Capacity Analysis Report (Draft Final)

Joint Base Langley-Eustis (JBLE-Langley)

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ACRONYMS

ABW	Air Base Wing
ACAM	Air Conformity Applicability Model
ACHP	Advisory Council for Historic Preservation
ACM	Asbestos-Containing Material
ADP	Area Development Plans
AF	Air Force
AFI	Air Force Instruction
AFM	Air Force Manual
AICUZ	Air Installation Compatible Use Zone
APZ	Accidental Potential Zones
ARTCC	Air Route Traffic Control Center
ATC	Air Traffic Control
BASH	Bird/Wildlife Aircraft Strike Hazards
BGEPA	Bald and Golden Eagle Protection Act
BMP	Best Management Practice
CAA	Clean Air Act
CATEX	Categorical Exclusion
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CZ	Clear Zone
CZMA	Coastal Zone Management Act
DERP	Defense Environmental Restoration Program
DoD	Department of Defense
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EMS	Environmental Management System
EO	Executive Order
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
EPF	Environmental Planning Function
ESA	Endangered Species Act
ESC	Erosion and Sediment Control
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
FRP	Facility Response Plan
GHG	Greenhouse Gas

HAP	Hazardous Air Pollutants
HQ	Headquarters
HRTPO	Hampton Roads Transportation Planning Organization
HWMP	Hazardous Waste Management Plan
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
JBLE	Joint Base Langley-Eustis
JLUS	Joint Land Use Study
LaRC	Langley Research Center
LBP	Lead Based Paint
LDA	Land Disturbing Activity
MAJCOM	Major Command
MBTA	Migratory Bird Treaty Act
MCL	Maximum Contaminant Level
MGD	Million gallons per day
MMPA	Marine Mammal Protection Act
MMRP	Military Munitions Response Program
MOA	Military Operations Area
MPO	Metropolitan Planning Organization
MRA	Munitions Response Area
MS4	Municipal Separate Storm Sewer System
NAAQS	National Ambient Air Quality Standards
NASA	National Aeronautics and Space Administration
NEPA	National Environmental Policy Act
NHPA	National Historical Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NO2	Nitrogen Dioxide
NPDES	National Pollutant Discharge Elimination System
O3	Ozone
OSHA	Occupational Safety and Health Administration
P2	Pollution Prevention
PA	Programmatic Agreement
PCB	Polychlorinated Biphenyls
pCi/L	picoCuries per Liter
PM	Particulate Matter
PPB	Parts per billion
PPM	Parts per million
PTE	Potential to Emit

RCRA	Resource Conservation and Recovery Act
REC	Record of Environmental Consideration
ROCA	Record of Conformity Analysis
ROD	Record of Decision
ROI	Region of Influence
RPA	Resource Management Area
SHPO	State Historic Preservation Office
SO2	Sulfur Dioxide
SOP	Standard Operating Procedure
SPRP	Spill prevention and response plan
SWPPP	Stormwater Pollution Plans
TCP	Traditional Cultural Property
TMDL	Total Maximum Daily Loads
TRO	Tidewater Regional Office
ug/m3	Micrograms per meter squared
UFC	Unified Facilities Criteria
USEPA	United States Environmental Protection Agency
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service
VAC	Virginia Administrative Code
VCRMP	Virginia Coastal Resources Management Program
VDEQ	Virginia Department of Environmental Quality
VOC	Volatile Organic Compound
VSMP	Virginia Stormwater Management Program

1.0 INTRODUCTION

This document has been prepared to assist Joint Base Langley-Eustis (JBLE-Langley), the public, applicable regulatory agencies, and other stakeholders in understanding the use and application of established baseline information and criteria for determining significance as they apply to the National Environmental Policy Act of 1969 (NEPA) process, as amended, and potential on-base actions. Each time a new activity or action is proposed at the installation, the consideration of how it will affect the environment and community must be assessed through the NEPA process. All Federal facilities follow the guidance set forth by the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of the NEPA (40 Code of Regulations (CFR) Parts 1500 through 1508, commonly referred to as the "CEQ Regulations").

The Air Force (AF) implements NEPA through its own procedures called the Air Force Environmental Impact Analysis Process (EIAP) and provides procedures for environmental impact analysis both within the United States and abroad. Because the authority for, and rules governing, each aspect of the EIAP differ depending on whether the action takes place in the United States or outside the United States, the EIAP provides largely separate procedures for each type of action. Primary procedures for environmental impact analysis of actions outside the United States in accordance with Executive Order (EO) 12114, Environmental Effects Abroad of Major Federal Actions, are contained in 32 CFR §§ 989.37 and 989.38. As NEPA is a federal process, there are no state-specific NEPA regulations or guidance, but the Virginia Department of Environmental Quality (VDEQ) does provide regulatory oversight of the NEPA program at all federal facilities in Virginia. To comply with NEPA and complete the EIAP, the CEQ Regulations must be used together. Other federal, state, and local laws must also be considered and implemented, where applicable.

When an action is planned, the NEPA process normally involves the development of an Environmental Assessment (EA) and, if warranted, an Environmental Impact Statement (EIS) to determine if the planned action would significantly impact environmental and/or socioeconomic health of the surrounding area. There are situations when the Air Force is not required to develop an EA or EIS, and that is when a categorical exclusion (CATEX) applies to the planned action. CATEX are fully defined in Section 4. The use of CATEX is intended to reduce paperwork and eliminate delays in the initiation and completion of proposed actions that have no significant impact. The information found in this document is aimed toward streamlining that process by providing established baseline information and criteria for determining significance which would indicate a significant impact that may require more in-depth NEPA analysis. However, if no impact is anticipated, then an EA or EIS would not be prepared and the project analysis and any proposed action qualifying for CATEX would be included on AF Form 813. Note that application of CATEX to an action does not eliminate the need to meet air conformity requirements (see § 989.30) or the need to do Section 106 for cultural resources. Every EA must lead to either a Finding of No Significant Impact (FONSI), a decision to prepare an EIS, or no action on the proposal (see § 989.14).

2.0 USE OF THIS DOCUMENT

The determination of whether or not an action may have a significant impact will be based in part on the established baseline information and criteria for determining significance presented here. This information provides measures of environmental change which are either quantitative or as specific as possible for topics resistant to quantification such as: aesthetics, cultural resources, and biological resources. When an action is found to have no effects or impacts above significant levels, and do not have a reasonably close causal relationship to the proposed action, then it shall be determined to have no significant impact. An EA will not need to be prepared. A causal relationship to the proposed action or alternatives includes those effects that occur at the same time and place as the proposed action or alternatives and may include effects that are later in time or farther removed in distance from the proposed action or alternatives (CEQ Part 1508.1 (g)). Projects which have a potential to exceed a level of significance will require project-specific NEPA documentation. The level of project-specific NEPA documentation will be determined by the agency.

The capacity analysis is developed with the JBLE-Langley Installation Development Plan (IDP) (Mason & Hanger, 2017), the Unified Facilities Criteria (UFC) Installation Master Planning (DoD, 2020), and Air Force Policy Directive (AFPD) 32-70, Environmental Quality (USAF, 1994). It is not intended to be used as an open-ended scenario for currently unforeseen projects and/or potential impacts. The content in this document may be reviewed and updated annually or as needed by the specific offices identified by MAJCOM that have NEPA implementation responsibility to capture changes in baseline conditions and new or changed criteria.

3.0 METHODOLOGY AND DOCUMENT ORGANIZATION

In the spirit of 40 CFR 1502.2, paragraph (a), which focuses on NEPA documentation being analytical instead of encyclopedic, this document was written to provide easy reference to the established baseline information and criteria for determining significance for each environmental resource area. The user of this document is able to review the discussion of any individual resource area and find its' relevant information without being referenced back and forth among sections (references to other documentation may be applicable for users who want more in-depth information about certain resource areas).

Analysis was performed on JBLE-Langley's specific resource areas that were chosen with input from the installation. As is evident from the individual resource area discussions in Section 5, some areas have quantifiable thresholds, while others are more qualitative in nature.

Four elements are documented for each resource area:

- **Analysis Discussion** – A summary of the current condition (baseline condition) of the resource area.
- **Categorical Exclusions** – Identification of applicable categorical exclusions as found in 32 CFR 989.13 and Appendix B to Part 989.
- **Current Compliance Activities** – A discussion of the current activities taking place for compliance of applicable laws, regulations, and policies as well as best management practices (BMPs) and mitigation.
- **Criteria for Determining Significance** – Identification of criteria that would determine if a significant impact would be experienced by the individual resource area.

A summary indicating applicable regulatory drivers, the existence of applicable categorical exclusions, and summarized criteria for determining significance is included at the top of each page for quick reference of those pertinent items.

A plat map is included in Appendix A to illustrate facility districts in relation to key features including environmental remediation sites and buildings.

4.0 DISCUSSION OF KEY TERMS

Adaptive Management: The NEPA process has historically been implemented based on a model where NEPA practitioners predict potential impacts, mitigate impacts where possible, and then implement the proposed action. The NEPA Task Force Report to the CEQ, Modernizing NEPA Implementation dated September 2003, includes a chapter on adaptive management and monitoring, which augments the "predict-mitigate-implement" model with "monitor and adapt" (NEPA Task Force, 2003).

To successfully implement adaptive management, monitoring must occur long enough to determine if the predicted effects were achieved. As CEQ noted in 1997 and the task force confirmed, agencies do not typically collect long-term data on the environmental impacts of actions. Consequently, for agencies to have the option of using adaptive management as an additional tool for NEPA implementation, there is a need to incorporate the "predict, mitigate, implement, monitor, and adapt" model into the NEPA process. This requires monitoring and considers the effects of potential adaptive measures to allow for mid-course corrections, without requiring new or supplemental NEPA review (as long as the adaptive response and its effect do not exceed the scope of the original analysis) (NEPA Task Force, 2003).

Baseline: Baseline is a measurement of data at a certain point in time which other subsequent measurements are compared against to determine increases and decreases with respect to goals or targets in that particular data set. The current condition of each resource area is presented in the "Analysis Discussion" and "Current Compliance Activities" sections.

Capacity: The amount of potential impact a resource area can tolerate before meeting the definition of "significant".

Categorical Exclusions: The Air Force defines CATEX as "those categories of actions that do not individually or cumulatively have potential for significant effect on the environment and do not, therefore, require further environmental analysis in an EA or an EIS" (32 CFR 989.13 and Appendix B to Part 989, July 1, 2018). It is noted that the most recent CEQ update to the regulations implementing the procedural provisions of NEPA (CEQ, 2020), strikes the paragraph on "cumulative actions" so agencies can focus on analysis of effects that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action. Cumulative impact, defined in 40 CFR 1508.7 (1978), has been repealed.

The use of a CATEX is intended to reduce paperwork and eliminate delays in the initiation and completion of proposed actions that have no significant impact.

The discussion of CATEX in 32 CFR 989.13 includes language that indicates in the absence of "extraordinary circumstances," characteristics of categories of actions that usually do not require either an EIS or an EA include: 1) Minimal adverse effect on environmental quality, 2) No significant change to existing environmental conditions, 3) No significant cumulative environmental impact, 4) socioeconomic effects only, and 5) similarity to actions previously assessed and found to have no significant environmental impacts.

CATEXs apply to actions in the United States and abroad. Normally, any decision-making level may determine the applicability of a CATEX and need not formally record the determination on AF Form 813 or elsewhere, except as noted in the CATEX list. Application of a CATEX to an action does not eliminate the need to meet air conformity requirements. CATEX does not relieve the Installation or the proponent of responsibility for complying with all other environmental requirements related to the proposal, including

requirements for permits, and state regulatory agency review of plans.

Degree: With the 2020 update to the federal NEPA regulations, a simpler, more flexible approach for agencies to assess significance was implemented. Reference to "context" was updated to "potentially affected environment", and "intensity" to "degree". In considering the degree of the effects, agencies should consider both short- and long-term effects of the proposed action. Beneficial and adverse effects, effects on public health and safety, and any effects that would potentially violate Federal, State, Tribal, or local law should all be considered, with an emphasis on protecting the environment (40 CFR 1501.3).

Mitigation: Mitigation details presented in 32 CFR Part 989.22 —discuss five approaches recognized in the CEQ regulations 40 CFR 1508.20 and are summarized here in order of desirability:

- Avoiding the impact altogether by not taking a certain action or parts of an action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment. (This method restores the environment to its previous condition or better.)
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- Compensating for the impact by replacing or providing substitute resources or environments.

Mitigation is further defined in 32 CFR Part 989.22 to include:

(a) When preparing EIAP documents, indicate clearly whether mitigation measures (40 CFR 1508.20) must be implemented for the alternative selected. If using Best Management Practices (BMPs), identify the specific BMPs being used and include those BMPs in the mitigation plan. Discuss mitigation measures in terms of "will" and "would" when such measures have already been incorporated into the proposal. Use terms like "may" and "could" when proposing or suggesting mitigation measures. Both the public and the Air Force community need to know what commitments are being considered and selected, and who will be responsible for implementing, funding, and monitoring the mitigation measures.

(b) The proponent funds and implements mitigation measures in the mitigation plan that is approved by the decision-maker. Where possible and appropriate because of amount, the proponent should include the cost of mitigation as a line item in the budget for a proposed project. The proponent must ensure compliance with mitigation requirements, monitoring their effectiveness, and must keep the Environmental Planning Function (EPF) informed of the mitigation status. The EPF reports its status, through the MAJCOM, to Headquarters (HQ) USAF/A7CI when requested. Upon request, the EPF must also provide the results of relevant mitigation monitoring to the public.

(c) The proponent may "mitigate to insignificance" potentially significant environmental impacts found during preparation of an EA, in lieu of preparing an EIS. The FONSI for the EA must include these mitigation measures. Such mitigations are legally binding and must be carried out as the proponent implements the project. If, for any reason, the project proponent later abandons or revises in environmentally adverse ways the mitigation comments made in the FONSI, the proponent must prepare a supplemental EIAP document before continuing the project. If potentially significant environmental impacts would result from any

project revisions, the proponent must prepare an EIS.

(d) For each FONSI or Record of Decision (ROD) containing mitigation measures, the proponent prepares a plan specifically identifying each mitigation, discussing how the proponent will execute the mitigations, identifying who will fund and implement the mitigations, and stating when the proponent will complete the mitigation. The mitigation plan will be forwarded, through the MAJCOM EPF to HQ USAF/A7CI for review within 90 days from the date of signature of the FONSI or ROD.

Potential to Emit (PTE): Thresholds established by a permit that measure each of the criteria pollutants and hazardous air pollutants (HAPs).

Threshold: The maximum amount of impact a resource area can tolerate before the consequences become "significant." As it relates to permits at JBLE-Langley, the conditions may be based on controls taken to limit the hours, gallons, or usage of air polluting equipment. In turn, the permit thresholds determine the most that any unit can run, be used, or consume certain air pollutants.

5.0 RESOURCE THRESHOLD DISCUSSIONS

5.1 Aesthetics and Visual Resources

Applicable Regulatory Drivers: NEPA
Categorical Exclusions: None
Criteria for Determining Significance: Non-compliance with UFC 200-100-01 or the 2017 IDP

Analysis Summary

Visual resources are defined as the natural and human aspects of land use that comprise the aesthetic qualities of an area. Topography, various vegetation, other natural environmental elements as well as man-made structures adorn the area. The resource, public awareness of the area, and general community concern for visual resources in the area influence any changes to the visual character of the area (USACE et al., 2021).

