize Potential Effects from the Proposed Action

Best Management Practice	*Description*	*Effects Reduced/Avoided*
Tree replacement	Any trees removed would be replaced according to the JBLE-Langley INRMP.	Negate loss of tree canopy.
Construction equipment	Good housekeeping measures for construction equipment (i.e., POL) for optimal performance.	Prevent leaching of contaminants into groundwater and surface water.
Erosion and sediment control	Measures would be site-specific and developed following the site geotechnical report but could include standard measures such as scheduling and sequencing, silt fencing covering soil stockpiles, and watering exposed areas.	Limit erosion and sedimentation during construction to minimize adverse effects on soil and water resources.
Stormwater control	Incorporated low-impact development and other stormwater measures to treat and store stormwater, including bioretention basins.	Ensure that post-development hydrology meets or improves pre-development hydrology, which improves stormwater quality and minimizes localized flooding or drainage issues.
Fugitive dust control	Measures would be site-specific but could include wetting dry soil or using chemical additives to minimize wind erosion, stabilizing/covering soil stockpiles, stabilizing/planting disturbed areas that are not being actively worked, or using wheel-washing stations as vehicles enter or leave the active construction site.	Minimize particulate emissions during ground-disturbing activities on unpaved surfaces.
Safety protocols	All contractors performing construction and demolition activities would develop comprehensive health and safety plans detailing all potential hazards and site-specific guidance.	Minimize potential safety risks during construction and demolition activities.

Contaminated sites	If any soil and/or groundwater within the project area is determined to be contaminated (such as with POL, PFAS/PFOA), soil and groundwater would be handled according to applicable environmental compliance regulations.	Protect the health and safety of construction workers, and prevent the spread of contaminated materials, if present.

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7 List of Preparers

The following individuals assisted in the preparation of this EA:

Tanya Perry (Marstel-Day, LLC)
B.S. Environmental Science
Years of Experience: 23
Responsible for Noise and Senior Review

Kristie Baynard (Marstel-Day, LLC)
M.S. Historic Preservation
Years of Experience: 22
Responsible for Cultural Resources

Elizabeth Pratt (Marstel-Day, LLC)
B.S. Business Administration
Years of Experience: 17
Responsible for Biological Resources and Senior Review

Kole Dufore (Marstel-Day, LLC)
Masters of Natural Resource Stewardship
B.A. Geography/GIS
Years of Experience: 13
Responsible for Air Quality, Land Use, Infrastructure, and Transportation

Lauren Stanitski (Marstel-Day, LLC)
B.A. Environmental Thought & Practice, Government
Years of Experience: 1
Responsible for Water Resources, Geological Resources, and Hazardous Materials & Waste

Jessica Miller (Marstel-Day, LLC)
M.S. Environment and Sustainability
B.A. Psychology
Years of Experience: 7
Responsible for Noise

Jessica Aiello (Marstel-Day, LLC)
M.A. Urban and Environmental Policy and Planning
B.A. Zoology
Year of Experience: 20
Responsible for Public Health and Safety

Kenneth Roy (Marstel-Day, LLC)
Certificate of GIS
B.S. Forest Resources in Conservation
Years of Experience: 9
Responsible for GIS

Appendix A Public Engagement and Agency Correspondence Materials

Contents of Appendix A

Public and Agency Involvement

Early Public Notice: Newport News *Daily Press* (May 10 and 11, 2024)

VIRGINIA MEDIA

Sold To:
Marstel Day - CU80158155
[redacted]

Bill To:
Marstel Day - CU80158155
[redacted]

Affidavit of Publication

State of Illinois
County of Cook

Order Number: 7632728
Purchase Order: 7632728 Early Public Notice

This day, Jeremy Gates appeared before me and, after being duly sworn, made oath that:

1) He/she is affidavit clerk of Daily Press, a newspaper published by Daily Press, LLC in the city of Newport News and the state of Virginia
2) That the advertisement hereto annexed has been published in said newspaper on the dates stated below
3) The advertisement has been produced on the websites classifieds.pilotonline.com and https://www.publicnoticevirginia.com

Published on: **May 10, 2024; May 11, 2024.**

Jeremy Gates

Subscribed and sworn to before me in my city and state on the day and year aforesaid this 13 day of May, 2024

My commission expires July 6, 2025

Notary Signature

MARIA JOE
Official Seal
Notary Public - State of Illinois
My Commission Expires Jul 6, 2025

Notary Stamp

VIRGINIA MEDIA

Early Public Notice of the Proposed Implementation of the North Flightline Area Development Plan at Joint Base Langley-Eustis, Langley Air Force Base, Hampton, Virginia

The Department of the Air Force (DAF) is preparing an Environmental Assessment (EA) to consider the potential consequences to the human and natural environment associated with the implementation of the North Flightline Area Development Plan (ADP) at Joint Base Langley-Eustis (JBLE)-Langley Air Force Base in Hampton, Virginia. The Proposed Action is to implement five projects, including: construct and operate a North Gate and joint large vehicle inspection station (LVIS); consolidated logistics compound; consolidated civil engineer compound; raise the runway above sea level; and reroute roads to be outside the clear zone at JBLE-Langley. The Proposed Action is needed to implement United Facilities Criteria (UFC) 2-100-01, Installation Master Planning for Airfield and Entry Point Compliance base planning and programming projects within the North Flightline ADP to assist with meeting current and future mission requirements. The Proposed Action is also needed to address airfield clear zone violations and installation security violations, and to improve land use compatibility and climate resiliency at JBLE-Langley. Addressing these issues would reduce safety risks to Air Force personnel and the public from UFC violations, and would reduce risk from anticipated increases in flooding during storm events.

Portions of the Proposed Action may impact floodplains and wetlands and is therefore subject to the requirements and objectives of Executive Order (EO) 11988, Floodplain Management and EO 11990, Protection of Wetlands. Efforts are being made during the design phase to avoid and minimize these impacts. This notice is to comply with the EOs, which require early notice for actions that could affect floodplains and wetlands.

The Proposed Action and the No Action Alternative are being considered. Under the Proposed Action, the North Gate and joint LVIS would be constructed west of the flightline; the proposed consolidated logistics compound would be relocated from the Shellbank District to the North Flightline District; and a new consolidated civil engineering compound would be constructed at the North Flightline District. In addition, the Proposed Action would include elevating the runway 3 to 4 feet, to a height of 11 feet above sea level and out of the base flood elevation to mitigate flood risks. The Proposed Action would also include construction of a new perimeter road outside of the clear zone.

The Air Force is seeking advance public comment on the proposed project to determine if there are public concerns regarding the project's potential impacts. The full EA will be available for public review in the fall of 2024. Please provide written comments to: Ms. Sherry Johnson by email: **633CES.CEIE.NEPAPublicComment@us.af.mil**. Written comments will be accepted for 30 days from the publication of this notice.

May 10, & 11, 2024 - 7632728

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 633D AIR BASE WING
JOINT BASE LANGLEY-EUSTIS VA

20 Jun 24

MEMORANDUM FOR ALL INTERESTED GOVERNMENT AGENCIES, PUBLIC OFFICIALS, ORGANIZATIONS, AND INDIVIDUAL PARTIES

FROM: 633 CES/CD
[redacted]
Joint Base Langley-Eustis Virginia [redacted]

SUBJECT: Draft Environmental Assessment for the Implementation of the North Flightline Area Development Plan at Joint Base Langley-Eustis, Langley Air Force Base, Hampton, Virginia

1. The Department of the Air Force is preparing a Draft Environmental Assessment (EA) in accordance with the National Environmental Policy Act of 1969 (NEPA), as implemented by the Council on Environmental Quality (CEQ) Regulations and Air Force regulations for implementing NEPA. The Draft EA evaluates the potential effects associated with the implementation of improvements from the North Flightline Area Development Plan (ADP). This includes the construction and operation of a North Gate and large vehicle inspection station (LVIS), consolidated transportation compound, consolidated civil engineer compound, raising the runway above base flood elevation, and rerouting roads to be outside the clear zone at the U.S. Air Force Joint Base Langley-Eustis (JBLE)-Langley. A location map of JBLE-Langley is included as Attachment 1.

2. The purpose of the Proposed Action is to provide facilities that support current and future mission requirements in the North Flightline District and meet the criteria of United Facilities Criteria (UFC) 2-100-01, *Installation Master Planning for Airfield and Entry Point Compliance*. The need for the Proposed Action is to address airfield clear zone and installation security violations and to improve land use compatibility and climate resiliency at JBLE-Langley. Addressing these issues would reduce safety risks to Air Force personnel and the public from UFC violations and reduce risk from anticipated increases in flooding during storm events.