Aircraft operations and maintenance facilities, located in the southern portion of the base, are the largest structures on base. The National Aeronautics and Space Administration (NASA) operates a facility complex in the northwestern, southern, and southeastern portion of the base. This area occupied by NASA contains aeronautical test equipment and wind tunnels. The base's history in aviation is reflected in older buildings such as the Albert Kahn designed hangars. The majority of the original vegetation planted on base, circa 1916, is still flourishing today. Oak trees stand tall as the dominant species and border the streets and adorning the outside of multiple buildings. The JBLE IDP indicates visual resources are taken into consideration for all installation improvement projects (Mason & Hanger, 2017).

Categorical Exclusions

There are no specific categorical exclusions related to Aesthetics or Visual Resources.

Current Compliance Activities

To define and maintain visual continuity for site development and facilities on Air Force installations, some installations find it necessary to create or designate "Facility Districts". A Facility District is a unique visual zone with a distinguishable architectural setting. A District is further defined as a geographic area with readily identifiable boundaries and a consistent visual character—similar form, scale, palette of materials, etc.—throughout that area. Examples of Facility Districts include historical areas, flightlines, housing areas, or medical campuses. JBLE-Langley has nine planning districts according to the most recent regulating plan (two districts: Flightline West and Flightline East were recently combined to form the South Flightline district).

Facility Districts comply with the base's IDP and Area Development Plans (ADPs). Sites and buildings within a Facility District comply with Facility Group designations as defined under the Facility Hierarchy topic of the Air Force Corporate Facilities Standards and the base's Installation Facilities Standards, (USAF, 2019).

Criteria for Determining Significance

Proposed actions may cause a significant adverse impact either individually or cumulatively to visual and aesthetics resources. In addition to compliance with the IFS, operational, natural, and built constraints as described in the IDP should be considered in determining significance:

- The viewshed should be evaluated for potential impacts such as degradation of existing visual character or quality of the site;
- Damage to existing scenic resources should be avoided;
- The creation of a new source of light or glare should be avoided;
- Parking lots should be designed to enhance the visual environment by increasing the ratio of landscaped area to paved area and should conform to natural topography as practicable. Creating large parking lots should be avoided and smaller parking lots, between and behind buildings is preferred as it reduces the visual impact from the circulation system; and,
- Adverse impacts to the existing utilities or circulation system should be avoided.

5.2 Air Installation Compatible Use Zone (AICUZ)

Applicable Regulatory Drivers: NEPA
Categorical Exclusions: Yes
Criteria for Determining Significance: Non-compliance with AFPD 90-20, AFH 32-7084, or AFI 32-1015.

Analysis Discussion

In the early 1970s, the Department of Defense (DoD) established the AICUZ Program. The goal of the program is to protect the health, safety, and welfare of those living and working near air installations while sustaining the military's operational mission. The Air Force accomplishes this goal by promoting proactive, collaborative planning for compatible development to sustain mission and community objectives (USAF, 2020). Installation development should be compatible with the defense flying mission as described in Air Force Instruction (AFI) 32-1015 (USAF, 2021).

The June 2020 AICUZ Study contains a description of the affected area around the installation (USAF, 2020). It outlines the location of runway Clear Zones (CZs), Accident Potential Zones (APZs), and noise contours, and provides recommendations for development that is compatible with military flight operations.

Airfield Environment. The JBLE-Langley airfield is in the center of the installation. The runway, Runway 08/26, is 10,002 feet long by 150 feet wide and oriented along an east-west. The 1st Fighter Wing operates from two aprons on the south side of the runway. NASA Langley Research Center (LaRC) and the Civil Air Patrol operate from an apron on the north side. There are also several helipads on the north side of the runway. Air traffic control (ATC) is provided by the Air Force via a control tower on the airfield. The Federal Aviation Administration (FAA) also provides ATC via a terminal radar approach control facility in Norfolk (USAF, 2020).

There are **two primary types of aircraft** operating at JBLE: **fixed-wing** (airplanes and jets) and **rotary-wing** (helicopters). These aircraft are permanently based at JBLE and are the most common aircraft conducting flight operations at the installation. Aircraft that are not permanently assigned to the installation, but conduct operations from the installation on an occasional basis, are referred to as "transient" aircraft. Both types of aircraft are fully described in the June 2020 JBLE-Langley AICUZ Study (USAF, 2020).

Maintenance operations are an integral part of the flying operation. Aircraft maintainers may conduct engine maintenance runs that are typically low- to mid-range-powered engine maintenance runs on aircraft parking ramps or just outside of maintenance hangers. Noise associated with these operations are depicted as noise contours (USAF, 2020).

Flight operations including where aircraft fly, how high they fly, how many times they fly over a given area, and the time of day they operate, must be fully evaluated to understand the relationship of flight operations and land use. Each time an aircraft crosses over a runway threshold (the beginning or ending of a runway's useable surface) to either takeoff, practice an approach, or land, it is counted as a single flight operation. Typical operations utilized during normal or increased flight operations at JBLE-Langley are listed here. Each flight track utilized is designed to maximize flight operations and, when possible, minimize the effects of noise (USAF, 2020).

- Takeoff
- Departure
- Straight-In Arrival
- Overhead Break Arrival
- Pattern Work
- Radar Approach
- Simulated Flame-Out

Annual aircraft operations occurring at JBLE-Langley over a 10-year period, including based and transient aircraft have slightly decreased compared to the operations presented in the 2007 AICUZ Study. Over the past five-years, approximately 83 percent takes place during the daytime (7am – 10pm) and approximately 17 percent occurring during the nighttime (10:00pm to 7:00am).

Runway utilization is the frequency with which aircraft utilize a runway. At JBLE-Langley, assigned and transient aircraft utilize Runway 08 for 60 percent of flight operations, and Runway 26 for 40 percent of flight operations. Runway 08 is the preferred runway due to prevailing winds, noise abatement, and other operational considerations. Runway usage and departure routing at JBLE-Langley is summarized in Table 5.2-1.

Table 5.2-1. Runway Usage and Departure Routing at JBLE-Langley

Runway Direction	Arrival (percent)	Departure (percent)
Runway 08 (East)	60	60
Runway 26 (West)	40	40

Source: JBLE-Langley AICUZ Study, June 2020

Noise. Noise from military operations and construction activities may cause concern for people living near military installations. The noise program at JBLE-Langley is aimed at reducing and controlling the emission of noise and vibrations associated with the use of military aircraft, weapon systems, and munitions while maintaining operational requirements. The Air Force has defined noise zones using the guidance provided in Air Force Handbook (AFH) 32-7084: AICUZ Program Manager's Guide (USAF, 1999).

Potential impact from noise emissions from construction and demolition activities may be reduced by limiting the activity to daytime working hours and reducing the overall construction/demolition period.

Categorical Exclusions

Actions that are categorically excluded in the absence of unique circumstances are:

A2.3.7. Continuation or resumption of pre-existing actions, where there is no substantial change in existing conditions or existing land uses and where the actions were originally evaluated in accordance with applicable law and regulations, and surrounding circumstances have not changed.

A2.3.8. Performing interior and exterior construction within the 5-foot line of a building without changing the land use of the existing building.

A2.3.9. Repairing and replacing real property installed equipment.

A2.3.10. Routine facility maintenance and repair that does not involve disturbing significant quantities of hazardous materials such as asbestos and lead-based paint.

A2.3.11. Actions similar to other actions which have been determined to have an insignificant impact in a similar setting as established in an EIS or an EA resulting in a FONSI. The EPF must document application of this CATEX on AF Form 813, specifically identifying the previous Air Force approved environmental document which provides the basis for this determination.

A2.3.12. Installing, operating, modifying, and routinely repairing and replacing utility and communications systems, data processing cable, and similar electronic equipment that use existing rights of way, easements, distribution systems, or facilities.

A2.3.13. Installing or modifying airfield operational equipment (such as runway visual range equipment, visual glide path systems, and remote transmitter or receiver facilities) on airfield property and usually accessible only to maintenance personnel.

A2.3.14. Installing on previously developed land, equipment that does not substantially alter land use (i.e., land use of more than one acre). This includes outgrants to private lessees for similar construction. The EPF must document application of this CATEX on AF Form 813.

A2.3.25. The analysis and assessment of the natural environment without altering it (inspections, audits, surveys, investigations). This CATEX includes the granting of any permits necessary for such surveys, provided that the technology or procedure involved is well understood and there are no adverse environmental impacts anticipated from it. The EPF must document application of this CATEX on AF Form 813.

A2.3.25. The analysis and assessment of the natural environment without altering it (inspections, audits, surveys, investigations). This CATEX includes the granting of any permits necessary for such surveys, provided that the technology or procedure involved is well understood and there are no adverse environmental impacts anticipated from it. The EPF must document application of this CATEX on AF Form 813.

A2.3.26. Undertaking specific investigatory activities to support remedial action activities for purposes of cleanup of Environmental Restoration Account (ERA)—Air Force and Resource Conservation and Recovery Act (RCRA) corrective action sites. These activities include soil borings and sampling, installation, and operation of test or monitoring wells. This CATEX applies to studies that assist in determining final cleanup actions when they are conducted in accordance with legal agreements, administrative orders, or work plans previously agreed to by EPA or state regulators.

A2.3.27. Normal or routine basic and applied scientific research confined to the laboratory and in compliance with all applicable safety, environmental, and natural resource conservation laws.

A2.3.28. Routine transporting of hazardous materials and wastes in accordance with applicable Federal, state, interstate, and local laws.

A2.3.29. Emergency handling and transporting of small quantities of chemical surety material or suspected

chemical surety material, whether or not classified as hazardous or toxic waste, from a discovery site to a permitted storage, treatment, or disposal facility.

A2.3.30. Immediate responses to the release or discharge of oil or hazardous materials in accordance with an approved Spill Prevention and Response Plan or Spill Contingency Plan or that are otherwise consistent with the requirements of the National Contingency Plan.

A2.3.31. Relocating a small number of aircraft to an installation with similar aircraft that does not result in a significant increase of total flying hours or the total number of aircraft operations, a change in flight tracks, or an increase in permanent personnel or logistics support requirements at the receiving installation. Repetitive use of this CATEX at an installation requires further analysis to determine there are no cumulative impacts. The EPF must document application of this CATEX on AF Form 813.

A2.3.32. Temporary (for less than 30 days) increases in air operations up to 50 percent of the typical installation aircraft operation rate or increases of 50 operations a day, whichever is greater. Repetitive use of this CATEX at an installation requires further analysis to determine there are no cumulative impacts.

A2.3.33. Flying activities that comply with the Federal aviation regulations, that are dispersed over a wide area and that do not frequently (more than once a day) pass near the same ground points. This CATEX does not cover regular activity on established routes or within special use airspace.

A2.3.34. Supersonic flying operations over land and above 30,000 feet MSL, or over water and above 10,000 feet MSL and more than 15 nautical miles from land.

A2.3.35. Formal requests to the FAA, or host-nation equivalent agency, to establish or modify special use airspace (for example, restricted areas, warning areas, military operating areas) and military training routes for subsonic operations that have a base altitude of 3,000 feet above ground level or higher. The EPF must document application of this CATEX on AF Form 813, which must accompany the request to the FAA.

A2.3.36. Adopting airfield approach, departure, and en route procedures that are less than 3,000 feet above ground level, and that also do not route air traffic over noise-sensitive areas, including residential neighborhoods or cultural, historical, and outdoor recreational areas. The EPF may categorically exclude such air traffic patterns at or greater than 3,000 feet above ground level regardless of underlying land use.

A2.3.37. Participating in “air shows” and fly-overs by Air Force aircraft at non-Air Force public events after obtaining FAA coordination and approval.

A2.3.38. Conducting Air Force “open houses” and similar events, including air shows, golf tournaments, home shows, and the like, where crowds gather at an Air Force installation, so long as crowd and traffic control, etc., have not in the past presented significant safety or environmental impacts.

Current Compliance Activities

JBLE-Langley adheres to the AICUZ program pursuant to AFPD 90-20 and AFH 32-7084 (USAF, 2021).

Criteria for Determining Significance

The Department of Defense AICUZ Program addresses the aircraft operational needs with community concerns. Compatible land use controls which limit development in certain areas surrounding airfields and other small arms ranges contribute to promoting public health, safety, and general welfare in areas surrounding air installations yet ensure compatibility with the defense flying missions.

Where the Air Force is the host command, DoD Components on the joint base shall ensure their units implement the AICUZ program pursuant to AFPD 90-20 and AFH 32-7084 (USAF, 2021). If compliance with the AICUZ program is not possible, then that would constitute a significant impact to the AICUZ resource. In general, development of land or encroachment from the surrounding communities should be avoided in the CZs, Accidental Potential Zones (APZs), and Surface Danger Zones established for JBLE-Langley. Land development needs to be compatible within the noise zones, CZs, APZs, and Surface Danger Zones.

New Air Force facility site approvals, construction, and land use designations within the IDP must be consistent with the land use compatibility recommendations in AFH 32-7084, and height restrictions for the installation as identified in the regulating plan AFI 32-1015: Integrated Installation Planning (USAF, 2021).

5.3 Air Quality

Applicable Regulatory Drivers: Clean Air Act, NEPA, VA Air Pollution Control Law
Categorical Exclusions: None
Criteria for Determining Significance: Exceedance of NAAQS Thresholds

Analysis Discussion

National Ambient Air Quality Standards (NAAQS)

The VDEQ's Air Monitoring Program is responsible for carrying out the mandates of the Virginia Air Pollution Control Law, as well as meeting Virginia's federal obligations under the Clean Air Act. They are responsible for regulating stationary sources for which operating permits may be necessary. The air quality thresholds discussed here are to be used as guidance to determine if a proposed action would result in a significant impact to air quality (acute or cumulative) in relation to NEPA. This information should not be used to determine if an action would require a permit.

In Virginia, six pollutants are used to calculate the Air Quality Index: carbon monoxide (CO), nitrogen dioxide (NO2), ozone (O3), sulfur dioxide (SO2), and particulate matter (PM) 2.5 and 10. Not all pollutants are monitored at each location in the state. The air monitoring station nearest to JBLE-Langley is located at the NASA Langley Research Center. The monitoring region under which JBLE-Langley falls is Region 6—Hampton Roads Intrastate Air Quality Control Region (9 Virginia Administrative Code [VAC] 5-20-200). The Tidewater Regional Office (TRO) serves the city of Hampton and Region 6. The VDEQ Core Based Statistical Area/Metropolitan Statistical Area associated with York County and the City of Hampton is CBSA/MSA No. 47260—Virginia Beach-Norfolk-Newport News, VA-NC (VDEQ, 2020).

The 2019 Virginia Ambient Air Monitoring Data Report indicates ambient concentrations of CO, NO2, SO2, and PM10 were within the EPA's national ambient air quality standards (NAAQS) in 2019. Virginia experienced a good ozone season in 2019. There were four exceedance days in Northern Virginia and for the first time there were no days in the Richmond area where the standard of 0.070 parts per million (ppm) was exceeded. For the 3-year period from 2017 through 2019 all ozone sites demonstrated compliance with the 0.070 ppm NAAQS for ozone. For 2019 there were no exceedances of the 35 micrograms per cubic meter (µg/m3) 24-hour standard for PM2.5 (PM less the 2.5 microns). The 2017 – 2019 design values for all sites in the Commonwealth for both the 24 hour and annual standard for PM2.5 are below the NAAQ standard.