3. The Proposed Action includes the following five projects (see Attachment 2 for a map showing these project locations):

a. North Gate and LVIS: Under the Proposed Action, the North Gate would replace the Armistead Gate. The Armistead Gate is located within the clear zone. Department of Defense Instruction (DoDI) 4165.57, *Air Installations Compatible Use Zones*, states that having any roads within clear zones should be avoided based on historic aircraft mishap locations. The North Gate and LVIS project would consist of three primary buildings including a LVIS, gatehouse identification check building and a privately owned vehicle inspection station, in addition to physical entrance

barriers, pavements, roadways, utility connections, and security fencing. The North Gate and LVIS would be constructed on approximately 29 acres of land west of the flightline. This area is part of the land acquisition and zoning adjustment that is ongoing with the City of Hampton. This area is within a floodplain; consequently, fill material would be added to each proposed building site and flood-susceptible utilities raising them to a minimum of three feet above the 100-year floodplain.

b. Consolidated Transportation Compound: The proposed consolidated transportation compound would be relocated from the Shellbank District to the North Flightline District. The Proposed Action would include demolition of six buildings and a parking area. It also includes the construction of a new transportation headquarters facility, a vehicle operations administration building and a vehicle wash rack. In addition, two vehicle maintenance facilities, a new roadway approximately one mile long and required utilities would be constructed. Fill material would be added on-site to elevate the proposed facilities out of the base flood elevation.

c. Consolidated Civil Engineer Compound: Under the Proposed Action, a new consolidated civil engineer compound would be constructed at the North Flightline District. Personnel would be relocated to the new headquarters and compound. Demolition would include four buildings, a golf course that is no longer in use, a driving range, and a parking area. The proposed compound would include a civil engineer headquarters facility, two pavement maintenance facilities, a large equipment warehouse, and a service bay building. Fill material would be added on-site to elevate the proposed facilities out of the base flood elevation.

d. Raising the Runway Above Base Flood Elevation: Under the Proposed Action, the runway would be elevated three to four feet to a height of 11 feet above sea level. This would raise the runway out of the base flood elevation to mitigate flood risks. This project would involve the reconstruction of the runway with the shoulders and taxiways modified to the new runway grades and new overruns at each runway end.

e. Rerouting Roads Outside the Clear Zone: Currently, Lee Road (the airfield perimeter road), Armistead Avenue and Sweeney Boulevard cross through the clear zone, which is a violation of airfield planning. The Proposed Action would include the construction of a new perimeter road outside of the clear zone and demolition of existing pavements within the clear zone.

4. The North Gate and LVIS project and the Rerouting Roads Outside the Clear Zone project are contingent upon off-base land acquisition and zoning adjustments with the City of Hampton. This consists of 57.75 acres of land on the west end of Runway 08 and west of the flightline. The City of Hampton is actively in the process of parcel acquisition.

5. A No Action Alternative is also being evaluated. Under the No Action Alternative, the implementation of improvements from the North Flightline ADP would not occur. The Armistead Gate would remain open and noncompliant with the UFC standards related to airfield and security issues. The transportation and civil engineer facilities would remain dispersed in multiple locations on the base. In addition, the runway would remain at its current elevation, which is at base flood elevation and flood risks would continue. Lee Road (the airfield perimeter road), Armistead Avenue and Sweeney Boulevard would continue to violate airfield planning criteria. Overall, under the No

Action Alternative, clear zone violations and land use incompatibilities would remain, infrastructure improvements would not be addressed and the installation would continue to be susceptible to flooding and sea level rise.

6. The Air Force respectfully requests your written comments and other input on the Proposed Action within 30 days of receipt of this letter so they can be considered during preparation of the Draft EA. When completed, the Draft EA will be available for review and comment.

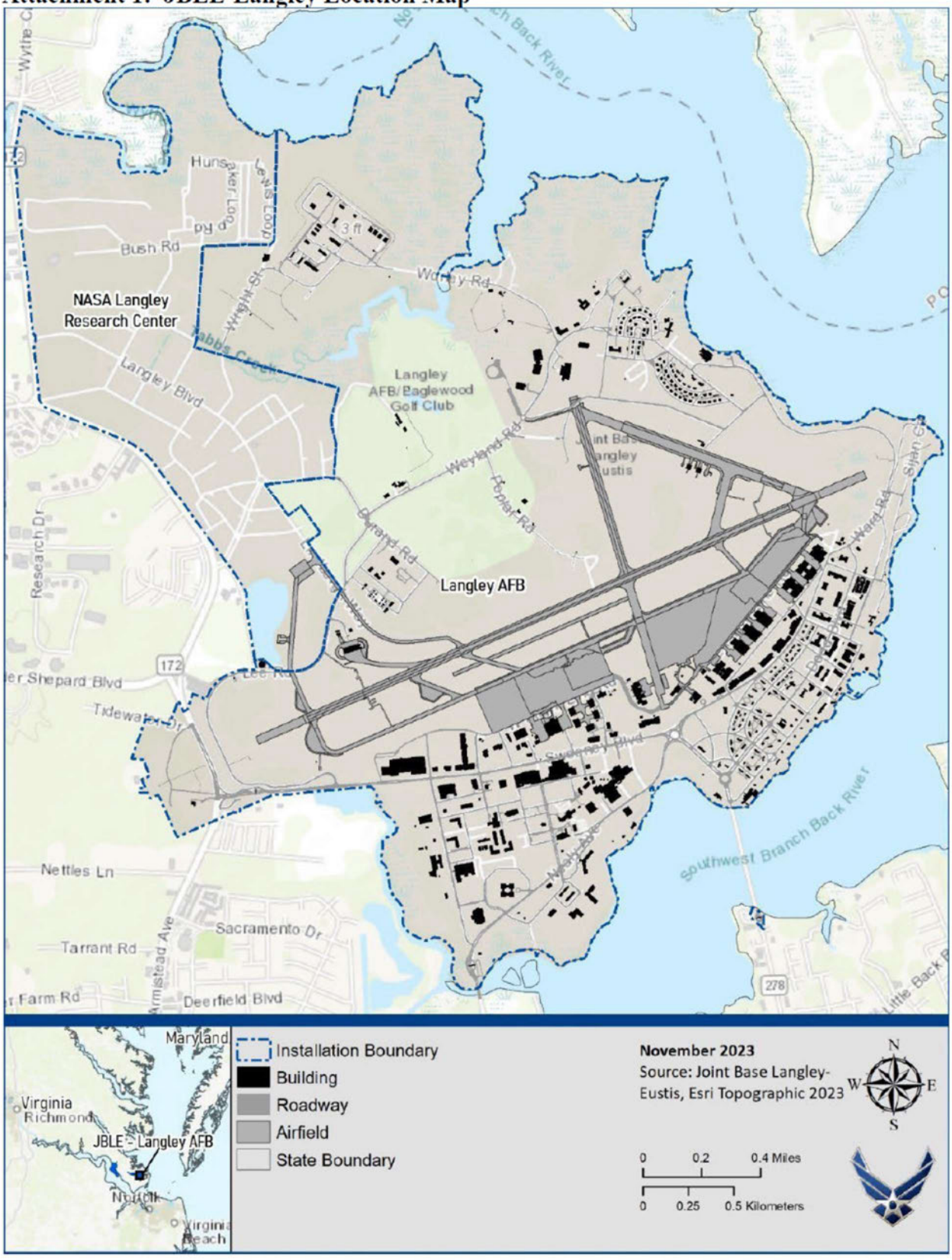
7. If you have any questions or require additional information, please contact Ms. Sherry Johnson or Mr. David Jennings, via email at: [redacted], or via telephone at [redacted].