The list of pollutants mirrors the federal government's established standards known as the NAAQS. The pollutants of concern, levels and thresholds specific to each, current status, and 2019 actual emissions are indicated in Table 5.3-1.

Table 5.3-1. National Ambient Air Quality Standards

Pollutant [links to historical tables of NAAQS reviews]		Primary/ Secondary	Averaging Time	Level	Form /Threshold	Current Status/ (2019 Actual Emissions)
Carbon Monoxide (CO)		primary	8 hours	9 ppm	Not to be exceeded more than once per year	Attainment (0.6 ppm)
			1 hour	35 ppm		Attainment (0.7 ppm)
Lead (Pb)		primary and secondary	Rolling 3-month average	0.15 µg/m^3 (1)	Not to be exceeded	Attainment/ Unclassified(6)
Nitrogen Dioxide (NO_2)		primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years	Attainment (26 ppb)
		primary and secondary	1 year	53 ppb (2)	Annual Mean	Attainment (3 ppb)
Ozone (O_3)		primary and secondary	8 hours	0.070 ppm (3)	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years	Attainment/ Maintenance (.062 ppm)
Particle Pollution (PM)	$PM_{2.5}$	primary	1 year	12.0 µg/m^3	annual mean, averaged over 3 years	Attainment (6.3 µg/m^3)
		secondary	1 year	15.0 µg/m^3	annual mean, averaged over 3 years	Attainment (6.3 µg/m^3)
		primary and secondary	24 hours	35 µg/m^3	98th percentile, averaged over 3 years	Attainment (14 µg/m^3)
	PM_{10}	primary and secondary	24 hours	150 µg/m^3	Not to be exceeded more than once per year on average over 3 years	Attainment (0 days > 150 µg/m^3 ; 2019 highest max 19 µg/m^3)
Sulfur Dioxide (SO_2)		primary	1 hour	75 ppb (4)	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years	Attainment (9 ppb)
		secondary	3 hours	0.5 ppm (500 ppb)	Not to be exceeded more than once per year	Attainment (0 observations > 500 ppb; 2019 max 2 ppb).

Source: USEPA website **https://epa.gov/criteria-air-pollutants/naaqs-table** [accessed August 25, 2021] and Virginia Ambient Air Monitoring 2019 Annual Report (VDEQ, October 2020).

Notes:

(1) In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 µg/m3 as a calendar quarter average) also remain in effect.

(2) The level of the annual NO_2 standard is 0.053 ppm. It is shown here in terms of parts per billion (ppb) for the purposes of clearer comparison to the 1-hour standard level.

(3) Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O_3 standards are not revoked and remain in effect for designated areas. Additionally, some areas may have certain continuing implementation obligations under the prior revoked 1-hour (1979) and 8-hour (1997) O_3 standards.

(4) The previous SO_2 standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2) any area for which an implementation plan providing for attainment of the current (2010) standard has not been submitted and approved and which is designated nonattainment under the previous SO_2 standards or is not meeting the requirements of a SIP call under the previous SO_2 standards (40 CFR § 50.4(3)). A SIP call is an EPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the required NAAQS.

(5) Units of measure for the standards are ppm by volume, ppb by volume, and micrograms per cubic meter of air (µg/m^3).

(6) Lead is included in the full list of NAAQS pollutants. Not all pollutants are monitored at each monitoring station, and lead is not monitored at the NASA Langley Research Monitoring Station. For Virginia, lead is only required to be monitored at the Montgomery County and Roanoke sites. Due to lack of monitoring data to demonstrate attainment or nonattainment status, ***unclassified*** areas are treated as attainment areas for regulatory purposes.

Primary standards provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly.

Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

When an area is designated in ***nonattainment*** and/or in ***maintenance***, the CAA Section 176(c), General Conformity Rule, is applied.

To further characterize the relationship between actual emissions from 2019 and the potential to emit from the current NAAQS thresholds are presented as percentages in Table 5.3-2 and illustrated in Figure 5.3-1.

Table 5.3-2. Actual 2019 Emissions versus Potential to Emit

Pollutant		Primary/ Secondary	Averaging Time	Form /Threshold	2019 Percent Emitted	Current Percent Capacity
Carbon Monoxide (CO)		primary	8 hours	Not to be exceeded more than once per year	6.67	93.33
			1 hour		2.00	98.00
Lead (Pb)		primary and secondary	Rolling 3-month average	Not to be exceeded	N/A	N/A
Nitrogen Dioxide (NO_2)		primary	1 hour	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years	26.00	74.00
		primary and secondary	1 year	Annual Mean	5.66	94.34
Ozone (O_3)		primary and secondary	8 hours	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years	88.57	11.43
Particle Pollution (PM)	$PM_{2.5}$	primary	1 year	annual mean, averaged over 3 years	52.50	47.50
		secondary	1 year	annual mean, averaged over 3 years	42.00	58.00
		primary and secondary	24 hours	98th percentile, averaged over 3 years	40.00	60.00
	PM_{10}	primary and secondary	24 hours	Not to be exceeded more than once per year on average over 3 years	12.67	87.33
Sulfur Dioxide (SO_2)		primary	1 hour	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years	12.00	88.00
		secondary	3 hours	Not to be exceeded more than once per year	0.40	99.60

Source: USEPA website **https://epa.gov/criteria-air-pollutants/naaqs-table** [accessed August 25, 2021] and Virginia Ambient Air Monitoring 2019 Annual Report (VDEQ, October 2020).

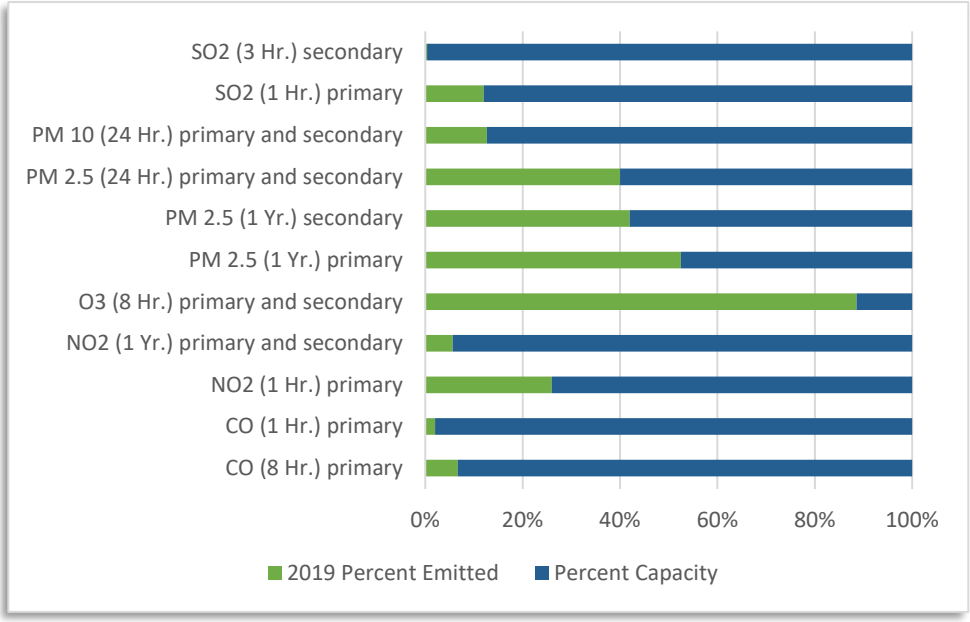

Figure 5.3-1. 2019 Percent Emitted versus Percent Capacity (PTE)

General Conformity Rule

The United States Environmental Protection Agency (USEPA) designates an area as in attainment when it complies with the NAAQS. Areas that violate these ambient air quality standards are designated as nonattainment areas. Areas that have improved air quality from nonattainment to attainment are designated as attainment/maintenance areas. Areas that lack monitoring data to demonstrate attainment or nonattainment status are designated as unclassified and are treated as attainment areas for regulatory purposes. When an area is designated in nonattainment and/or in maintenance, the Clean Air Act (CAA) Section 176(c), General Conformity Rule, is applied. The intent of this rule is to ensure that Federal actions do not adversely affect the timely attainment of air quality standards in areas of nonattainment or maintenance. The USAF conducts NEPA and General Conformity assessments in tandem within the EIAP process. The USAF EIAP process includes three progressive levels of assessment based on exceeding significance thresholds: Level I, exempt action screening (no air emissions or proposed action is exempt), Level II, quantitative estimate of the annual net total direct and indirect emissions of concern using the Air Conformity Applicability Model (ACAM), Level III, advanced assessment addresses both quantitative and qualitative assessments as discussed in the USAF Air Quality EIAP Guide (Solutio, 2020).

Each time an activity is proposed that may require NEPA analysis, JBLE-Langley performs analysis based on the General Conformity Rule to determine if the activity will exceed the thresholds de minimis presented in Table 3. If the emissions from the activities are below the de minimis levels, then a full General Conformity Analysis is not required. This also means that NEPA analysis will not be required based solely on potential air emissions from the activities. Described in 40 CFR Part 93, Subpart B, 93.153(b)(2), Applicability, the following rates/thresholds are applicable in maintenance areas:

Table 5.3-3. General Conformity Rule Thresholds for Maintenance Areas

Pollutant	Tons/year
Ozone (NOX, SO_2 or NO_2):	
All Maintenance Areas	100
Ozone (Volatile Organic Compounds (VOC)):	
Maintenance areas inside an ozone transport region	50
Maintenance areas outside an ozone transport region	100
Carbon monoxide: All maintenance areas	100
PM_{10}: All maintenance areas	100
$PM_{2.5}$:	
Direct emissions	100
SO_2	100
NOX (unless determined not to be a significant precursor)	100
VOC (if determined to be significant precursors)	100
Ammonia	100
All maintenance areas	100
Pb (lead): All maintenance areas	25

Air Conformity Applicability Model (ACAM)

The Air Force has developed an automated screening tool known as the Air Conformity Applicability Model (ACAM) to perform a simplified General Conformity Rule Applicability Analysis for non-transportation proposed actions and projects. ACAM is a computer model used by Air Force planners and EIAP personnel in the determination of General Conformity applicability for proposed actions in nonattainment or maintenance designated areas. This tool is used to identify proposed actions and alternatives which would likely or may result in no or minimal emission increases, and those actions which may require further air quality analysis and undergo a General Conformity determination. ACAM calculates criteria pollutants, hazardous air pollutants (HAPs), and greenhouse gas (GHG) emissions for proposed Air Force action(s). It requires minimal inputs from the user and outputs standardized reports that follow the requirements for the Air Forces Record of Conformity Analysis (ROCA) reporting format. Additional information may be found on the ACAM website at: https://aqhelp.com/acam.html.

Permit #60059 State Operating Permit

Applicable Regulatory Drivers: VA Air Pollution Control Law, Clean Air Act, NEPA, EO 13834 (sections 6,7, and 11), EO 13990, and EO 14008
Categorical Exclusions: None
Criteria for Determining Significance: Exceedance of Thresholds

This permit is based on and combines permit terms and conditions in accordance with 9VAC5-80-1255. The following permit approvals and the respective permit applications include:

- Minor new source review permit approval dated October 29, 2019
- State operating permit dated October 29, 2019

This permit does not relieve JBLE-Langley of the responsibility to comply with all other local, state, and federal permit regulations. Further, emission units at JBLE-Langley may be subject to 40 CFR 63, Maximum Achievable Control Technology, (MACT) Subparts ZZZZ, CCCCCC, and HHHHHH and 40 CFR 60, New Source Performance Standard (NSPS), Subpart IIII. Virginia has not accepted delegation of these rules. In summary, the units may be required to comply with certain federal emission standards and operating limitations.

Facility-wide Emissions Limits

As part the state operating permit requirements, the installation must maintain records of emission data and operating parameters as necessary to demonstrate compliance. The content and format of the records should be coordinated with the Tidewater Regional office and be sufficient to respond to any requests for data from DEQ. Additional federal reporting to the EPA is required for MACT and NSPS. See 40 CFR 63 and 40 CFR 60, respectively. The permitted stationary source types are listed here:

- Paint/Coating Operations
- Diesel Above Ground Storage Tanks
- Gasoline Above Ground Storage Tanks
- Jet Fuel Above Ground Storage Tanks
- Cold Cleaning Parts Washers
- Natural Gas Fired Units
- Diesel Fired Emergency Engines
- Miscellaneous Emission Units

Total emissions from all emission sources (or units) identified in the stationary source types above and further detailed in the permit indicates that the listed equipment shall not exceed the limits specified in Table 5.3-4.

Table 5.3-4. Facility-wide Emission Limits

Pollutant	Tons/Year
Particulate Matter (PM)	11.5
PM-10	10.3
PM-2.5	8.4
Sulfur Dioxide	3.6
Nitrogen Oxides (as NO2)	83.2
Carbon Monoxide	40.3
Volatile Organic Compounds	37.3
Hazardous Air Pollutants: Single Highest HAP Limit Total HAPs limit	5.0 16.0

Other Emission Limits

The JBLE-Langley state operating permit includes emission limits for painting and visual emissions. It also includes specifications for maximum sulfur content for diesel fuel. The applicable state regulations for all emission limits at JBLE-Langley, as cited in the permit, include: 9VAC5-80-850, 9VAC5-80-1180, 9VAC5-50-260, 9VAC5-40-80, and 9VAC5-50-410 (October 29, 2019). Mitigation of fugitive dust emissions should be accomplished in accordance with 9VAC5-40-90.

Mobile, Stationary, and Regional Emission Summary

Mobile sources, such as vehicle and aircraft emissions, are not regulated under permitting requirements and are not covered under existing stationary source permitting requirements. However, they are considered when evaluating current condition emission inventories for JBLE-Langley and the general region of influence (ROI) for the proposed activity. At the time this document was prepared, a recent air emissions study was completed for the proposed beddown of the F-22 Formal Training Unit (FTU) mission. The study provides a background for the role JBLE-Langley operations plan in regional air emissions. This information is summarized in Table 5.3-5.

Table 5.3-5. Joint Base Langley-Eustis Emissions Summary

Location	VOCs	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$	HAPs
JBLE-Langley Stationary Sources[1]	8.72	13.51	23.33	1.00	1.86	1.74	0.79
JBLE-Langley Mobile Sources[2,3]	32.28	441.90	188.10	15.98	27.27	22.84	0.04
Total JBLE-Langley	***41.00***	***455.41***	***211.43***	***16.98***	***29.13***	***24.58***	***0.83***
City of Hampton[4]	3,674	13,671	2,570	151	538	278	964.42
Percent of City of Hampton Emissions	1.12	3.33	8.23	11.24	5.41	8.84	0.08

Sources: [1]JBLE-Langley 2019; [2]AECOM 2017; [3]Air Force 2019a; [4]USEPA 2020b. Units = tons/year.

Greenhouse Gas Emissions

The GHG Reporting Program authority is carried out at the federal level of the USEPA. The Consolidated Appropriations Act of 2008 triggered the issue of the Mandatory Reporting of Greenhouse Gases Rule (74 FR 56260/40 CFR 98).

There are 3 Executive Orders (EOs) relevant to this effort:

- Portions of EO 13834, Efficient Federal Operations (sections 6, 7, and 11). May 17, 2018
- EO 13990. Climate Crisis: Efforts to Protect Public Health and Environment and Restore Science. January 20, 2021
- EO 14008. Tackling the Climate Crisis at Home and Abroad. January 27, 2021

EO 13834, was revoked in part on January 20, 2021. Sections 6, Duties of the Federal Chief Sustainability Officer; Section 7, Duties of Heads of Agencies; and Section 11, General Provisions remain. This EO was revoked by Executive Order 13990 Climate Crisis; Efforts to Protect Public Health and Environment and Restore Science.