COOK.BRENDA.W.1230813082 Digitally signed by COOK.BRENDA.W.1230813082 Date: 2024.06.20 16:18:19 -04'00'

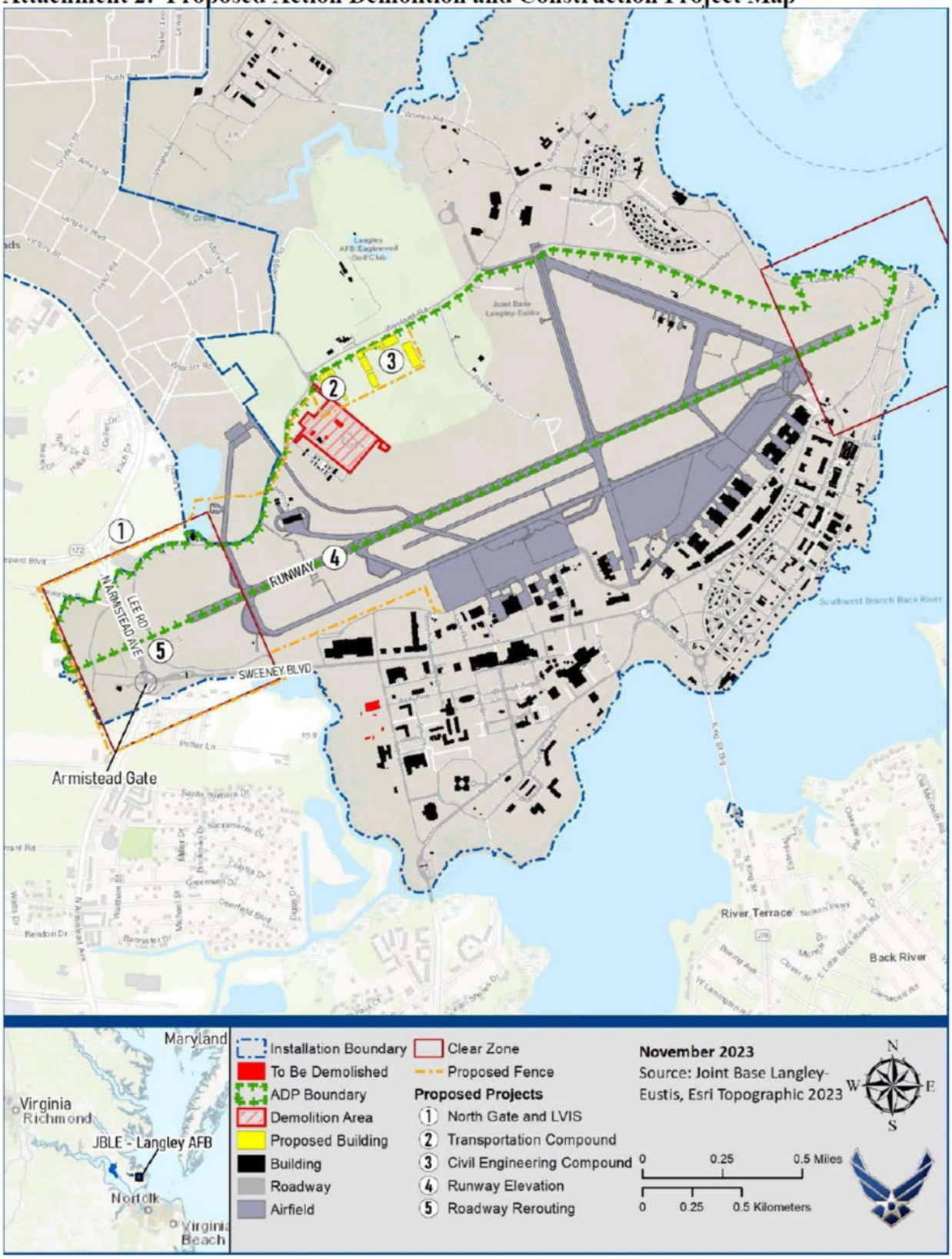
BRENDA W. COOK, DAFC
Deputy Base Civil Engineer

2 Attachments:
1. JBLE-Langley Location Map
2. Proposed Action Demolition and Construction Project Map

Attachment 1: JBLE-Langley Location Map



Attachment 2: Proposed Action Demolition and Construction Project Map



Agency Distribution List

Federal Agencies

U.S. Environmental Protection Agency:
Carrie Traver, Environmental Assessment Branch

U.S. Fish and Wildlife Service:
Cindy Schulz, Virginia Field Office Supervisor,

U.S. Army Corps of Engineers:
Todd Miller, Chief, Southern Section, Southern Virginia Section Regulatory Branch

U.S. Geological Survey:
Gary LeCain, Chief, Environmental Affairs Program

National Oceanic and Atmospheric Administration:
David L. O'Brien, Fisheries Biologist

State and Local Agencies

Federal Consistency Coordinator:
Bettina Rayfield, Coastal Zone Management Act Federal Consistency Manager

Virginia Department of Historic Resources:
Julie Langan, State Historic Preservation Officer

Virginia Department of Environmental Quality:
Valerie Fulcher, Office of Environmental Impact Review

Craig Nicol, Regional Director, Tidewater Regional Office

Jeff Hannah, Program Manager, Virginia Water Protection, Tidewater Regional Office

Virginia Department of Conservation and Recreation:
Angela Ball, Environmental Manager, Soil & Water Conservation

Office of Floodplain Management
Natural Heritage Program

Virginia Department of Wildlife Resources:
Ryan Brown, Executive Director

Virginia Department of Transportation:
Christopher G. Hall, PE, District Engineer, Hampton Roads District

City of Hampton:
Michael Hayes, Planning & Zoning Administration Manager

Hampton Wetlands Board

City of Poquoson:
Laura Nusz, Environmental Compliance Officer, City of Poquoson Planning Department

Poquoson Wetlands Board

York County:
Mark Bellamy, York County Administrator

Native American Tribal Contacts

Catawba Indian Nation
The Honorable Bill Harris, Chief

Catawba Indian Nation
Dr. Wenonah G. Haire, THPO

Chickahominy Indian Tribe
The Honorable Stephen R. Adkins, Chief

Chickahominy Indian Tribe
Mr. Wayne Adkins, Cultural Resources Division

Chickahominy Tribe – Eastern Division
The Honorable Gerald Stewart, Chief

Delaware Nation of Oklahoma
President Deborah Dotson

Delaware Nation, Oklahoma
Ms. Katelyn Lucas, THPO

Nansemond Indian Nation
The Honorable Keith Anderson, Chief

Nansemond Indian Nation
Mr. Cameron Bruce, Environmental Program Manager

Pamunkey Indian Tribe
The Honorable Robert Gray, Chief

Pamunkey Indian Tribe
Ms. Shaleigh R. Howells, Cultural Resources Dir.

Rappahannock Tribe
The Honorable G. Anne Richardson, Chief

Rappahannock Tribe
Mr. Woodie Walker, Director of Environmental Services

Upper Mattaponi Indian Tribe
The Honorable W. Frank Adams, Chief

Upper Mattaponi Indian Tribe
Ms. Leigh Mitchell, Environmental Protection Coordinator

Other

Wes Miksa, LaRC NEPA Program Manager & Cultural Resources Manager

NASA LaRC MS 133

CITY OF POQUOSON
OFFICE OF THE CITY MANAGER
[redacted]
POQUOSON, VA [redacted]
[redacted] TELEPHONE
[redacted] FAX

August 20, 2024

Department of the Air Force
Attn: David M. Jennings, Chief, Environmental Element
Headquarters 633D Air Base Wing
Joint Base Langley-Eustis VA

Dear Chief Jennings:

The City of Poquoson is not aware of any potential areas of environmental impact associated with the Preferred Alternative. The City supports the Proposed Action for the reasons outlined in your letter of August 08, 2024.

Thank you for your continuing efforts in support of Joint Base Langley-Eustis, our local communities and our nation.

Sincerely,

J. Randall Wheeler, City Manager
City of Poquoson

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
[redacted]
NORFOLK VA [redacted]

September 18, 2024

Southern Virginia Regulatory Section
NAO-2017-00574

Ms. Branda W. Cook, DAFC, Deputy Base Civil Engineer
Joint Base Langley-Eustis, Langley Air Force Base
[redacted]
JBLE-Langley, Virginia [redacted]

Dear Ms. Johnson:

This letter is in response to your letter dated September 4, 2024, soliciting comments for a Draft Environmental Assessment (EA) you have undertaken to evaluate the Implementation of the North Flightline Area Development Plan (Plan) at Joint Base Langley-Eustis, Langley Air Force Base (BJLE-Langley), Virginia. In accordance with the National Environmental Policy Act (NEPA), an Environmental Assessment (EA) is being prepared with the United States Air Force (USAF) as the lead federal agency.

The Norfolk District Army Corps of Engineers (USACE) issued a Provisional Individual Permit (IP) on June 18, 2018, authorizing the discharge of fill material into wetlands and waters associated with the Airfield Drainage and Grading project. In addition, USACE provided comments regarding the proposed Runway 08-26 and Taxiway Shoulders project on June 7, 2022 and July 26, 2023, outlining considerations for developing the alternatives analysis and for identifying the least environmentally damaging practicable alternative (LEDPA) should additional authorizations from our office be required.