EO 13990, directs all executive departments and agencies to immediately review and, as appropriate and consistent with applicable law, take action to address the promulgation of Federal regulations and other actions taken during the prior administration which conflict with new administration objectives, and to immediately commence work to confront the climate crisis.

EO 14008, as three overarching objectives 1) promote safe global temperature, 2) increase climate resilience, and 3) support a financial pathway toward low GHG emissions and climate-resilient development. The EO reinstates the Presidential Memorandum of September 21, 2016 (Climate Change and National Security), establishes the Climate Policy Office within the Executive Office of the President, and establishes a National Climate Task Force. In addition, the EO aims to use Federal procurement to support robust climate action including a carbon pollution-free electricity sector, no later than 2035, and clean and zero-emission vehicles for Federal, State, local, and Tribal government fleets.

Categorical Exclusions

There are no categorical exclusions specific to air listed in Appendix B to Part 989, Categorical Exclusions. However, air conformity analysis needs to be considered for all actions regardless of CATEX eligibility (see the Air Force Air Quality EIAP Guide for more information [Solutio, 2020]).

Current Compliance Activities

The Air Quality Compliance and Resource Management Program identifies essential AF requirements and actions to manage AF air resource assets to maximize their military value and optimize their economic, ecologic, and community value. This, while attaining and maintaining compliance with 42 USC §§ 7401-7671q, CAA, applicable state and local air quality regulations, and Air Force Manual (AFM) 32-7002 (USAF, 2020b).

A detailed facility report is available by accessing the EPA's Enforcement and Compliance History Online (ECHO) website which assesses current compliance with applicable environmental regulations. The link for JBLE-Langley specific information is included in the link below:

https://echo.epa.gov/detailed-facility-report?fid=110000620356#summary110000620356

Criteria for Determining Significance

A significant adverse air quality impact may occur when an individual project or a project that has a reasonably foreseeable environmental trend causes:

- A status of non-attainment of the NAAQS thresholds as found in Table 5.3-1,
- An exceedance of an emission limit specified in the air permit as listed in Table 5.3-4,
- An inability to meet the goals set forth in EOs 13834 (section 6, 7, and 11), EO 13990, and EO 14008, or
- An exceedance of a General Conformity Rule threshold as found in Table 5.3-3.

These four criteria apply to both short-term impacts and those that have a reasonably foreseeable negative environmental trend in the long-term.

5.4 Airspace Management and Operations

Applicable Regulatory Drivers: FAA, NEPA
Categorical Exclusions: Yes
Criteria for Determining Significance: Change in designation of existing airspace classification or the introduction of an activity that results in operational constraints.

Analysis Discussion

The affected environment for airspace management and operations includes both the airfield and primary training airspace. The JBLE-Langley is home to the 1st Fighter Wing (1 FW) which is comprised of three fighter squadrons. The 27th Fighter Squadron (27 FS) and the 94th Fighter Squadron (94 FS) both fly the F-22 Raptor, and the 71st Fighter Training Squadron (71 FTS) flies the T-38A. The 27 FS and 94 FS provide air superiority for the U.S. and allied forces and maintain readiness for global deployment as part of the 1 FW.

Airfield

The JBLE-Langley airfield is located 3 miles north of Hampton, Virginia. JBLE-Langley has one bi-directional runway (RW), RW 08/26, with 60 percent of airfield operations on RW 08 and 40 percent on RW 26 (USACE, 2021).

Airspace around the JBLE-Langley airfield is controlled Class D airspace, which extends from the surface up to but not including 2,500 feet above ground level within a 4.4 nautical mile (NM) radius of JBLE-Langley. The Class D airspace abuts Norfolk International Airport's Class C airspace and overlies a portion of Newport News Williamsburg International Airport's Class D airspace. To ensure the safety of all aircraft operating in the area, Letters of Agreement (LOA) are in place defining the responsibilities of each Air Traffic Control (ATC) facility. The LOA between Norfolk International and JBLE-Langley define the procedures for aircraft departures and arrivals to JBLE-Langley. The LOA between JBLE-Langley and the Newport News Williamsburg International Airport provides access to VFR aircraft operating in the overlapping Class D airspace without prior approval from either the JBLE-Langley or Newport News Williamsburg International Airport tower (FAA, 2014).

Many factors can influence the annual level of operational activity at an airfield, including economics, national emergencies, and maintenance requirements.

A variety of transient aircraft also conduct a smaller number of operations at JBLE-Langley. Table 5.4-1 provides the existing number of annual airfield operations at JBLE-Langley airfield.

Table 5.4-1. Annual Airfield Operations at Joint Base Langley-Eustis-Langley

Use		Annual Airfield Operations
1 FW[1]	F-22	22,677
	T-38	16,000
	Total	38,677
NASA[2]		1,134
CAF ADAIR[3]		9,307
Transient		6,956
Total		56,074

Source: Cardno 2020.

Notes: [1]1st Fighter Wing; [2]National Aeronautics and Space Administration; [3]Combat Air Forces Adversary Air.

Training Airspace

JBLE-Langley requires use of training airspace between 220 and 240 days per year during daylight hours (an average of 230 days). The usable hours based on an average training year is 2,760 (Monday-Friday for an average 12 hours each day minus holidays, safety days, etc.). The primary training airspace includes Warning Areas that are scheduled intermittently through the Notices to Airman process (FAA, 2021). The controlling agency for these Warning Areas is the FAA's Washington Air Route Traffic Control Center, while the Navy, Fleet Area Control and Surveillance Facility, Virginia Capes, is responsible for scheduling and prioritizing use of each Warning Area. When requests for Special Use Airspace use exceeds the services available, requests for use are honored based on the scheduling priorities set forth in Headquarters, U.S. Fleet Forces Command's Operations Order 2000-11, Chapter 5, Scheduling Priorities. As an example, support for DoD deployments is considered priority 1, unit level phase and other training priority 4, and routine operations, exercises, and training priority 6. No Air Traffic Service Routes transect the Warning Areas.

The Pamlico B Military Operations Area (MOA) is controlled and scheduled by the Marine Corps Air Station Cherry Point Approach Control (FAA, 2021). Pamlico B MOA is used occasionally by JBLE-Langley. The vast majority of military aircraft operations in these airspaces are from Navy units. Table 5.4-2 provides the details regarding the use of the JBLE-Langley training airspace as depicted in the Final EIS for FTU Optimization, February 2020. Two Air Traffic Service Routes, Victor 290 (V290) and Tango 243 (T243) that provide service to Dare County Regional Airport, transect the Pamlico B MOA.

Table 5.4-2. Joint Base Langley-Eustis Annual Primary Training Airspace Operations

Airspace	Floor	Ceiling	Total Annual Operations[1]	JBLE-Langley Annual Operations[2]
Pamlico B MOA	8,000 feet MSL	18,000 feet MSL	350	0[3]
W-72	Surface	Unlimited	20,302	753
W-122	Surface	Unlimited	15,554	801
W-386	Surface	Unlimited	17,154	13,527
		Total Operations	**53,010**	**15,081**

Sources: U.S. Navy, 2020; USAF 2019b.

Notes: [1]fiscal year 2019 Air Operations Data composed primarily of Navy aircraft; 4,000 CAF ADAIR operations distributed 90 percent to W-386 and 5 percent each to W-72 and W-122. [2]Includes 4,000 CAF ADAIR operations. [3]No recorded use by JBLE-Langley for 2019.

Civilian Airports

There are three public airports and zero private airports operating below the Pamlico B MOA. Table 5.4-3 lists the civilian airports in the entire region of influence.

Table 5.4-3. Civilian Airports in the Region of Influence

Airport	Airspace	Ownership	Yearly Operations
Billy Mitchell	Pamlico B MOA	Public	9,200
Hyde County	Pamlico B MOA	Public	4,050
Ocracoke Island	Pamlico B MOA	Public	6,100

Source: FAA, 2020.

Categorical Exclusions

According to 32 CFR § 989.13, airspace management and operation actions that are categorically excluded in the absence of unique circumstances are:

A2.3.13. Installing or modifying airfield operational equipment (such as runway visual range equipment, visual glide path systems, and remote transmitter or receiver facilities) on airfield property and usually accessible only to maintenance personnel.

A2.3.22. Routine, temporary movement of personnel, including deployments of personnel on a TDY basis where existing facilities are used.

A2.3.31. Relocating a small number of aircraft to an installation with similar aircraft that does not result in a significant increase of total flying hours or the total number of aircraft operations, a change in flight tracks, or an increase in permanent personnel or logistics support requirements at the receiving installation. Repetitive use of this CATEX at an installation requires further analysis to determine there are no cumulative impacts. The EPF must document application of this CATEX on AF Form 813.

A2.3.32. Temporary (for less than 30 days) increases in air operations up to 50 percent of the typical installation aircraft operation rate or increases of 50 operations a day, whichever is greater. Repetitive use of this CATEX at an installation requires further analysis to determine there are no cumulative impacts.

A2.3.33. Flying activities that comply with the Federal aviation regulations, that are dispersed over a wide area and that do not frequently (more than once a day) pass near the same ground points. This CATEX does not cover regular activity on established routes or within special use airspace.

A2.3.34. Supersonic flying operations over land and above 30,000 feet MSL, or over water and above 10,000 feet MSL and more than 15 nautical miles from land.

A2.3.35. Formal requests to the FAA, or host-nation equivalent agency, to establish or modify special use airspace (for example, restricted areas, warning areas, military operating areas) and military training routes for subsonic operations that have a base altitude of 3,000 feet above ground level or higher. The EPF must document application of this CATEX on AF Form 813, which must accompany the request to the FAA.

A2.3.36. Adopting airfield approach, departure, and en route procedures that are less than 3,000 feet above ground level, and that also do not route air traffic over noise-sensitive areas, including residential

neighborhoods or cultural, historical, and outdoor recreational areas. The EPF may categorically exclude such air traffic patterns at or greater than 3,000 feet above ground level regardless of underlying land use.

A2.3.37. Participating in "air shows" and fly-overs by Air Force aircraft at non-Air Force public events after obtaining FAA coordination and approval.

A2.3.38. Conducting Air Force "open houses" and similar events, including air shows, golf tournaments, home shows, and the like, where crowds gather at an Air Force installation, so long as crowd and traffic control, etc., have not in the past presented significant safety or environmental impacts.

Current Compliance Activities

The Unified Facilities Criteria (UFC) system, UFC 3-260-01, Airfield and Heliport Planning and Design, May 5, 2020, is prescribed by MIL-STD 3007 and provides planning, design, construction, sustainment, restoration, and modernization criteria, and applies to the Military Departments, the Defense Agencies, and the DoD Field Activities in accordance with USD (AT&L) Memorandum dated 29 May 2002. This manual provides standardized airfield, heliport, and airspace criteria for the geometric layout, design, and construction of runways, helipads, taxiways, aprons, landing zones (LZs), short take-off and vertical landing facilities, unmanned aircraft system (UAS) facilities and related permanent facilities to meet sustained operations.

JBLE-Langley is subject to compliance with FAA Order JO 7400.10C, *Special Use Airspace*, which provides a listing of all regulatory and non-regulatory special use airspace areas, as well as issued but not yet implemented amendments to those areas established by the FAA (FAA, 2021).

Criteria for Determining Significance

Actions to which a CATEX does not apply may cause a significant adverse impact either individually or cumulatively.

Operational constraints related to flying and maintaining aircraft; storing fuel, munitions, and other potentially hazardous cargo; and training, ranges or similar operational requirements all have the potential to limit or restrict mission requirements. In addition to UFC 3-260-01, compliance with the following operational planning constraints as described in the IDP should be considered in determining significance of airspace impacts:

- Proximity to the Explosive Safety Quantity Distance arcs,
- Airfield clearances and AICUZ,
- Compatible use, and
- Antiterrorism considerations.

The primary natural planning consideration that may affect the airfield training space would be to avoid bird/wildlife aircraft strike hazards (BASH). The JBLE-Langley Environmental Special Conditions Report revised February 20, 2020, provides guidance on roof design to minimize bird colonization and therefore reduce the frequency of aircraft impacts with wildlife and protect the life of military personnel in and around the airfield. Wildlife hazards mitigation plans and FAA/AC150/5200-33B to minimize aircraft wildlife strikes should be referenced in addition to the AFI 91-212, BASH Management Program (JBLE-Langley, 2017b).

5.5 Cultural Resources

Applicable Regulatory Drivers: NEPA, NHPA
Categorical Exclusions: Yes
Criteria for Determining Significance: Requires CRM review.

Analysis Discussion

JBLE-Langley is located in an area rich in both prehistoric and historic cultural resources. The following summary of known cultural resources is based on the 2019 *Integrated Cultural Resources Management Plan (ICRMP), Joint Base Langley Eustis, Langley Air Force Base*.

National Register of Historic Places (NRHP) Eligible Buildings: There are 246 buildings located within JBLE-Langley and the Bethel Reservoir/Family Housing Area that are considered eligible for listing in the NRHP. Of those, 244 are associated with the Langley Field Historic District. The remaining two buildings, Building 90 and Building 1362 (Alert Hangar), are considered individually eligible for listing in the NRHP and are both located outside of the Langley Field Historic District.

The Langley Field Historic District and Building 1362 were both determined eligible for the NRHP in 1997, and Building 90 was determined eligible in 2007. Of the NRHP-listed buildings located within the boundaries of the Langley Field Historic District, eight do not contribute to this district. These eight buildings are NASA owned and are considered contributing resources to the NASA LaRC Historic District.

Archeological Sites: Thirty-one sites have been documented within JBLE-Langley and the Bethel Reservoir/Family Housing area. Of these sites, eight contain prehistoric deposits, nine contain historic deposits, and 19 contain mixed deposits of both prehistoric and historic cultural materials.

NRHP Eligible Archaeological Sites: Seven of the 31 archaeological sites documented within JBLE-Langley and the Bethel Reservoir/Family Housing Area are considered eligible for listing in the NRHP. One additional site requires further evaluation to determine its NRHP eligibility.

Traditional Cultural Properties (TCPs): To date, no Native American TCPs or Sacred Sites have been identified at JBLE-Langley or the Bethel Reservoir/Family Housing Area; and

Big Bethel Battlefield: As defined by the National Park Service, portions of the core area for the first land battle of the American Civil War lies within the Bethel Reservoir/Family Housing Area of JBLE-Langley. This battlefield is considered ineligible for the NRHP.

Categorical Exclusions

One CATEX is codified under 32 CFR Appendix B Part 651, Section II paragraph (d) (5) and addresses cultural and natural resource management activities. Additionally, paragraph (g) (1) addresses repair and maintenance activities for buildings, specifically stating that a record of environmental consideration is required for the asbestos and lead-based paint remediation of historic buildings. However, the activities covered by all categorical exclusions outlined in 32 CFR Appendix B Part 651 that have the potential to impact cultural resources are subject to review by the JBLE-Langley Cultural Resource Manager.

Additionally, the USAF entered into a *Routine Operations and Maintenance* Programmatic Agreement (PA) with the Virginia State Historic Preservation Office (SHPO), also known as the Virginia Department of

Historic Resources, and the Advisory Council for Historic Preservation (ACHP) in 2005. This PA outlines stipulations that satisfy the USAF's Section 106 responsibilities under the National Historic Preservation Act of 1966 (NHPA), as amended, and defines "Excluded Activities" that do not require further consultation with the SHPO or the ACHP. This PA was fully executed in 2005 and has not been renewed since its expiration in 2009. Similarly, privatized residential housing at JBLE Langley is managed under a Memorandum of Agreement (MOA) that was fully executed in 2007.

In 1986 the DoD, the ACHP, and the National Conference of State Historic Preservation Officers entered into a PA regarding the demolition of World War II era (1939-1946) temporary buildings. Amended in 1991, this PA ensures that the demolition of these buildings does not require SHPO consultation, unless there will be ground disturbance, in which case archaeological survey is required. The PA does not, however, eliminate the need for SHPO Section 106 consultation and concurrence of ineligibility if any activity other than demolition, including interior and exterior renovations, is proposed for World War II era temporary buildings.

The ACHP issues Program Comments that cover specific categories of undertakings in lieu of commenting on a case-by-case basis. Program Comments are especially advantageous to agencies that may have repetitive management actions for a large inventory of similar historic properties or for agencies that have programs that generate a large number of similar undertakings. ACHP's Program Comments addressing World War II and Cold War Era (1939-1974) Ammunition Storage Facilities and Cold War Era Unaccompanied Personnel Housing (1946-1974) are applicable to JBLE Langley.

Finally, for activities not explicitly covered by the PAs, MOA, or Program Comments discussed above, cultural resource management at JBLE Langley is performed in accordance with federal laws and regulations and DoD and USAF policies and requirements. Legal requirements are outlined in the current JBLE Langley ICRMP. Specifically, JBLE Langley manages cultural resources in accordance with *Cultural Resources Management* Air Force Instruction (AFI) 32-7065, *Interaction with Federally Recognized Tribes* AFI 90-2002, and the stipulations and processes outlined in the *Environmental Conservation* Air Force Manual (AFM) 32-7003. Furthermore, the current ICRMP for JBLE Langley includes nine Standard Operating Procedures (SOPs) for the identification, management, and protection of cultural resources. The CRM for JBLE Langley ensures that appropriate procedures are properly communicated and followed by necessary personnel.

Current Compliance Activities

Through the ICRMP, JBLE-Langley has established procedural guidelines for protecting cultural resources in accordance with the NHPA and cultural resources specific DoD guidance. As mentioned above, the current ICRMP SOPs are available to assist the CRM and other necessary personnel with the management and protection of cultural resources. The *Communication, Planning, and EIAP, 36 CFR Part 800 Process (Implementing NHPA Section 306108),* and *Management and Coordination* SOPs are discussed here are particularly relevant to planning for potential impacts.

The *Communication, Planning, and EIAP* SOP outlines procedures that must be followed when implementing the Environmental Impact Analysis Process (EIAP) for environmental project review. EIAP and the procedures outlined in this SOP are in compliance with the requirements of NEPA. The proponent of an action is responsible for initiating the EIAP early in the planning stages of a proposed action.

The *36 CFR Part 800 Process (Implementing NHPA Section 306108)* SOP outlines procedures to ensure that historic properties are considered during the planning and execution of federal undertakings. Activities, programs, or projects that have the potential to affect historic properties thus triggering a 36 CFR Part 800 review include, but are not limited to:

- Rehabilitation, renovation, or addition to buildings, structures, and/or utilities
- Replacement or maintenance of infrastructure
- Demolition of buildings and structure
- Proposed beddowns
- Environmental Restoration Program (ERP) investigations and clean-up
- Real property actions such as land transfers, out-leasing, etc.
- Finally, the Management and Coordination SOP outlines and describes cultural resources-related communication, review, and coordination processes and workflows. This SOP ensures internal review procedures will be initiated as early as possible during project planning, so that personnel are allowed sufficient time to implement appropriate cultural resource activities, as required. Specific documents and processes that typically require internal review include:
- Submittal of AF Form 332 to Civil Engineering for proposed work to determine whether the proposed work will affect any natural or cultural resources
- Submittal of AF IMT 103 to CE generally for work involving digging to determine whether the proposed work will affect any natural or cultural resources
- NEPA project review including the EIAP and completion of AF Form 813

Criteria for Determining Significance

The JBLE-Langley CRM will review all proposed actions to identify those that may have an effect on cultural resources. The information gathered from the JBLE-Langley CRM review will also be used to determine the significance of impact as defined by NEPA. Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and afford the SHPO, ACHP, and other parties with an interest a reasonable opportunity to comment (consultation) beginning at the early stages of project planning. An undertaking is defined as a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; those requiring a Federal permit, license or approval; and those subject to State or local regulation administered pursuant to a delegation or approval by a Federal agency. Once an undertaking has been identified, the JBLE-Langley CRM will determine if it is a type of activity that has the potential to cause effects on historic properties.

It must be noted that NEPA analysis does not replace or negate the need for NHPA Section 106 review. Therefore, any action that may affect physical landscape are subject to review for possible adverse effects and significant impacts to be identified. This includes training, construction, work orders, and service orders routinely reviewed by the NEPA manager. Coordination with the JBLE-Langley CRM is required in all cases.

5.6 Earth Resources

Applicable Regulatory Drivers: NEPA, Virginia Solid Waste Management Regulations 9VAC20-81-660 , Virginia Erosion and Sediment Control Law and Regulations (9VAC25-840), Virginia Stormwater Management Program (VSMP) Regulations Part II B - Technical Criteria for Regulated Land-Disturbing Activities (9VAC25-870-32 through 9VAC25-870-92), Site-specific P2 Plan (9VAC25-870-56) and VDEQ Construction General Permit Part II B 4.
Categorical Exclusions: Yes
Criteria for Determining Significance: *Soil:* Erosion, Compaction, Conversion of existing pervious areas to impervious areas, Exceedance of TMDLs, or changes in stormwater drainage patterns.
Geology: Buildings constructed with pilings above the known flood plain or compromising the confining layers during subsurface activities.
Topology: Significant grading activities related to construction activities.

Analysis Discussion

The affected environment to analyze potential geology and soil related impacts typically include the footprint of the proposed project area and a 100-foot radius. This distance enables analysis on the area which may have impacts during construction and operation activities. If, however, the proposed action includes excavation and hauling, the analysis region may need to be increased so any on-site landfills or temporary soil staging areas are considered in the analysis.

Soils. Soil is the unconsolidated mineral or organic material on the immediate surface of the Earth. It serves as a natural medium for plant growth and water storage, and as habitat for certain types of organisms. Soils are formed by numerous physical, chemical, and biological processes, which include weathering of parent material, accumulation of organic matter, and biochemical leaching or reduction of minerals. Soil consists of horizons near the Earth's surface that, in contrast to the underlying parent material, have been altered by the interactions of climate, relief, and living organisms over time. The lower boundary of soil is typically hard rock or earthy materials which are devoid of animals, roots, or other marks of biological activity. Soil formation is an ongoing process that is determined by the nature of the parent material and influenced by environmental factors such as climate, geology, topography, and vegetation. Soil structure is typically described in terms of the complex type, slope, physical characteristics, and relative compatibility of constraining properties with regard to particular construction activities and types of land use. According to the USDA, for purposes of classification, the lower boundary of soil is arbitrarily set at 200 cm.

Soils in the region where JBLE-Langley is situated are mostly unconsolidated fluvial, marine, and estuarine deposits underlain by beach sands, sandy clays, and gravels from the Tabb and Lynnhaven formations. Table 5.6-1 describes the soil map units identified within the JBLE-Langley footprint:

Table 5.6-1. Soil Map Units at JBLE-Langley

Soil Map Unit	Acres	Percent
Altavista-Urban land complex, 0 to 3 percent slopes	127.3	4.4%
Augusta-Urban land complex, 0 to 2 percent slopes	124.1	4.3%
Axis very fine sandy loam, 0 to 2 percent slopes, very frequently flooded	226.5	7.8%
Bohicket muck, 0 to 1 percent slopes, very frequently flooded	107.1	3.7%

Soil Map Unit	Acres	Percent
Chickahominy-Urban land complex, 0 to 2 percent slopes	455.1	15.7%
Johnston silt loam, 0 to 2 percent slopes, frequently flooded	2.5	0.1%
Lawnes loam, 0 to 1 percent slopes, very frequently flooded	99.3	3.4%
Munden-Urban land complex, 0 to 3 percent slopes	25.3	0.9%
Tomotley-Urban land complex, 0 to 2 percent slopes	4.0	0.1%
Udorthents-Dumps complex	1,255.0	43.2%
Urban land	456.7	15.7%
Water	24.6	0.8%
Totals for Area of Interest	**2,907.7**	**100.0%**

Source: USDA-NRCS Web Soil Survey.
Soil Survey Area: Tidewater Cities Area, Virginia.
Survey Area Data: Version 19, Sept. 16, 2021 (based on aerial images photographed June 27, 2019 – July 1, 2019.
Note: Use and management considerations are available in the Tidewater Cities Area, Virginia soil survey.

The primary risks to soil include erosion, disturbance, and contamination. Activities most likely to contribute to these problems are centered on construction and training operations. Because of the seasonal high-water table, the period when excavation or grading activities occur may be restricted. Flooding and ponding may also limit building site development and grading activities.

Geology. Geological resources consist of surface and subsurface materials and their properties. Geology describes the structure of the Earth on and beneath its surface, and the processes that have shaped that structure.

The surface geology at JBLE-Langley consists of three stratigraphic units: Yorktown Formation, Tabb Formation, and Recent Deposits. The age, depositional environment, and texture of the three units are briefly summarized below (youngest to oldest):

- Recent Deposits: Alluvium (silt, sand, and clay), Marsh Sediment (peat, silt, sand, and clay with organic matter), Sand (beach and dune sand, occurring as a tidal mud flat).
- Tabb Formation (Pleistocene): Lynnhaven Member, sand and clay deposited in a near shore marine depositional environment.
- Yorktown Formation (Pliocene): Sand and silt deposited in a shallow marine depositional environment.

The subsurface geology beneath JBLE-Langley has been characterized into three distinct lithologic units as interpreted from a 2,083.8-foot core hole drilled on nearby NASA property. From youngest to oldest, the units are:

- 774.3 feet of post-impact Coastal Plain deposits (774.3 feet deep to top of the core hole);
- 1,280.4 feet of impact generated crater fill materials (2,054.7 feet to 774.3 feet deep); and
- Crystalline bedrock at 2,054.7 feet deep (USFWS, 2014).

Topography. Topography is the change in elevation over the surface of a land area. An area's topography is influenced by many factors, including human activity, underlying geologic material, seismic activity, climatic conditions, and erosion. A discussion of topography typically encompasses a description of surface elevations, slope, and distinct physiographic features and their influence on human activities (USACE, 2021).

Categorical Exclusions

According to 32 CFR § 989.13, earth resource disturbances as a result of construction or management actions that are categorically excluded in the absence of unique circumstances are:

A2.3.6. Preparing, revising, or adopting regulations, instructions, directives, or guidance documents that implement (without substantial change) the regulations, instructions, directives, or guidance documents from higher headquarters or other Federal agencies with superior subject matter jurisdiction.

A2.3.7. Continuation or resumption of pre-existing actions, where there is no substantial change in existing conditions or existing land uses and where the actions were originally evaluated in accordance with applicable law and regulations, and surrounding circumstances have not changed.

A2.3.8. Performing interior and exterior construction within the 5-foot line of a building without changing the land use of the existing building.

A2.3.14. Installing on previously developed land, equipment that does not substantially alter land use (i.e., land use of more than one acre). This includes out grants to private lessees for similar construction. The EPF must document application of this CATEX on AF Form 813.

Current Compliance Activities

JBLE-Langley is proactive in their efforts of erosion control. Contractors are subject to the requirements outlined in the JBLE-Langley Environmental Special Conditions document dated February 20, 2020. It includes discussions on required stormwater pollution plans (SWPPP)—a requirement if Land Disturbing Activity (LDA) is over one acre. The SWPPPs are required to contain the plans listed below and are subject to the laws and regulations listed:

Erosion and Sediment Control (ESC) Plan. LDAs over 10,000 square feet are subject to the Virginia Erosion and Sediment Control Law and Regulations (9VAC25-840) and meets the state's 19 minimum standards outlined in 9VAC25-840-40, as applicable. Erosion control fencing (silt) to prevent site runoff is required and the ESC plan should describe best management practices for mitigating soil erosion.

Stormwater Management Plan. LDAs disturbing over one acre are required to comply with Virginia Stormwater Management Program (VSMP) Regulations Part II B - Technical Criteria for Regulated Land-Disturbing Activities (9VAC25-870-32 through 9VAC25-870-92). A complete Stormwater Management Plan must meet the requirements of 9VAC25-870- 55. Design of permanent stormwater management facilities are required to be designed in consideration to the base's relatively high ground water table.

Pollution Prevention (P2) Plan. The site-specific Pollution Prevention (P2) Plan is required and needs to be in accordance with 9VAC25-870-56 and VDEQ Construction General Permit Part II B 4. The P2 Plan must identify potential sources of pollutants that may reasonably be expected to affect the quality of stormwater discharges from the construction site and a description of control measures that will be used to minimize pollutants in stormwater discharges from the construction site that must be developed before land disturbance commences. It should also include information specifying any additional control measures to meet the requirements of existing Total Maximum Daily Loads (TMDL).

The JBLE-Langley Environmental Special Conditions document also indicates:

- All soil must be tested to determine if it contains any contaminants prior to relocating it on base or disposing of it off-base. Testing and disposal of soil is subject to the Virginia Solid Waste Management Regulations 9VAC20-81-660 (soil contaminated with petroleum products).

- Soil, regardless of if it is clean or contaminated must be taken to an appropriate landfill or processing center and may not be delivered or donated to off-base sources for use under any circumstances.

- Soil brought onto the installation are subject to the terms of "Environmentally clean" soil and must meet minimum standards based on results of physical (geotechnical) and chemical testing. The test requirements, analytical methods, and sampling frequency are fully described in the JBLE-Langley Environmental Special Conditions document.

Section 5.8 further describes compliance requirements related to the ERP program and disposal of soil that may contain waste-like materials, including contaminants associated with historical operations at the site. While Section 5.5, Cultural Resources, includes considerations that could impact soil resources.

The JBLE-Langley INRMP discusses habitat management to mitigate wildlife incursions onto the airfield. Soil amendments and the fourth application of grass seed is scheduled to occur in the Fall of 2021 to reduce wildlife use of bare ground on the airfield (JBLE-Langley, 2021). Further, it is noted that the Installation is composed of lands that contain large amounts of fill material (originating from the earth-moving, grading, movement of materials and filling activities associated with the early development of the installation), a soil profile at any given location may not correspond to local soil surveys (USFWS, 2014).

Overall, with the implementation of stormwater BMPs, such as the use of silt fences, for erosion and sediment control the degradation of soil quality and soil loss through stormwater runoff and erosion is mitigated. Site-specific management actions for erosion and sediment control and vegetation buffers are implemented where required. Updates to existing permits may need to be implemented, as applicable, and include: VPDES Permit No. VAR052285 and associated SWPPP and MS4 Permit No. VAR040140 (USACE, 2021).

According to the JLBE INRMP, any alteration of shoreline requires regulatory review and approval (USACE, VDEQ, VMRC and/or City of Hampton Planning Department). Geology resources could be further impacted to account for new facilities that need flood protection measures incorporated into the design and are subject to the regulating plan requirements.