As proposed, it appears that multiple projects associated with the Plan may result in new impacts to waters and/or wetlands regulated by the USACE under Section 10 of the Rivers and Harbors Act of 1899 and/or Section 404 of the Clean Water Act (33 U.S.C. 1344) that should be considered inthe EA. The wetland delineation confirmation for the runway area is only valid through the life of the IP that was previously issued, therefore, a new wetland delineation will be required for any future work occurring in this area after the expiration of the IP.

USACE cannot agree to the evaluation of only one alternative for the proposed project if wetlands and/or waters of the U.S. are expected to be impacted, and additional alternatives to avoid and minimize impacts to wetlands and waters must be considered. We would like to emphasize that before you develop and evaluate additional alternatives, waters and wetlands should be accurately identified and mapped, and you should document how impacts to

aquatic resources are avoided and minimized by the preliminary alternatives you identify. We request regular coordination with the appropriate state and Federal agencies prior to making any decisions regarding the range and elimination of alternatives. While USACE recommends utilizing updated jurisdictional determinations, you should consider, at a minimum, all available information such as aerial photography, U.S.G.S. quad sheets, National Wetland Inventory (NWI) maps, and soil mapping of the study area, as well as review of aerial photography (including color infrared aerials) by a qualified reviewer. Should USAF perform the assessment of jurisdictional areas through remote sensing, USACE recommends field verification of any areas which USAF notes need further evaluation. The more accurate the delineation, the better for the purposes of alternative analysis and project development that incorporates avoidance and minimization of aquatic resources. USACE understands that due to the purpose of improving existing facilities, alternative options may be constrained, however, additional alternatives must be developed and examined.

Our regulations require that we consider a full range of public interest factors and conduct an alternatives analysis in order to identify the LEDPA, which is the only alternative we can authorize. In addition to wetland and waters impacts, we must consider factors such as land use (including displacements of homes and businesses), floodplain hazards and values, water supply and conservation, water quality, safety, cost, economics, threatened and endangered species, historic and cultural resources, and environmental justice.

Please note that any proposals or alternatives that would result in secondary impacts occuring outside of the installations boundaries should be considered in the EA. We recommend that wetland delineations be conducted for all properties to be acquired from the City of Hampton as part of the project. Any impacts to wetlands that may occur on adjacent properties as a result of the relocation of roadways and entrance facilities should be considered cummulatively in the assessments and alternatives analysis, whether those impacts are anticipated to be undertaken by the installation or by the locality as a result proposed action.

Should project plans result in impacts to waters or wetlands, identifying potential compensation for stream and wetland impacts early in the process of project development is critical. Wetland impacts are typically compensated at 2:1 for forested, 1:5:1 for scrub/shrub, and 1:1 for emergent. Typically, we require stream compensation for unavoidable stream impacts to greater than 300 linear feet of stream at a crossing. However, we also consider the cumulative impacts to streams from a given project, and may require compensation for shorter lengths of stream if there are many impacts at close proximity, or if there are multiple impacts to the same stream and/or its direct tributaries. We encourage natural channel design to the extent practicable for streams that must be relocated. We utilize the Unified Stream Methodology for determining how much stream compensation is required for projects. The use of mitigation bank credits or Virginia Aquatic Resources Trust Fund released credits within the watershed

are the preferred methods for providing compensation for stream and wetland impacts, however, given the historic low availability of mitigation credits within the watershed of the projects study area, we advise early investigation into permittee responsible mitigation options to avoid permitting delays. This proposed study area encompasses one watershed, Hampton Roads, HUC 02080108.

As part of the Corps of Engineers designation of lead federal agency authority, please note the following:

The proposed project may affect historic and cultural resources. Many projects funded by the USAF require permits from the Corps of Engineers. These projects are subject to compliance with Section 106 of the National Historic Preservation Act of 1966.

According to 36 CFR 800.2(a)(2):

> *"…If more than one Federal agency is involved in an undertaking, some or all [of] the agencies may designate a lead Federal agency, which shall identify the appropriate official to serve as the agency official who shall act on their behalf, fulfilling their collective responsibilities under section 106. Those Federal agencies that do not designate a lead Federal agency remain individually responsible for their compliance with this part."*

Pursuant to the above provision, USAF is hereby designated as the lead federal agency to fulfill the collective Federal responsibilities under Section 106 for the following undertakings:

North Flightline Area Development Plan

The Corps authorizes USAF to conduct Section 106 coordination on its behalf, including all required tribal coordination. Any Memorandum of Agreement prepared by USAF under 36 CFR 800.6 should include the following clause in the introductory text:

> *"WHEREAS, pursuant to Section 10 and/or Section 404 of the Clean Water Act, a Department of the Army permit will likely be required from the Corps of Engineers for this project, and the Corps has designated USAF as the lead federal agency to fulfill federal responsibilities under Section 106; and*

In accordance with 50 CFR 401.07, USAF is also designated as the lead Federal agency for consultation with the U. S. Fish and Wildlife Service and the National Marine Fisheries Service (NMFS) concerning potential effects to Federally-listed threatened and endangered species.

In addition, USAF is designated as the lead Federal agency for consultation with NMFS for Essential Fish Habitat, as required under Section 305(b)(2) of the Magnuson Stevens Fishery Conservation and Management Act.

We appreciate your consideration including USACE in this study, and we are available to further discuss our agencies concerns and permitting requirements for this project with you. Should you have any questions, you may contact Nicole Woodward at [redacted] or [redacted].

Sincerely,

Nicole L. Woodward

Digitally signed by Nicole L. Woodward
Date: 2024.09.18 13:45:38 -04'00'

Nicole L. Woodward
Project Manager, Southern Virginia
Regulatory Section

cc:
Virginia Department of Historic Resources
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
Virginia Department of Environmental Quality
National Oceanic and Atmospheric Administration

From: [redacted]
To:
Cc:
Subject: [Non-DoD Source] Re: North Flightline Area Development Plan (DHR File No. 2024-4992)
Date: Tuesday, January 14, 2025 4:04:15 PM
Attachments: image001.png
image002.png
image003.png
image004.png
image005.png
image006.png
Outlook-0baokljk.png
Outlook-A black le.png
Outlook-A logo of .png
Outlook-A black an.png
Outlook-A black bi.png
Outlook-Title lin.png

Ms. Johnson,

Thank you for requesting comments from the Department of Historic Resources (DHR) on the referenced project, North Flightline Area Development Plan (DHR File No. 2024-4992). Based upon the documentation provided, it is our opinion that the historic properties within the Area of Potential Effects (APE) will not be adversely affected by the proposed undertaking.

Implementation of the undertaking in accordance with the finding of *No Adverse Effects* as documented fulfills the Federal agency's responsibilities under Section 106 of the National Historic Preservation Act. If the scope of the undertaking changes or if the undertaking cannot be completed as proposed in the application submitted and reviewed by DHR, please contact our office for guidance on reinitiating consultation under Section 106.

If you have any questions or require any further assistance, please contact me.

Sincerely,

Jenny Bellville-Marrion
Archaeologist - Review and Compliance
Department of Historic Resources

Email [redacted]
Phone [redacted]

[redacted]
www.dhr.virginia.gov

From: JOHNSON, SHERRY M CIV USAF ACC 633 CES/CEIE
Sent: Thursday, December 19, 2024 10:59 AM
To: Bellville-marrion, Jennifer (DHR)
Cc: Birge-wilson, Adrienne (DHR)
Subject: RE: North Flightline Area Development Plan (DHR File No. 2024-4992)

Please see the attached PDF containing more details for the runway elevation project. If more information is needed, please let me know.

From: Bellville-marrion, Jennifer (DHR) [redacted]
Sent: Monday, December 16, 2024 10:42 AM
To: JOHNSON, SHERRY M CIV USAF ACC 633 CES/CEIE [redacted]
Cc: Birge-wilson, Adrienne (DHR) [redacted]
Subject: [Non-DoD Source] North Flightline Area Development Plan (DHR File No. 2024-4992)

Ms. Johnson,

For most of the project components, DHR has no concerns regarding architectural resources. However before we can provide comments on the overall project's effects, we will need additional information regarding the runway elevation project. Please provide the plans for our review so we can better understand impacts. If you have any questions, please let me know.