Compliance with respect to topology would all be subject to the requirements outlined in the regulating plan.

Criteria for Determining Significance

Actions to which a categorical exclusion may not apply may cause a significant adverse impact.

Soil. A significant adverse soil impact may occur when a project or projects, individually or cumulatively, causes an impact resulting in the creation of a TMDL, which is the value of the maximum amount of a pollutant that a body of water can receive while still meeting water quality standards. A TMDL exceedance

may or may not result in a notice of violation, which would also indicate significance. Impacts that could create this are:

- Erosion;
- Changes in stormwater patterns;
- Land disturbance associated with new construction and pavement expansions; and
- Compaction that could cause a problem where the soil is less permeable (allowing for additional stormwater runoff).
- An adverse soil impact may also occur as a result of conversion of existing pervious areas to impervious areas.

Geology. An adverse impact on geology may occur when buildings are constructed with pilings to be above the known flood plain. Also, of concern could be compromising confining layers during subsurface activities.

Topology. An adverse impact on the topology may occur due to significant grading activities related to construction activities.

5.7 Government Services

Applicable Regulatory Drivers: NEPA
Categorical Exclusions: None
Criteria for Determining Significance: Increased number of personnel using the services.

Analysis Discussion

Hospitals/Health Care

The 633d Medical Group at Joint Base Langley-Eustis operates the United States Air Force Hospital Langley. It is a member of the newly-formed Tidewater Enhanced Multi-Service Market and partners with McDonald Army Health Center, Naval Medical Center Portsmouth, and the Veterans Administration Hospital. The Tidewater Market serves 393,000 beneficiaries. As part of the 2017 National Defense Authorization Act, the Military Health System is transitioning administration and management of all military hospitals and clinics to the Defense Health Agency. The Tidewater Market is on the leading edge of this effort and was certified by DHA on April 19, 2021. By standing up the Tidewater Market, DHA enables greater collaboration across military hospitals and clinics strengthening the medical readiness of service members and enabling these facilities to deliver better care and a better patient experience (JBLE-Langley Tricare Article, accessed [New Tidewater Market strengthens DoD's medical readiness, promises better patient experience > 633d Medical Group - Joint Base Langley-Eustis > Articles (tricare.mil)] 9/1/2021).

The USAF Langley Hospital offers a pharmacy, primary care, preventive care, hospital care and surgery, physical therapy, lab test and radiology, mental health care, specialty care, vision, and emergency care. Urgent care is not offered at USAF Hospital Langley but 24-hour emergency care services are. Eligible persons also have access to women's health and pregnancy services and children's health services. The USAF Hospital Langley is located at: 77 Nealy Ave, Bldg 257, Langley AFB, VA 23665.

A dental clinic operates just south of the USAF Hospital Langley. Services provided at the dental clinic include: general dentistry, pediatric dentistry, endodontic, prosthodontics, periodontics, oral surgery, and orthodontics. Dental emergencies can be screened at the clinic during working hours. (633d Medical Group, Joint Base Langley-Eustis accessed: [Health Services (tricare.mil)] 9/1/2021).

Law Enforcement

The 633d Security Forces Squadron provides 24-hour law enforcement, force protection, and community support to Commanders, service members, family members, civilians and guests of JBLE-Langley. They also maintain a liaison relationship with federal, state, and local law enforcement agencies and support installation contingency operations. The Langley AFB Security Forces are located at 175 Sweeney Blvd., Hampton, VA 23665.

Fire and Emergency Services

Langley Fire Emergency Services, part of the 633d Civil Engineer Squadron, is a fully accredited fire emergency services organization. It provides broad spectrum services to include fire and emergency services, emergency management, explosive ordnance disposal and asset management (633d Civil Engineer

Squadron, Fact Sheet, June 4, 2020). JBLE-Langley also has mutual aid agreements related to emergency response and public safety in place with York County, the Cities of Hampton, Newport News, and Poquoson and neighboring military installations (Mason & Hanger, 2017). JBLE-Langley Fire Department (633 CES/CEF) operates two fire stations, one on the main base (Facility No. 367) and one in the Langley Family Housing area (Facility No. 1795). In 2017, the JBLE IDP rated both as usable, Class A or adequate. However, with the future development planned for the ISR Campus, it will be necessary to have a new fire station and a consolidated communications facility (Urban Collaborative, 2019). The Satellite Fire Station will provide for quick response times and will have direct access to the airfield.

Recreational Services

JBLE-Langley provides recreation opportunities for its active-duty personnel and DoD civilian residents to enrich the lives of airmen and their families and to promote a sense of community. The Morale, Welfare, and Recreation (MWR) Facilities include: fitness centers, community centers, a bowling center, arts and crafts, and an auto hobby shop. Outdoor recreation includes parks, pools, ball fields, and preserved open space. The Langley Community Commons at JBLE-Langley provides a central location for recreational and leisure activities for all base personnel. The Bethel Park Youth Center is a combined youth center/school age care facility. The Eaglewood Golf Course is located on the installation and offers opportunities for club rentals in addition to golf instruction for all ages.

There are a variety of off-post recreational opportunities. Located adjacent to Bethel Manor Housing in Hampton, VA, Bethel Recreation Area, operated by Langley Air Force Base Outdoor Recreation, offers picnic areas, volleyball courts, paintball, paddle boats, barbecue grills and boating. Additionally, the park offers pavilion rentals and room for up to 22 recreational vehicles at "FamCamp," the park's family campsite. Eagle Park, located across from the Langley Lanes offers covered pavilions, barbecue grills, volleyball courts, horseshoe pits, and tennis courts. The Langley Outdoor Pool is open seasonally and to all DoD ID holders. The Langley Marina offers pavilion rentals, marine pump out station, a boat ramp, and a fish cleaning station.

Education/School Systems

The JBLE-Langley AFB Child and Youth Education Services offer a School Liaison Program. The School Liaisons' primary function is to serve as a conduit between parents, educators, and the command so that military-connected children experience a seamless transition during the transfer between schools. Many military children move an average of every 2.9 years, School Liaisons can provide families with information to assist them as they begin planning for their educational needs. The core services provided by the School Liaison are listed below:

- School Transition Services,
- Deployment Support,
- Command, School, and Community Communications,
- Home School Linkage and Support,
- Partnerships in Education,
- Post-Secondary Preparations, and
- Special Needs System Navigation.

In Virginia, the physical address determines the schools your children will attend. JBLE-Langley AFB School Liaison services the following school divisions: York County School, Hampton City Schools, and Poquoson City Public Schools. Family Child Care is located at the Base.

The Bateman Library is located on JBLE-Langley. In addition, the Hampton Public Library is located in the vicinity of the installation and has three branches: Northampton Branch, Phoebus Branch, and Willow Oaks Branch. The Poquoson Public Library is located north of JBLE-Langley in York County.

Religious and Spiritual Support

The 633d Air Base Wing (ABW) Chaplain Corps Team provides religious and spiritual support for the installation and its mission partners. There are two Base Chapels: Langley Chapel/Building 520 and Bethel Manor Chapel. Worship opportunities include both Roman Catholic Mass and Protestant Services at both locations. Spiritual care and leadership advisement for Airmen and family members are offered including 100 percent confidential counseling.

Categorical Exclusions

Categorical exclusions specific to government services listed in Appendix B to CFR Part 989—USAF Categorical Exclusions, include:

- A2.3.1. Routine procurement of goods and services.
- A2.3.2. Routine Commissary and Exchange operations.
- A2.3.3. Routine recreational and welfare activities.
- A2.3.38. Conducting Air Force "open houses" and similar events, including air shows, golf tournaments, home shows, and the like, where crowds gather at an Air Force installation, so long as crowd and traffic control, etc., have not in the past presented significant safety or environmental impacts.

Current Compliance Activities

There are no applicable compliance activities associated with government services.

Criteria for Determining Significance

With the further development of JBLE-Langley, impacts may occur if there are mission increases that result in an increased number of personnel. The Integrated Installation Planning Branch published Air Force Instruction 32-1015 Integrated Installation Planning which establishes a comprehensive and integrated planning framework for development/redevelopment of Air Force installations. In particular, Chapter 6—Installation Development Planning and Chapter 7—Facility Space Planning, should be complied with to determine if Government Service activities as a result of increased personnel would prove to be significant.

5.8 Hazardous, Toxic, and Radioactive Substances

Applicable Regulatory Drivers: Pollution Prevention Act of 1990, 42 U.S.C. 13101(b); RCRA; CERCLA; NEPA; AFMAN 32-7002, Environmental Compliance, Chap. 3 Hazardous Material Management occupational safety and health standards in 29 CFR 1910, Subpart H; Compliance with JBLE-Langley's HWMP, SPRP, and SWPPP; the Virginia Solid Waste Management Regulations (9 VAC 20-80-640); Virginia regulations governing Transportation of Hazardous Materials (9 VAC 20-110-10 et seq.); EO 13693, Planning for Federal Sustainability in the Next Decade; EPCRA; USCG Response Plan for Oil Facilities; OSHA.
Categorical Exclusions: Yes
Criteria for Determining Significance: A release to the environment.

Analysis Discussion

Hazardous materials are defined by 49 CFR §171.8 as hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (49 CFR § 172.101), and materials that meet the defining criteria for hazard classes and divisions in 49 CFR §173. Hazardous wastes are defined by the Resource Conservation and Recovery Act (RCRA) at 42 U.S.C. § 6903(5).

The Pollution Prevention Act of 1990, 42 U.S.C. 13101(b), established a national policy to prevent or reduce pollution at the source, whenever feasible.

Storage of hazardous materials at JBLE-Langley are governed by AFM32-7002, Environmental Compliance – Chapter 3 Hazardous Material Management occupational safety and health standards in 29 CFR 1910, Subpart H, and the safety data sheet of each specific hazardous material. Operations at JBLE-Langley, including aircraft operations, require the use and storage of hazardous materials. Hazardous materials used at JBLE-Langley are primarily for aircraft operation, maintenance, and training and include petroleum, oils and lubricants, 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 (JBLE-Langley, 2020).

JBLE-Langley is a large-quantity hazardous waste generator. In keeping with the requirements outlined in the JBLE-Langley Hazardous Waste Management Plan (HWMP), hazardous waste is properly segregated, stored, characterized, labeled, and packaged for collection at designated initial satellite accumulation points. A licensed contractor transports the waste from the accumulation points to the single designated 90-day Hazardous Waste Storage Area on JBLE-Langley where it is processed for disposal before 90 days has expired. A licensed disposal contractor picks up the waste and transports it off base for disposal in a licensed disposal facility. Hazardous Wastes will not be removed from the installation without the 633 CES Hazardous Waste Managers signing the Hazardous Waste Manifest (JBLE-Langley, 2020). Accumulated wastes gathered at a 90-day Hazardous Waste Storage Area are analyzed, characterized, prepared for shipment, and forwarded to the Defense Reutilization and Marketing Office in Norfolk, which is responsible for arranging permanent disposal (JBLE-Langley, 2016).

Solid waste generated on JBLE-Langley is removed by contract services to either the City of Hampton's Bethel Landfill or to the Hampton/NASA LaRC Steam Plant for incineration (JBLE- Langley, 2015). Bethel

Landfill is a sanitary landfill but accepts construction and demolition waste. As of December 2014, Bethel Landfill had a total remaining capacity of about 23,301,051 tons. Bethel Landfill has a remaining useful life of about 91 years (VDEQ, 2015). The Hampton/NASA LaRC Steam Plant was built in 1980 and generates energy for the LaRC by burning trash from Hampton, NASA LaRC, JBLE-Langley, and the Newport News shipyard. The facility converts 240 tons of trash every day into 1.6 million pounds of steam to help power the NASA LaRC (JBLE-Langley, 2016).

Asbestos-containing material (ACM) includes materials that contain more than one percent asbestos; it is categorized as either friable or non-friable. The 633 ABW Asbestos Management and Operations Plan provides guidance on the identification and management of ACM. An asbestos facility register is maintained by 633 Civil Engineer Squadron Operations Element which should be contacted to determine any known presence of these materials as well as lead-based paint. 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. The design of building alteration projects and requests for self-help projects are reviewed to determine if ACM is present in the proposed work area and, if so, is properly removed and disposed of in an off base permitted landfill. (JBLE-Langley, 2016).

Lead-based paint (LBP) includes paint having lead levels equal to or exceeding 0.5 percent by weight. The 633 ABW Lead-Based Paint Management and Operations Plan contains policies and procedures associated with the management of lead-based paint. 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 soils. Plan components identify management actions for worker training, notification, and labeling; the JBLE-Langley Work Request program; recordkeeping; personal protective equipment; construction inspection; the disposal of LBP-containing wastes; and lead toxicity investigations. Upon classification as friable or non-friable, all waste ACM should be disposed of in accordance with the Virginia Solid Waste Management Regulations (9 VAC 20-80-640) and transported in accordance with the Virginia regulations governing Transportation of Hazardous Materials (9 VAC 20-110-10 et seq.) (JBLE-Langley, 2016).

In addition to asbestos and lead, renovation and demolition activities have the potential to disturb mercury and polychlorinated biphenyls (PCB). These materials are also regulated under Toxic Substance Control Act as RCRA Universal Waste. Buildings may contain liquid mercury in thermostats and thermometers, and fluorescent lighting fixtures typically contain elemental mercury in the fluorescent light bulbs; compact fluorescent lamps also contain mercury. In addition, fluorescent lighting fixture ballasts have the potential to contain PCB.

The total oil storage capacity at the installation is four million gallons. JBLE-Langley maintains a Spill Prevention and Response Plan (SPRP) that contains a listing of regulated POL storage containers and describes administrative and engineering controls to prevent and mitigate spills of POL into water bodies (JBLE-Langley, 2018).

JBLE-Langley has implemented a Joint Base Emergency Management Plan which contains procedures to stand up and 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 hazardous waste properly and safely during inclement and hazardous weather. If a spill were to occur, procedures in the HWMP and the SPRP will be followed to respond and clean up (JBLE- Langley, 2021).

The AF environmental program adheres to the Environmental Management System (EMS) framework and

the Plan, Do, Check, Act cycle for ensuring mission success. EO 13693, Planning for Federal Sustainability in the Next Decade, U.S. Department of Defense Instruction 4715.17, Environmental Management Systems, AFI 32-7001, Environmental Management, and international standard, ISO 14001:2004, provide guidance on how environmental programs should be established, implemented, and maintained to operate under the EMS framework. The Hazardous Waste (HW) management program employs EMS-based processes to achieve compliance with all legal obligations and current policy drivers, effectively managing associated risks, and installing a culture of continuous improvement. The Hazardous Waste Management Plan (HWMP) serves as an administrative operational control that defines compliance-related activities and processes. The HWMP ensures that:

- HW management activities are conducted in a manner that will protect the health and welfare of USAF personnel and the general public.

- Complies fully with all applicable federal, state, local, and AF laws and regulations governing HW management.

- Reduces the generation of HW through source reduction to the maximum extent possible, that all used and unused hazardous materials are safely handled, accounted for and controlled by every activity handling such materials. This is achieved through methods of treatment that result in the destruction of toxic constituents whenever possible, rather than by landfilling or other methods of land disposal.

- Reduces present and future liabilities and protect and enhance the environment (JBLE-Langley, 2020).