Sincerely,

Jenny Bellville-Marrion
Archaeologist - Review and Compliance
Department of Historic Resources

Email [redacted]
Phone [redacted]

[redacted]
www.dhr.virginia.gov

VIRGINIA MEDIA

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Bill To:
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Affidavit of Publication

State of Illinois
County of Cook

Order Number: 7764395
Purchase Order: NOA North

This day, Jeremy Gates appeared before me and, after being duly sworn, made oath that:

1) He/she is affidavit clerk of Daily Press, a newspaper published by Daily Press, LLC in the city of Newport News and the state of Virginia
2) That the advertisement hereto annexed has been published in said newspaper on the dates stated below
3) The advertisement has been produced on the websites classifieds.pilotonline.com and https://www.publicnoticevirginia.com

Published on: **Feb 07, 2025; Feb 08, 2025.**

Jeremy Gates

Subscribed and sworn to before me in my city and state on the day and year aforesaid this 24 day of February, 2025

My commission expires July 6, 2025

Notary Signature

MARIA JOE
Official Seal
Notary Public - State of Illinois
My Commission Expires Jul 6, 2025

Notary Stamp

Newspaper: Daily Press Advertiser: Marstel Day LLC
Issue Date: Sat, 02/08/25 Ad Number: 7764395-1

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call 757 247-4693

Legal Notice

NEWPORT NEWS CITY COUNCIL AND NEWPORT NEWS SCHOOL BOARD
NOTICE OF JOINT MEETING
TAKE NOTICE that a Joint Meeting of the Newport News City Council and Newport News Public School Board will be held Tuesday, February 11, 2025, at 4:00 p.m. at the Denbigh Community Center, 15198 Warwick Boulevard, Newport News, VA. The regularly scheduled City Council meetings will also take place on February 11, 2025, at the Denbigh Community Center Work Session at 5:00 p.m. and Regular Meeting at 7:00 p.m.

Mabel Washington Jenkins, MMC
City Clerk

2/8/2025 7764927

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Notice is given that the following watercraft has been abandoned for more than 60 days on the property of LIVauto Performance at 3642 Holland rd suite 102, Virginia Beach, VA 23452, 7577732876.
Description:
Sea Doo 18ft 1998 white with green with HIN# ZZnr0254L697 RN# GA0012FP
Application for watercraft registration/title will be made in accordance with section 29.1-733.25 of the Code of Virginiaif this watercraft is not claimed and removed within 30 days of first publication of this notice. Please contact the Virginia Department of Wildlife Resources with questions. Proof of identity required.

Legal Notice

Notice of Availability

Draft Environmental Assessment and
Draft Finding of No Significant Impact / Finding of No Practicable Alternative
Implementation of the North Flightline Area Development Plan at
Joint Base Langley-Eustis, Langley Air Force Base

The Department of the Air Force has prepared a Draft Environmental Assessment (EA) to evaluate the potential effects on the human and natural environment associated with the improvements identified as short- and mid-term projects in the North Flightline Area Development Plan (ADP) at Joint Base Langley-Eustis (JBLE)-Langley Air Force Base in Hampton, Virginia. The EA considers the Proposed Action and the No Action Alternative. If the environmental impact analysis process concludes the Proposed Action would have no significant impacts, a Finding of No Significant Impact (FONSI) would be signed. The Proposed Action area is within a floodplain and would likely affect nearby wetlands. If the Air Force finds that there is no practicable alternative to constructing the Proposed Action within the floodplain, a Finding of No Practicable Alternative (FONPA) would be signed in conjunction with the FONSI.

The Draft EA and Draft FONSI/FONPA are available for a 30-day public review period at the following website https://www.jble.af.mil/About-Us/Units/Langley-AFB/Langley-Environmental/. Comments should be submitted to Ms. Sherry Johnson by email: 633CES.CEIE.NEPAPublicComment@us.af.mil with subject Attn: North Flightline EA at JBLE. Comments must be received by March 8, 2025, for consideration in the Final EA.

Endangered Species Act Coordination
U.S. Fish and Wildlife Service IPaC List of Threatened and Endangered Species (March 20, 2025)

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
[redacted]
Gloucester, VA [redacted]
Phone: [redacted]

In Reply Refer To: 03/20/2025 14:51:57 UTC
Project Code: 2024-0129074
Project Name: JBLE Langley AFB North Flightline ADP Programmatic Environmental Assessment

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Project Code in the header of this

letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office
[redacted]
Gloucester, VA [redacted]
[redacted]

PROJECT SUMMARY

Project Code: 2024-0129074

Project Name: JBLE Langley AFB North Flightline ADP Programmatic Environmental Assessment

Project Type: Military Development

Project Description: The U.S. Air Force Joint Base Langley-Eustis (JBLE)-Langley in Hampton, Virginia, has identified the need to implement improvements from the North Flightline Area Development Plan (ADP). These improvements consist of the construction of a North Gate and joint large vehicle inspection station (LVIS), consolidated logistics compound, consolidated civil engineer compound, raising of the runway above sea level, and rerouting roads to be outside of the clear zone.
The Programmatic Environmental Assessment evaluates the environmental effects of these 5 projects; no specific construction plans or timeframes for the projects are available, but would occur in the short-term (new North Gate and LVIS and rerouting roads outside of the clear zone), mid- to long-term (consolidated logistics compound and consolidated civil engineer compound), or long-term (raising runway above sea level).

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.08066185,-76.37053370877425,14z

Counties: Hampton County, Virginia

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

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1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.

3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/ activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper

Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

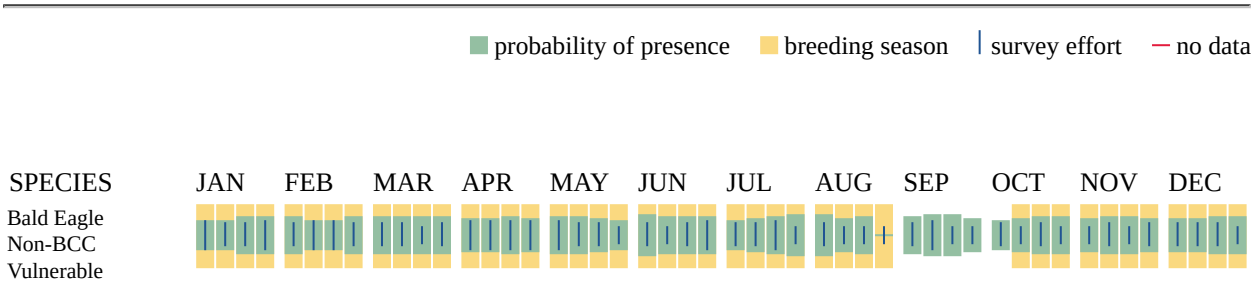
Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service). The incidental take of migratory

birds is the injury or death of birds that results from, but is not the purpose, of an activity. The Service interprets the MBTA to prohibit incidental take.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Oystercatcher *Haematopus palliatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8935	Breeds Apr 15 to Aug 31
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Black Skimmer *Rynchops niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Blue-winged Warbler *Vermivora cyanoptera* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9509	Breeds May 1 to Jun 30
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9454	Breeds May 20 to Jul 31
Canada Warbler *Cardellina canadensis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9643	Breeds May 20 to Aug 10

NAME	BREEDING SEASON
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Grasshopper Sparrow *Ammodramus savannarum perpallidus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8329	Breeds Jun 1 to Aug 20
Gull-billed Tern *Gelochelidon nilotica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9501	Breeds May 1 to Jul 31
Hudsonian Godwit *Limosa haemastica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9482	Breeds elsewhere
King Rail *Rallus elegans* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8936	Breeds May 1 to Sep 5
Least Tern *Sternula antillarum antillarum* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/11919	Breeds Apr 25 to Sep 5
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Pectoral Sandpiper *Calidris melanotos* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9561	Breeds elsewhere
Prairie Warbler *Setophaga discolor* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9513	Breeds May 1 to Jul 31
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9439	Breeds Apr 1 to Jul 31

NAME	BREEDING SEASON
Purple Sandpiper *Calidris maritima* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9574	Breeds elsewhere
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10
Ruddy Turnstone *Arenaria interpres morinella* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/10633	Breeds elsewhere
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9478	Breeds elsewhere
Saltmarsh Sparrow *Ammospiza caudacuta* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9719	Breeds May 15 to Sep 5
Scarlet Tanager *Piranga olivacea* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11967	Breeds May 10 to Aug 10
Semipalmated Sandpiper *Calidris pusilla* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9603	Breeds elsewhere
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Whimbrel *Numenius phaeopus hudsonicus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11991	Breeds elsewhere
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10669	Breeds Apr 20 to Aug 5