The JBLE Environmental Special Conditions document (JBLE-Langley, 2020b) provides waste management guidance to ensure that all work at JBLE is performed in a manner that prevents pollution, protects the environment, and conserves natural resources. All work is to be performed by contractors/personnel that are familiar with local environmental regulations, VDEQ regulations, Environmental Protection Agency (EPA) regulations and have the required training/certifications for work being performed.

JBLE-Langley's environmental cleanup program is managed under the Defense Environmental Restoration Program (DERP). Construction cannot be conducted on Environmental Restoration Program (ERP) sites that have current land use controls or any active investigation or clean-up activities. There are two cleanup sub-programs under the DERP: The Installation Restoration Program (IRP) and the Military Munitions Response Program (MMRP). The ERP at Langley AFB began in June 1981. Sixty-three ERP sites have been identified since that time and 48 sites have reached site closure. There are five ERP sites in the study phase but are expected to achieve response complete/site closeout soon. The following thirteen sites are currently in the long-term management phase and include site types such as a former fire training area, storage area, paint shop, wastewater treatment plant, pesticide/herbicide storage area, and several former landfills (JBLE, 2016):

- Former Landfill 01 (Site LF-01)
- Waste Pile 02 (Site WP-02)
- Former Landfill 05 (Site LF-05)
- Former Landfill 07 (Site LF-07)
- Former Landfill 10 (Site LF-10)
- Former Landfill 11 (Site LF-11)

- Former Landfill 12 (Site LF-12)
- Former Landfill 17 (Site LF-17)
- Former Landfill 18 (Site LF-18)
- Former Landfill 22 (Site LF-22)
- Former Pesticide and Herbicide Storage Yard (Site OT-25)
- Fire Training Area 41 (Site FT-41)
- Langley Marina (Site SS-61)

The April 2018 Third Five Year Review Report (Jacobs, 2018) concluded that selected remedies for these 13 sites are protective of human health and the environment with the following caveats:

- The remedy for LF-10 is protective in the short-term, until the thickness of the landfill cover around the landfill breach can be determined.

- The remedy for LF-11 is protective in the short-term, until the risks associated with hexavalent chromium are determined for sediment, surface water and fish pathway.

- The remedy for LF-12 is protective in the short-term, until the risks associated with hexavalent chromium are determined for sediment and surface water.

- Long term groundwater monitoring (LF-01, LF-05, LF-07, LF-10, LF-11, LF-12, LF-17, LF-18, LF-22, OT-25, FT-41, and Spill Site [SS]-61), site inspections (LF-01, LF-05, LF-07, LF-10, LF-11, LF-12, LF-17, LF-18, LF-22, OT-25, and FT-41) and wetlands monitoring (sites LF-17 and OT-25 only) are also conducted. Semiannual groundwater sampling frequency was reduced in 2018 to every five years in support of the five-year reviews with the next event scheduled for 2024.

Site (OT-64/OU52) is designated as the installation-wide groundwater site which includes groundwater related to 23 ERP sites. Concurrence for a no-further action record of decision for all the groundwater sites included in this OU have been accepted (Jacobs, 2018). These sites have undergone various remedial activities, including remedial investigations, feasibility studies, remedial design, remedial action, and/or long-term management.

In 2015, a preliminary assessment (PA) was conducted to determine locations of potential environmental release of perfluorinated compounds (PFCs). One fire training area and 14 non-fire training areas for a total of 18 areas of potential interest were included in the PA. Six sites were recommended for a Site Inspection (an investigation to collect and analyze waste and environmental samples to support a site evaluation) and 12 sites were recommended for closeout with no additional investigation.

Under the MMRP there are two Munitions Response Areas (MRAs) with a total of five Munitions Response Sites (MRSs). The Historical Bombing Range MRA has three MRSs: the golf course area, the marsh area, and the target area while the remaining MRA, the Skeet Range, has two MRSs with one addressing affected land and the other affected water. The 2016 Remedial Investigation Report determined that transport of MEC is generally not anticipated to be significant however, there can be some movement (primarily vertical movement) through the soil due to natural processes, such as frost heave and erosion, or due to human activity. It is not anticipated that MEC will migrate horizontally beyond the MRS footprints though due to the limited area that was available for investigation, MEC may already exist near the MRS boundary or beyond its boundary. The persistence of MC in the environment was considered along with the possible migration from a surface soil source into air, subsurface soil, surface water, sediment, and groundwater.

The MRSs at JBLE – Langley are well vegetated and windblown transport of surface soil is not expected to be a significant transport pathway. The vegetation will help limit erosion of soil by water and subsequent deposition as sediment. JBLE – Langley has low topographical relief outside of which land areas meet marshes or streams. It should be noted that typically, fate and transport does not consider a short-term release which would be controlled such as construction activities. During a construction activity, engineering controls would be used to minimize dispersion of onsite soils (USACE et al., 2016).

Radon is a naturally occurring gas that is a health hazard. Accumulation levels of greater than 4 picoCuries per liter (pCi/L) are considered to represent a health risk to building occupants. The USEPA and Virginia Department of Health radon zones for the Hampton Roads region and city of Hampton is Zone 3 (Low Potential, predicted indoor average level less than 2 pCi/L) (USEPA, 2020; VDOH, 2020). New construction would incorporate appropriate design features as determined to be needed. Post-construction mitigation would be installed should buildings test higher than 4 pCi/L.

Categorical Exclusions

Several CATEX exist at Appendix B to Part 989 which includes the following information regarding hazardous materials/hazardous waste management and operations:

A2.3.5. Preparing, revising, or adopting regulations, instructions, directives, or guidance documents that do not, themselves, result in an action being taken.

A2.3.6. Preparing, revising, or adopting regulations, instructions, directives, or guidance documents that implement (without substantial change) the regulations, instructions, directives, or guidance documents from higher headquarters or other Federal agencies with superior subject matter jurisdiction.

A2.3.7. Continuation or resumption of pre-existing actions, where there is no substantial change in existing conditions or existing land uses and where the actions were originally evaluated in accordance with applicable law and regulations, and surrounding circumstances have not changed.

A2.3.10. Routine facility maintenance and repair that does not involve disturbing significant quantities of hazardous materials such as asbestos and lead-based paint.

A2.3.11. Actions similar to other actions which have been determined to have an insignificant impact in a similar setting as established in an EIS or an EA resulting in a FONSI. The EPF must document application of this CATEX on AF Form 813, specifically identifying the previous Air Force approved environmental document which provides the basis for this determination.

A2.3.26. Undertaking specific investigatory activities to support remedial action activities for purposes of cleanup of Environmental Restoration Account (ERA)—Air Force and Resource Conservation and Recovery Act (RCRA) corrective action sites. These activities include soil borings and sampling, installation, and operation of test or monitoring wells. This CATEX applies to studies that assist in determining final cleanup actions when they are conducted in accordance with legal agreements, administrative orders, or work plans previously agreed to by EPA or state regulators.

A2.3.25 The analysis and assessment of the natural environment without altering it (inspections, audits, surveys, investigations). This CATEX includes the granting of any permits necessary for such surveys, provided that the technology or procedure involved is well understood and there are no adverse

environmental impacts anticipated from it. The EPF must document application of this CATEX on AF Form 813.

A2.3.28. Routine transporting of hazardous materials and wastes in accordance with applicable Federal, state, interstate, and local laws.

A2.3.29. Emergency handling and transporting of small quantities of chemical surety material or suspected chemical surety material, whether or not classified as hazardous or toxic waste, from a discovery site to a permitted storage, treatment, or disposal facility.

A2.3.30. Immediate responses to the release or discharge of oil or hazardous materials in accordance with an approved Spill Prevention and Response Plan or Spill Contingency Plan or that are otherwise consistent with the requirements of the National Contingency Plan.

Current Compliance Activities

Aboveground storage tanks are federally regulated by 40 CFR 112, The Oil Pollution Prevention Act of 1990 (also known as the Spills Prevention, Control and Countermeasure Rule) which requires that oil tanks/containers with a capacity of 55-gallons or greater be subjected to regularly scheduled, visual written inspections and a nondestructive shell test (40 CFR 112.8 (c)(6)). State regulation is found in the Virginia State Aboveground Storage Tank Regulation 9-VAC 25-91-10 et seq., which requires all JBLE petroleum aboveground storage tanks with a capacity of 660- gallons or greater to be registered with the VDEQ (with the exception of heating oil tanks with a capacity of less than 5,000 gallons, which are exempt). Additional requirements for these registered tanks include:

- Reconciliation of daily inventory (input and output);
- Visual inspections of tank and ancillary piping, valves and secondary containment;
- Safe fill and shut down processes;
- Training records;
- Leak detection monitoring;
- Internal and External Tank Inspection;
- Pressure Testing;
- Cathodic Protection; and
- Groundwater Characterization.

The JBLE-Langley SPRP incorporates the requirements for a Spill Prevention Control and Countermeasure (SPCC) plan and a Facility Response Plan (FRP). The plan addresses the emergency planning, notification and response actions required by the USEPA and the Commonwealth of Virginia. Similar requirements directed by the RCRA, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the Emergency Planning and Community Right-to-Know Act, a United States Coast Guard (USCG) Response Plan for Oil Facilities (marine transportation related FRP) and the Occupational Safety and Health Administration (OSHA) are also included in this integrated plan. The comprehensive planning, spill prevention measures and response actions provided in the plan make it an operational, single-source document to be used and referenced by JBLE-Langley personnel should a spill occur. This plan also serves as a statement of policy and intent for those concerned with the prevention and control of spills.

JBLE-Langley is also classified as a Marine Transportation-Related facility because it is capable of transferring oil to or from a vessel with a capacity of 250 barrels or more and it could be expected to cause

significant and substantial harm to the environment by discharging oil into or on the navigable waters, adjoining shorelines, or an exclusive economic zone of the United States. Therefore, the Final Rule issued by the USCG on June 26, 1996 revising 33 CFR Part 154, Facilities Transferring Oil or Hazardous Material in Bulk, applies to JBLE-Langley and a response plan must be prepared to meet these requirements. The USCG jurisdiction at JBLE-Langley extends from the end of the pier to the first control valve on shore within adequate secondary containment, i.e., the valves at the filter separator area inside the Tank 3 (Tank 2184.1) containment dike. The remainder of JBLE-Langley is under USEPA jurisdiction (JBLE-Langley, 2018).
The Oil and Hazardous Substance Integrated Contingency Plan – Spill Plan details the spill prevention measures currently underway. They include daily inspection procedures (includes discharge detection by personnel); good safety procedures; automated discharge detection systems; modernized spill prevention equipment and practices; and use of secondary containment and/or diversionary structures that are intended to prevent spilled product from reaching navigable waters.

For immediate spill response, there is also an Oil and Hazardous Substance Integrated Contingency Plan - Red Plan in place which provides the user a guide to quickly have the appropriate notification and response actions underway at the earliest possible time upon detection of a release.

Spill and emergency response is also included in the JBLE-Langley Environmental Management Special Conditions manual which is included in all contract specification and requirements for work performed on JBLE-Langley. It indicates the responsibility of the contractors to be prepared to respond to unintended releases of various volumes of material they may be using on the job. They must be prepared to contain, clean-up, disinfect/sterilize and bear the cost of proper disposal of a release.

It is USAF policy that installations be in full environmental compliance and that federal and state regulations and requirements for spill prevention and response be met. The 633 Mission Support Group /Commander has been designated as the primary Emergency Operations Center Director and will provide senior officer support command and control during an incident as described in AFI 10-2501.

Criteria for Determining Significance

Actions to which a CATEX may not apply may cause a significant adverse impact. Due to the thorough prevention measures in place and the institutionalization of hazardous waste management through the Base's environmental management system, the potential for release of hazardous, toxic or radioactive substances is low. However, a significant adverse hazardous, toxic, or radioactive substance impact may occur when a project or projects, individually or cumulatively, cause:

- The generation of a new waste stream that cannot be immediately or safely managed under existing protocols;

- The generation of an excessive quantity of waste that cannot be adequately or safely managed under the current SOP.

- Accumulation levels of greater than 4 pCi/L of RADON which is considered to represent a health risk to building occupants.

5.9 Infrastructure and Utilities

Applicable Regulatory Drivers: NEPA
Categorical Exclusions: None
Criteria for Determining Significance: Expansion with a need for new power sub-stations, construction projects that would result in exceedances of privatized utilities.

Analysis Discussion

Infrastructure and utilities refer to the generation and transmission of potable water, sanitary wastewater and stormwater, electricity, natural gas, communications, and the management of solid waste.

Potable Water

Newport News Waterworks supplies potable water to JBLE-Langley with a direct connection to an on-base 20-inch line near Lee Road and a secondary connection at the King Street Gate. There is a two-million-gallon water storage tank located on the west end of the installation, a three-million-gallon tank located in the Shellbank area, and a three-million-gallon tank near the marina. These tanks act as a supplement to the direct and secondary connections. Average water demand on base is 0.33 million gallons per day (MGD) and increases in the summer to 0.6 MGD (JBLE-Langley, 2016). The annual water consumption is approximately 175 million gallons. The Newport News Waterworks draws approximately two MGD from local aquifers and 45 MGD from surface water sources (JBLE-Langley, 2016).

Wastewater

The USEPA estimates that the average person generates approximately 50 to 70 gallons per day of wastewater (USEPA, 2002). Wastewater is collected through a system of 65 lift stations and approximately 95,000 linear feet of concrete, clay, and PVC sewer lines. Wastewater leaves the installation through the lift station in Building 1369. Off-base, wastewater is transferred to the York River Wastewater Treatment Facility by the Hampton Roads Sanitation District (JBLE-Langley, 2016). JBLE Langley has a discharge permit from Hampton Roads Sanitation District for 495,000 gallons per day. The average discharge is 325,000 gallons per day (which means they are using 66% of their allowed wastewater discharge capacity).

If there is suspicion that a proposed action would potentially impact wastewater discharge and potential exceedance of the permit allowance, JBLE-Langley would need to coordinate an increase with Hampton Roads Sanitation District to either revise permit limitations or work to establish mitigation. JBLE-Langley's current permit expires on September 30, 2022.

Electrical

Dominion Virginia Power provides electricity to much of Virginia including JBLE-Langley. On the installation, a single 40 megavolt amperes transformer steps incoming voltage down from 110 kilovolt (kV) to 34.5 kV. Two 34.5 kV feeders leave substation and feed a loop of twelve-unit substations around the base. The system has a maximum combined peak demand load of 25.3 megawatts (JBLE-Langley,

2016). The 2010 electric use for JBLE-Langley was 145,172,330 kilowatts hour (JBLE-Langley, 2016). The electrical system at JBLE-Langley is currently operating below capacity and has room for expansion (i.e., JBLE-Langley's demand does not meet or exceed current limits) and therefore can accommodate an increase in consumption.

Natural Gas

The United States Energy Information Administration identified that 1,235,964 residential consumers in Virginia used approximately 89,036 million cubic feet of natural gas in 2018 (USEIA, 2019). This equates to an average of approximately 0.07 million cubic feet per person per year.

Virginia Natural Gas has indicated that infrastructure upgrades may be necessary for new construction projects, and the scope of natural gas infrastructure upgrades would be identified once the new construction designs are developed (Swick, personal communication) (JBLE-Langley, 2021). Any new natural gas pipelines required to support potential new construction would typically utilize the existing utility corridors and therefore occur in already developed locations of the installation. The natural gas system at JBLE-Langley operates below capacity and thus can support an increase in capacity.