NAME	BREEDING SEASON
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9431	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

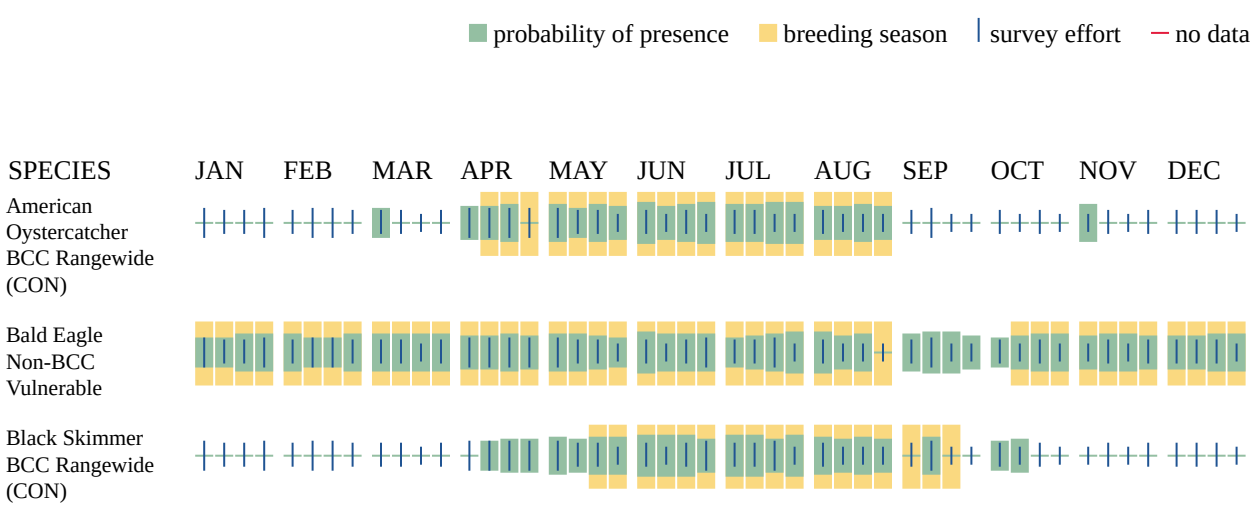
Probability of Presence (■)

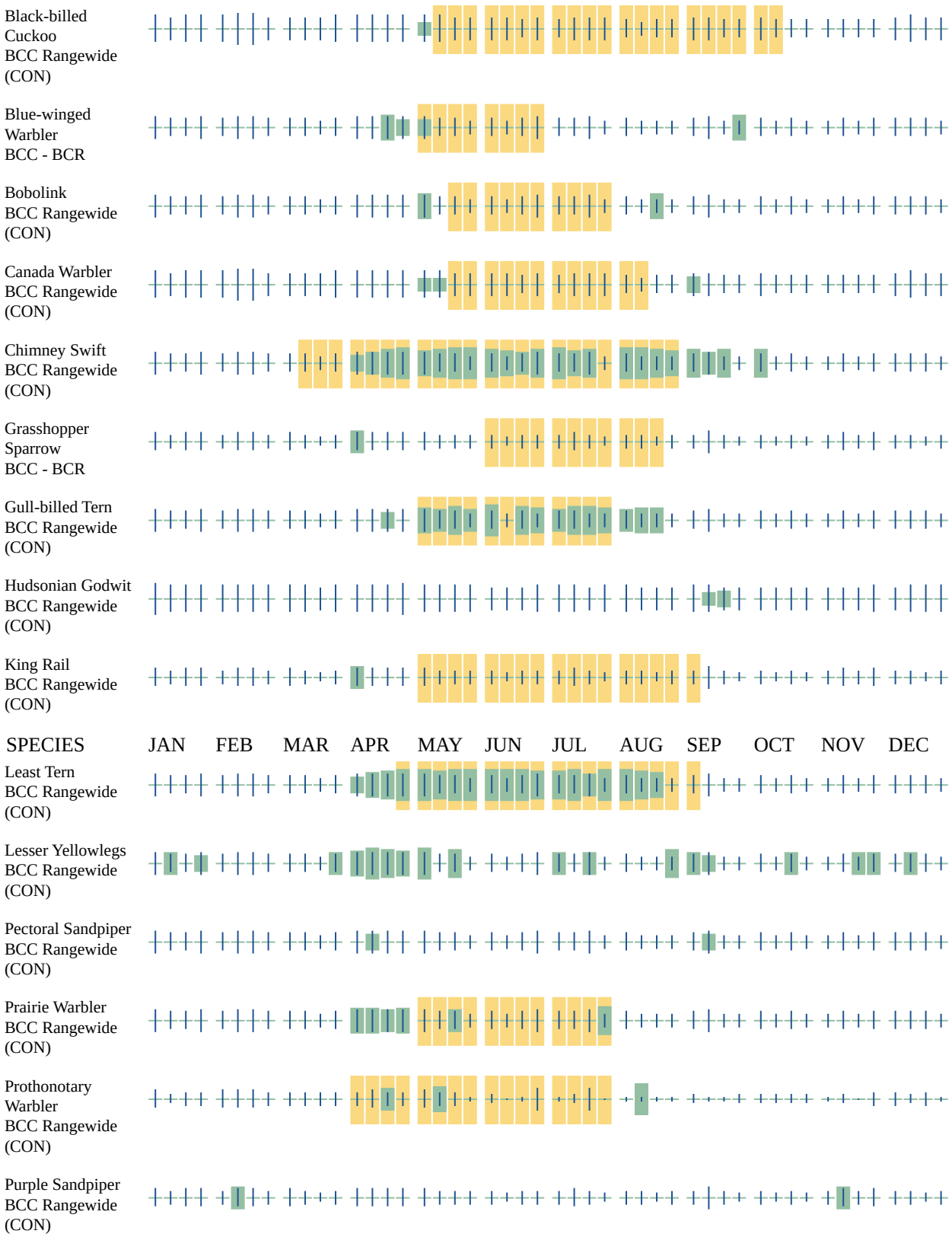
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.




Black-billed Cuckoo BCC Rangewide (CON)
Blue-winged Warbler BCC - BCR
Bobolink BCC Rangewide (CON)
Canada Warbler BCC Rangewide (CON)
Chimney Swift BCC Rangewide (CON)
Grasshopper Sparrow BCC - BCR
Gull-billed Tern BCC Rangewide (CON)
Hudsonian Godwit BCC Rangewide (CON)
King Rail BCC Rangewide (CON)
SPECIES
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Least Tern BCC Rangewide (CON)
Lesser Yellowlegs BCC Rangewide (CON)
Pectoral Sandpiper BCC Rangewide (CON)
Prairie Warbler BCC Rangewide (CON)
Prothonotary Warbler BCC Rangewide (CON)
Purple Sandpiper BCC Rangewide (CON)

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Elizabeth Pratt
Address: [redacted]
Address Line 2: [redacted]
City: Fredericksburg
State: VA
Zip: [redacted]
Email [redacted]
Phone: [redacted]

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Air Force

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
[redacted]
Gloucester, VA [redacted]
Phone: [redacted]

In Reply Refer To: 08/26/2024 14:24:11 UTC
Project code: 2024-0129074
Project Name: JBLE Langley AFB North Flightline ADP Programmatic Environmental Assessment

Federal Nexus: yes
Federal Action Agency (if applicable): Air Force

Subject: Federal agency coordination under the Endangered Species Act, Section 7 for 'JBLE Langley AFB North Flightline ADP Programmatic Environmental Assessment'

Dear Elizabeth Pratt:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on August 26, 2024, for 'JBLE Langley AFB North Flightline ADP Programmatic Environmental Assessment' (here forward, Project). This project has been assigned Project Code 2024-0129074 and all future correspondence should clearly reference this number. **Please carefully review this letter. Your Endangered Species Act (Act) requirements may not be complete.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project.

Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat Rangewide Determination Key (DKey), invalidates this letter. ***Answers to certain questions in the DKey commit the project proponent to implementation of conservation measures that must be followed for the ESA determination to remain valid.***

Determination for the Northern Long-Eared Bat

Based upon your IPaC submission and a standing analysis completed by the Service, your project has reached the determination of "May Affect, Not Likely to Adversely Affect" the northern long-eared bat. Unless the Service advises you within 15 days of the date of this letter that your

IPaC-assisted determination was incorrect, this letter verifies that consultation on the Action is complete and no further action is necessary unless either of the following occurs:

- new information reveals effects of the action that may affect the northern long-eared bat in a manner or to an extent not previously considered; or,
- the identified action is subsequently modified in a manner that causes an effect to the northern long-eared bat that was not considered when completing the determination key.

15-Day Review Period

As indicated above, the Service will notify you within 15 calendar days if we determine that this proposed Action does not meet the criteria for a "may affect, not likely to adversely affect" (NLAA) determination for the northern long-eared bat. If we do not notify you within that timeframe, you may proceed with the Action under the terms of the NLAA concurrence provided here. This verification period allows the identified Ecological Services Field Office to apply local knowledge to evaluation of the Action, as we may identify a small subset of actions having impacts that we did not anticipate when developing the key. In such cases, the identified Ecological Services Field Office may request additional information to verify the effects determination reached through the Northern Long-eared Bat DKey.

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination for the northern long-eared bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Monarch Butterfly *Danaus plexippus* Candidate
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered

You may coordinate with our Office to determine whether the Action may affect the species and/or critical habitat listed above. Note that reinitiation of consultation would be necessary if a new species is listed or critical habitat designated that may be affected by the identified action before it is complete.

If you have any questions regarding this letter or need further assistance, please contact the Virginia Ecological Services Field Office and reference Project Code 2024-0129074 associated with this Project.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

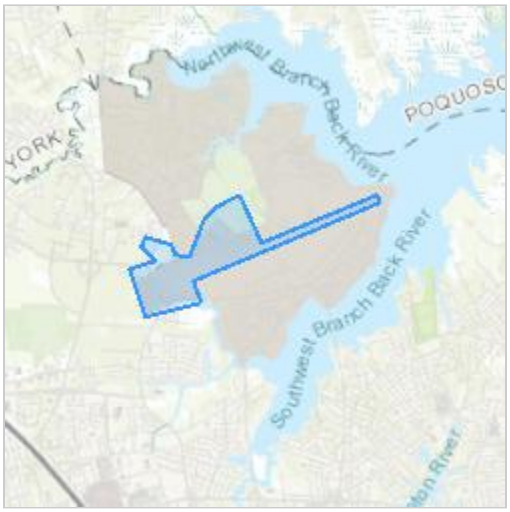
JBLE Langley AFB North Flightline ADP Programmatic Environmental Assessment

2. Description

The following description was provided for the project 'JBLE Langley AFB North Flightline ADP Programmatic Environmental Assessment':

> The U.S. Air Force Joint Base Langley-Eustis (JBLE)-Langley in Hampton, Virginia, has identified the need to implement improvements from the North Flightline Area Development Plan (ADP). These improvements consist of the construction of a North Gate and joint large vehicle inspection station (LVIS), consolidated logistics compound, consolidated civil engineer compound, raising of the runway above sea level, and rerouting roads to be outside of the clear zone. The Programmatic Environmental Assessment evaluates the environmental effects of these 5 projects; no specific construction plans or timeframes for the projects are available, but would occur in the short-term (new North Gate and LVIS and rerouting roads outside of the clear zone), mid- to long-term (consolidated logistics compound and consolidated civil engineer compound), or long-term (raising runway above sea level).

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.08063715,-76.37057658534721,14z



DETERMINATION KEY RESULT

Based on the answers provided, the proposed Action is consistent with a determination of “may affect, but not likely to adversely affect” for the Endangered northern long-eared bat (*Myotis septentrionalis*).

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of the northern long-eared bat or any other listed species?

   Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

   No

2. The action area does not overlap with an area for which U.S. Fish and Wildlife Service currently has data to support the presumption that the northern long-eared bat is present. Are you aware of other data that indicates that northern long-eared bats (NLEB) are likely to be present in the action area?

   Bat occurrence data may include identification of NLEBs in hibernacula, capture of NLEBs, tracking of NLEBs to roost trees, or confirmed NLEB acoustic detections. Data on captures, roost tree use, and acoustic detections should post-date the year when white-nose syndrome was detected in the relevant state. With this question, we are looking for data that, for some reason, may have not yet been made available to U.S. Fish and Wildlife Service.

   No

3. Does any component of the action involve construction or operation of wind turbines?

   Note: For federal actions, answer ‘yes’ if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

   No

4. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

   Yes

5. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

   No

6. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

   Note: This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

   Yes

7. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

   No

8. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)?

   No

9. Have you determined that your proposed action will have no effect on the northern long-eared bat? Remember to consider the effects of any activities that would not occur but for the proposed action.

   If you think that the northern long-eared bat may be affected by your project or if you would like assistance in deciding, answer “No” below and continue through the key. If you have determined that the northern long-eared bat does not occur in your project’s action area and/or that your project will have no effects whatsoever on the species despite the potential for it to occur in the action area, you may make a “no effect” determination for the northern long-eared bat.

   Note: Federal agencies (or their designated non-federal representatives) must consult with USFWS on federal agency actions that may affect listed species [50 CFR 402.14(a)]. Consultation is not required for actions that will not affect listed species or critical habitat. Therefore, this determination key will not provide a consistency or verification letter for actions that will not affect listed species. If you believe that the northern long-eared bat may be affected by your project or if you would like assistance in deciding, please answer “No” and continue through the key. Remember that this key addresses only effects to the northern long-eared bat. Consultation with USFWS would be required if your action may affect another listed species or critical habitat. The definition of Effects of the Action can be found here: https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions

   No

10. [Semantic] Is the action area located within 0.5 miles of a known northern long-eared bat hibernaculum?

    Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

11. Does the action area contain any caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating northern long-eared bats?

    No

12. Is suitable summer habitat for the northern long-eared bat present within 1000 feet of project activities?
    (If unsure, answer "Yes.")

    Note: If there are trees within the action area that are of a sufficient size to be potential roosts for bats (i.e., live trees and/or snags ≥3 inches (12.7 centimeter) dbh), answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat can be found at: https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions

    Yes

13. Will the action cause effects to a bridge?

    No

14. Will the action result in effects to a culvert or tunnel?

    No

15. Does the action include the intentional exclusion of northern long-eared bats from a building or structure?

    Note: Exclusion is conducted to deny bats' entry or reentry into a building. To be effective and to avoid harming bats, it should be done according to established standards. If your action includes bat exclusion and you are unsure whether northern long-eared bats are present, answer "Yes." Answer "No" if there are no signs of bat use in the building/structure. If unsure, contact your local U.S. Fish and Wildlife Services Ecological Services Field Office to help assess whether northern long-eared bats may be present. Contact a Nuisance Wildlife Control Operator (NWCO) for help in how to exclude bats from a structure safely without causing harm to the bats (to find a NWCO certified in bat standards, search the Internet using the search term "National Wildlife Control Operators Association bats"). Also see the White-Nose Syndrome Response Team's guide for bat control in structures

    No

16. Does the action involve removal, modification, or maintenance of a human-made structure (barn, house, or other building) **known or suspected to contain roosting bats?**

    No

17. Will the action directly or indirectly cause construction of one or more new roads that are open to the public?

    Note: The answer may be yes when a publicly accessible road either (1) is constructed as part of the proposed action or (2) would not occur but for the proposed action (i.e., the road construction is facilitated by the proposed action but is not an explicit component of the project).

    Yes

18. Will any new road go through any area of contiguous forest that is greater than or equal to 10 acres in total extent?

    Note: "Contiguous forest" of 10 acres or more may includes areas where multiple forest patches are separated by less than 1,000 feet of non-forest if the forested patches, added together, comprise at least 10 acres.

    No

19. Will any new road pass between two patches of contiguous forest that are each greater than or equal to 10 acres in extent and are separated by less than 1,000 feet? Northern long-eared bats may cross a road by flying between forest patches that are up to 1,000 feet apart.

    Note: "Contiguous forest" of 10 acres or more may includes areas where multiple forest patches are separated by less than 1,000 feet of non-forested area if the forested patches, added together, comprise at least 10 acres.

    No

20. Will the action include or cause any construction or other activity that is reasonably certain to increase average daily traffic on one or more existing roads?

    Note: For federal actions, answer ‘yes’ when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.). .

    Yes

21. Will the increased vehicle traffic occur on any road that lies between any two areas of contiguous forest that are each greater than or equal to 10 acres in extent and are separated by less than 1,000 feet? Northern long-eared bats may cross a road by flying between forest patches that are up to 1,000 feet apart.

    Note: "Contiguous forest" of 10 acres or more may includes areas where multiple forest patches are separated by less than 1,000 feet of non-forested area if the forested patches, added together, comprise at least 10 acres.

    Yes

22. For every 1,000 feet of road where increased traffic is expected, will there be at least one place where bats could cross the road corridor by flying less than 33 feet (10 meters) between trees whose tops are at least 66 feet (20 meters) higher than the road surface?

    No

23. Will the proposed action result in the cutting or other means of knocking down, bringing down, or trimming of any trees suitable for northern long-eared bat roosting?

    Note: Suitable northern long-eared bat roost trees are live trees and/or snags ≥3 inches dbh that have exfoliating bark, cracks, crevices, and/or cavities.

    Yes

PROJECT QUESTIONNAIRE

Will all project activities by completed by November 30, 2024?

No

In what extent of the area (in acres) will trees be cut, knocked down, or trimmed during the inactive (hibernation) season for northern long-eared bat? **Note:** Inactive Season dates for spring staging/fall swarming areas can be found here: https://www.fws.gov/media/inactive-season-dates-swarming-and-staging-areas

18.5

Enter the extent of the action area (in acres) from which trees will be removed - round up to the nearest tenth of an acre. For this question, include the entire area where tree removal will take place, even if some live or dead trees will be left standing.

18.5

In what extent of the area (in acres) will trees be cut, knocked down, or trimmed during the active (non-hibernation) season for northern long-eared bat? **Note:** Inactive Season dates for spring staging/fall swarming areas can be found here: https://www.fws.gov/media/inactive-season-dates-swarming-and-staging-areas

18.5

Will all potential northern long-eared bat (NLEB) roost trees (trees ≥3 inches diameter at breast height, dbh) be cut, knocked, or brought down from any portion of the action area greater than or equal to 0.1 acre? If all NLEB roost trees will be removed from multiple areas, select 'Yes' if the cumulative extent of those areas meets or exceeds 0.1 acre.

Yes

Enter the extent of the action area (in acres) from which all potential NLEB roost trees will be removed. If all NLEB roost trees will be removed from multiple areas, entire the total extent of those areas. Round up to the nearest tenth of an acre.

18.5

For the area from which all potential northern long-eared bat (NLEB) roost trees will be removed, on how many acres (round to the nearest tenth of an acre) will trees be allowed to regrow? Enter '0' if the entire area from which all potential NLEB roost trees are removed will be developed or otherwise converted to non-forest for the foreseeable future.

0

Will any snags (standing dead trees) ≥3 inches dbh be left standing in the area(s) in which all northern long-eared bat roost trees will be cut, knocked down, or otherwise brought down?

No

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Elizabeth Pratt
Address: [redacted]
Address Line 2: [redacted]
City: Fredericksburg
State: VA
Zip: [redacted]
Email [redacted]
Phone: [redacted]

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Air Force

Appendix B Air Conformity Applicability Model Record of Conformity Analysis

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

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform a net change in emissions analysis to assess the potential air quality impact/s associated with the action. The analysis was performed in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); the General Conformity Rule (GCR, 40 CFR 93 Subpart B); and the USAF Air Quality EIAP Guide. This report provides a summary of the ACAM analysis.

Report generated with ACAM version: 5.0.23a

a) Action Location:
Base: LANGLEY AFB
State: Virginia
County(s): York
Regulatory Area(s): Norfolk-Virginia Beach-Newport News (Hampton Roads), VA

b) Action Title: North Flightline Environmental Assessment at Langley AFB

c) Project Number/s (if applicable):

d) Projected Action Start Date: 1 / 2026

e) Action Description:

Implement the following five (5) individual short-term, mid-term, and long-term projects at Langley AFB (Joint Base Langley-Eustis):

1. Construct new North Gate and Joint Large Vehicle Inspection Station (LVIS) - Construction 2026
2. Construct Consolidated Logistics Compound - Construction 2028
3. Construct Consolidated Civil Engineer Compound - Construction 2026
4. Raise the Runway Above Sea Level - Construction 2030
5. Reroute Roads to be Outside of Clear Zone - Construction 2026

f) Point of Contact:
Name: Paul Sanford
Title: Environmental Planner
Organization: AECOM
Email: paul.sanford@aecom.com
Phone Number: 813-675-6843

2. Analysis: Total reasonably foreseeable net change in direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the "worst-case" (highest annual emissions) and "steady state" (no net gain/loss in emission stabilized and the action is fully implemented) emissions. General Conformity under the Clean Air Act, Section 1.76 has been evaluated for the action described above according to the requirements of 40 CFR 93, Subpart B.

All emissions estimates were derived from various sources using the methods, algorithms, and emission factors from the most current Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and/or Air Emissions Guide for Air Force Transitory Sources. For greater details of this analysis, refer to the Detail ACAM Report.

_____ applicable
X not applicable

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

Conformity Analysis Summary:

2026

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Norfolk-Virginia Beach-Newport News (Hampton Roads), VA			
VOC	3.248	100	No
NO_x	3.638	100	No
CO	4.052		
SO_x	0.008		
PM_{10}	66.248		
$PM_{2.5}$	0.115		
Pb	0.000		
NH_3	0.027		

2027

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Norfolk-Virginia Beach-Newport News (Hampton Roads), VA			
VOC	0.097	100	No
NO_x	1.279	100	No
CO	1.050		
SO_x	0.035		
PM_{10}	0.117		
$PM_{2.5}$	0.117		
Pb	0.000		
NH_3	0.000		

2028

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Norfolk-Virginia Beach-Newport News (Hampton Roads), VA			
VOC	1.399	100	No
NO_x	2.484	100	No
CO	2.645		
SO_x	0.038		
PM_{10}	7.751		
$PM_{2.5}$	0.150		
Pb	0.000		
NH_3	0.009		

2029

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Norfolk-Virginia Beach-Newport News (Hampton Roads), VA			
VOC	0.133	100	No
NO_x	1.698	100	No
CO	1.390		
SO_x	0.052		
PM_{10}	0.159		
$PM_{2.5}$	0.159		
Pb	0.000		
NH_3	0.000		

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

2030

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Norfolk-Virginia Beach-Newport News (Hampton Roads), VA			
VOC	0.500	100	No
NO_x	5.788	100	No
CO	5.935		
SO_x	0.063		
PM_{10}	83.986		
$PM_{2.5}$	0.251		
Pb	0.000		
NH_3	0.097		

2031 - (Steady State)

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Norfolk-Virginia Beach-Newport News (Hampton Roads), VA			
VOC	0.133	100	No
NO_x	1.698	100	No
CO	1.390		
SO_x	0.052		
PM_{10}	0.159		
$PM_{2.5}$	0.159		
Pb	0.000		
NH_3	0.000		

The Criteria Pollutants (or their precursors) with a General Conformity threshold listed in the table above are pollutants within one or more designated nonattainment or maintenance area/s for the associated National Ambient Air Quality Standard (NAAQS). These pollutants are driving this GCR Applicability Analysis. Pollutants exceeding the GCR thresholds must be further evaluated potentially through a GCR Determination.

The pollutants without a General Conformity threshold are pollutants only within areas designated attainment for the associated NAAQS. These pollutants have an insignificance indicator for VOC, NO_x, CO, SO_x, PM_{10}, $PM_{2.5}$, and NH3 of 250 ton/yr (Prevention of Significant Deterioration major source threshold) and 25 ton/yr for Pb (GCR *de minimis* value). Pollutants below their insignificance indicators are at rates so insignificant that they will not cause or contribute to an exceedance of one or more NAAQSs. These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Refer to the Level II, Air Quality Quantitative Assessment Insignificance Indicators for further details.

None of the annual net change in estimated emissions associated with this action are above the GCR threshold values established at 40 CFR 93.153 (b); therefore, the proposed Action has an insignificant impact on Air Quality and a General Conformity Determination is not applicable.

Paul Sanford, Environmental Planner — Jun 07 2024

Name, Title — **Date**

Appendix C Noise Calculations

North Flightline Area Development Plan Improvements at JBLE-Langley

Distance Calculations for Construction Noise

dB1-10*(a)LOG(R2/R1) = dB2
dB1 = noise level at construction site dB2 = noise level at receptor
a = conventional drop-off rate coefficient
a = 2.0 for point source, no ground or atmospheric absorption
R1 = distance from referenced noise level
R2 = distance from receptor

Specific Calculations for UTT

Proposed Action, Construction

Site 40 feet from receptor; noise level 74 dBA at site
74-10*(2)LOG(40/50) = 76

Site 40 feet from receptor; noise level 90 dBA at site
90-10*(2)LOG(40/50) = 92