Communications

According to the 2017 JBLE IDP, the communications system at JBLE-Langley is rated as "degraded." This means that space, facilities, acreage, or remaining system capacity is limited and offers limited potential for development or mission expansion. Added space or facilities will require additional land, some facilities are improperly located, and/or land is not available near facilities for expansion (Mason & Hanger, 2017). However, the current communications systems at JBLE-Langley are sufficiently meeting the current mission needs and have been improved through upgrades and replacement of system components. It is noted that as northern areas of the base continue to expand, increased network capacity may be needed to accommodate the growing Intelligence, Surveillance, and Reconnaissance mission.

Solid Waste

As defined by RCRA, "solid waste" means any garbage or refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, resulting from industrial, commercial, mining, and agricultural operations, and from community activities. Solid waste management primarily relates to the availability of landfills to support a population's residential, commercial, and industrial needs.

Solid waste generated on JBLE-Langley is removed by contract services to either the City of Hampton's Bethel Landfill or to the Hampton/NASA LaRC Steam Plant for incineration (JBLE Langley, 2015). Bethel Landfill is a sanitary landfill but accepts construction and demolition waste. The 2020 VDEQ annual solid waste report for CY2019 indicates that the Bethel Sanitary Landfill has a remaining capacity of 22,204,918 tons. In 2019, VDEQ reported 766,299.61 tons landfilled in the USA Waste of Virginia Landfills – Bethel. Bethel Landfill has a remaining useful life of about 74 years (VDEQ, 2020b).

The Hampton/NASA LaRC Steam Plant was built in 1980 and generates energy for Langley Research Center by burning trash from Hampton, NASA LaRC, JBLE-Langley, and the Newport News shipyard (JBLE-Langley, 2016). The facility converts 240 tons of trash every day into 1.6 million pounds of steam

to help power the NASA LaRC.

The JBLE-Langley IDP establishes sustainability development indicators that specifies a nonhazardous solid waste diversion rate of 50 percent by FY19. There is a solid waste station near Weyland Road and the Lighter-Than-Air Bypass planned as a medium-range development project (6-10 years) (Mason & Hanger, 2017).

Categorical Exclusions

Categorical exclusions exist at Appendix B to Part 989 which includes the following information regarding infrastructure and utilities:

Current Compliance Activities

Current best management practices being employed to minimize impacts to electrical and solid waste utilities include:

- Coordination with all utility providers prior to any ground-disturbing activities in an effort to minimize unintended damage to underground utilities.

- Incorporate Leadership in Energy and Environmental Design and sustainable development into construction projects to achieve optimum resource efficiency, sustainability, and energy conservation.

- Continue and enhance recycling and reuse programs to accommodate waste generated.

Potable Water, Wastewater, Natural Gas, and Communications

There are no current compliance activities necessary for potable water, wastewater/sewer, or natural gas. Each of these services are privatized.

Criteria for Determining Significance

The resources which are privatized including **potable water**, **wastewater**, **natural gas**, and **communications**, are presently sufficient to meet current mission needs. However, communications and **electricity** as a result of expanding mission requirements may meet or exceed the current resources available to the Installation. Therefore, if additional utility services are needed, the service providers will need to be able to supply the increased demand. This should be considered as mission requirements expand and significant construction projects begin—noting that energy is generally not a roadblock to new construction. Though there are upfront costs to build to current standards, the operation and maintenance of a building in the long-term is less expensive, typically. A threshold number is not available to determine if a certain number of buildings or energy usage would result in the need for a new power sub-station at the time this report was completed.

The inability to meet the **solid waste** goals as identified in the JBLE-Langley IDP would be considered a significant impact for solid waste resources.

5.10 Land Use

Applicable Regulatory Drivers: NEPA, Noise Control Act of 1972, Endangered Species Act of 1973, Title 10 U.S.C. §2684a and §2692a, DoD REPI, Federal Aviation Act (Part 77), AICUZ program, BASH plan, JBLE-Langley General Plan and INRMP, Code of VA Title 15.2, VA Uniform Statewide Building Code, VA Code Section(s) 15.2-2204 D, 15.2-2294, 15.2-2295, 55-519.1, and 55-248.12:1.
Categorical Exclusions: Yes
Criteria for Determining Significance: Land use incompatibility that does not comply with local, state and federal law.

Analysis Discussion

Land use refers to Air Force real property classifications that indicate either natural conditions or types of human activity occurring on a parcel of land. It describes both the economic and cultural activities (e.g., residential, industrial, or recreational) that occur in a specific area. Land use is frequently regulated by management plans, policies, ordinances, and regulations that determine the types of activities that are allowable or provide protection for environmentally sensitive areas.

In 2010, Langley AFB was merged administratively with Fort Eustis to form JBLE. These two installations are geographically separated by 17 miles. The NASA LaRC is adjacent to the base on the northern boundary. The rest of the base is bounded by the city of Hampton, Virginia. The main installation portion of JBLE-Langley consists of 2,833 acres. JBLE-Langley also includes the Langley Family Housing area and Big Bethel reservoir and recreation area that are located about 5 miles northwest of the main base in York County and consist of 284 and 447 acres, respectively. The City of Hampton controls the planning and zoning of land uses surrounding the base, LaRC controls the planning for its property, and JBLE-Langley manages the base land uses (JBLE-Langley, 2019).

The 2017 IDP was issued to guide long-range development of land, facilities, and infrastructure. The IDP describes the installation's past, present, and future physical state and guides all future programming and development decisions for the next 20 to 30 years. The 2017 IDP divides JBLE-Langley into nine planning districts based on framework plan elements, their relationship to the existing transportation network, and established land-use patterns. Within these planning districts, future planning areas are defined where appropriate to focus future analyses or development studies. The future planning districts for JBLE-Langley are listed below:

1: Heavier-Than-Air District
2: Lighter-Than-Air District
3: Shellbank District
4: Flightline East District
5: Flightline West District
6: Flightline North District
7: North Base District
8: Munitions District
9: Bethel Recreation District

Table 5.10-1 identifies the permitted facilities or land uses within each planning district. This allows flexibility while maintaining land use compatibility. Land uses may be prohibited or permitted with specific restrictions to ensure that development within those areas is not disruptive to the installation's missions.

Table 5.10-1. Permitted Land Use at JBLE-Langley by Future Planning Area

Land Use	Future Planning Areas/Districts								
	1	2	3	4	5	6	7	8	9
Munitions Storage	R	R	R	P	P	P	P	A	R
Airfield Operations and Maintenance: squad operations, hangars, AMUs, control towers, and passenger terminal	R	R	R	A	A	A	P	R	R
Industrial: warehouse, liquid fuel systems, maintenance, vehicle maintenance and/or storage	R	R	R	A	A	A	P	P	R
Light industrial: warehouse, maintenance and storage	P	P	P	A	A	A	P	P	R
Administrative: HQ, office, operations, research, testing, and/or warehousing, and training and educational	A	A	A	P	P	P	A	R	R
Small-scale administrative: less than 50,000 SF	A	A	A	P	P	P	A	P	P
Medical: base hospital, clinic, dental services, flight medicine and pharmacy	P	P	A	R	R	R	P	R	A
Community commercial: Base Exchange (BX) and Commissary	R	R	A	R	R	R	P	R	R
Community service: fitness center, Child Development Center (CDC), recreation and community center, and youth center	A	A	A	R	R	P	A	R	A
Small-scale retail and service: less than 50,000 SF	P	A	A	R	R	P	A	R	A
Lodging: hotel, TLFs, VOQs, and VAQs	P	P	A	R	R	R	P	R	P
Residential – attached: multistory and dormitories	A	A	A	R	R	R	R	R	R
Residential – detached: single-family homes and townhomes	A	A	A	R	R	R	R	R	R
Outdoor recreation and historic preservation	A	A	A	P	P	P	A	R	A
Open space	A	A	A	A	A	A	A	A	A

R = **Restricted** P = **Permitted with Restrictions** A = **Permitted**

Source: Mason & Hanger, 2017.

Categorical Exclusions

Categorical exclusions exist at Appendix B to Part 989 which includes the following information regarding land use:

- A2.3.7. Continuation or resumption of pre-existing actions, where there is no substantial change in existing conditions or existing land uses and where the actions were originally evaluated in accordance with applicable law and regulations, and surrounding circumstances have not changed.

- A2.3.8. Performing interior and exterior construction within the 5-foot line of a building without changing the land use of the existing building.

- A2.3.14. Installing on previously developed land, equipment that does not substantially alter land use (i.e., land use of more than one acre). This includes outgrants to private lessees for similar construction. The EPF must document application of this CATEX on AF Form 813.

Current Compliance Activities

The City of Hampton and JBLE-Langley adopted a Joint Land Use Study (JLUS) in August 2010 (Matrix Design Group, Inc., 2010). Both the City of Hampton and JLBE-Langley have a long and effective history of collaboration to address land use issues that may impact missions at JBLE-Langley.

An addendum to the 2010 JLUS was issued in 2018, Hampton-Langley Air Force Base Joint Land Use Study Addendum Resiliency and Adaptation. The addendum helps to set a path forward for the City of Hampton and JBLE-Langley to implement resilience strategies that support the base's mission operations as it faces a changing climate (Waggonner & Ball, 2018). The JLUS addendum also builds upon the Resilient Hampton initiative, an ongoing effort that assesses the multiple forces of water, incorporates community principles and values, and recommends solutions driven by unique neighborhood characteristics. The City seeks to support JBLE-Langley's goal of maintaining mission readiness while improving resilience. The JLUS Addendum describes specific recommendations for strategies and actions that have been developed collaboratively between the City of Hampton, JBLE-Langley Air Force Base, the consultant team, and other agencies. There are 21 recommendations which are organized into the following categories: **Policy, Emergency and Recovery Planning, Data Collection and Analysis, Utilities, Land Use, Transportation, and Water.** The Land Use items (5) are detailed below:

- **Re-zone parcels adjacent to aircraft approach zones.** The strategy is to consider rezoning of parcels and land use adjacent to the aircraft approach zones to prevent incompatible land uses and to focus development that benefits both the City and JBLE-Langley. This effort includes promoting land uses that would support JBLE Langley, such as stormwater storage or green infrastructure on adjacent City owned land that would comply with BASH initiatives. It also considers the creation of a JBLE-Langley Airfield Safety Zone overlay district in the City zoning ordinance to prevent incompatible land uses in future development.

- **Explore compatible land uses in aircraft approach zones.** The strategy is to Explore opportunities to make undeveloped sites in the JBLE-Langley aircraft approach zones into productive and compatible land uses. Existing conditions and relationships to adjacent parcels would be studied to determine if parcels where buildings are not compatible per JBLE-Langley may be candidates for other compatible uses, such as agriculture, stormwater storage, or renewable energy

infrastructure.

- **Establish support for strategic relocation to higher ground.** The strategy is to plan for JBLE-Langley's strategic relocation or expansion of structures, utilities, circulation, and other systems to recently acquired City owned parcels that are on higher ground or that have lower groundwater levels. Reduce potential conflicts with the locations of existing utility systems and JBLE-Langley's mission readiness, including airfield safety zones.

- **Acquire remaining land in airfield safety zone and adjacent parcels, and transfer to JBLE-Langley.** Implementation of the land acquisition program would be complete and considers acquiring additional parcels adjacent to the aircraft approach zone.

- **Identify and support compatible community redevelopment.** The strategy is to identify and support locations for strategic and equitable community development near JBLE-Langley. This includes considering properties that are adjacent to, or near, entry gates at JBLE-Langley, or adjacent to key corridors personnel would use to commute. Identification of commercial or service needs that could be located, or relocated from on the base, to these areas are also considered. Prioritization is given to locally owned businesses and services that would also benefit the adjacent community and equitable development or redevelopment that would benefit more marginalized communities. Support this effort within the City's regulatory process, such as through amending existing zoning districts.

Criteria for Determining Significance

A significant adverse land use impact may occur when a project or projects are not in compliance with existing plans and programs:

Federal Programs:

- The Noise Control Act of 1972,
- The National Environmental Policy Act of 1969, as amended,
- Endangered Species Act of 1973,
- Department of Defense Conservation Partnering Initiative of 2003 (Title 10 U.S.C. §2684a
- and §2692a (P.L. 107-314) of the National Defense Authorization Act),
- Department of Defense Readiness and Environmental Protection Initiative (REPI), and
- The Federal Aviation Act (Part 77).

JBLE-Langley Programs:

- AICUZ program which includes compatibility with the Noise Zone Profile, Vertical Obstructions, and Accidental Potential Zones.
- Bird/Wildlife Aircraft Strike Hazard (BASH) plan,
- Langley AFB General Plan, and
- Langley AFB Integrated Natural Resource Management Plan (INRMP).

State Laws and Programs:

- Code of Virginia planning and zoning for cities and counties, Title 15.2,

- Virginia Uniform Statewide Building Code,
- Airport related legislation including Virginia Code Section(s) 15.2-2204 D, 15.2-2294, and 15.2-2295.
- Real Estate Disclosures (Virginia Code Section(s) 55-519.1 and 55-248.12:1).

5.11 Safety and Occupational Health

Applicable Regulatory Drivers: NEPA, OSHA, AR 200-1, VOSH
Categorical Exclusions: Yes
Criteria for Determining Significance: Increased risk, emergency response hinderance, introduction of new risk.

Analysis Discussion

The following describes existing conditions for Air Force flight safety and training operations at JBLE-Langley. Existing conditions are organized by ground, explosive, and flight safety. The ROI for all resource areas include JBLE-Langley and areas immediately adjacent to the base where ground and explosive safety concerns exist, as well as the airfield and airspace.

Ground Safety. Ground safety concerns include several categories, including ground and industrial operations, operational activities, and motor vehicle use. Ground mishaps can occur from the use of equipment or materials and from maintenance functions. The Air Force has established a flight safety program and designated areas of accident potential around its air installations to assist in the protection of people and property on the ground. These areas include CZs and APZs which restrict incompatible land uses and thereby reduce exposure to hazards. The JBLE-Langley airfield is located in the center of the installation. The CZs and APZs associated with RW 08/26 extend beyond the installation boundary to the east and west. To the east of the runway the portion of the CZ that is not within the installation boundary is over water. The APZ I and APZ II are completely off the installation and primarily over the Back River. The portions of APZ I and APZ II that extend over land are over Stony Point, a peninsula in the Back River.

Explosives Safety. AFM 91-201, Explosives Safety Standards, defines the guidance and procedures for munition storage and handling. During typical training operations, aircraft are not loaded with high-explosive ordnance. Munitions for training operations usually include captive air-to-air training missiles, defensive countermeasure chaff and flares, and cannon ammunition with inert projectiles. All munitions are stored and maintained in the MSA within facilities sited for the allowable types and amounts of explosives. All storage and handling of munitions are carried out by trained and qualified Munitions Flight personnel and in accordance with Air Force-approved technical orders (JBLE-Langley, 2021). The 1 FW and 192 WG have Munitions Flights assigned to the 1st Maintenance Squadron (1 MXS)/192 MXS located at the airfield at JBLE-Langley. Personnel assigned to the 1 MXS/192 MXS Munitions Flights currently support the 1 FW and 192 WG flying missions with munitions support, including storage, inspection, maintenance, and accountability as well as delivery and pick-up of aircraft munitions at the airfield. Aircraft munitions include ammunition, propellants (solid and liquid), pyrotechnics, warheads, explosive devices, and chemical agent substances and associated components that present real or potential hazards to life, property, or the environment.

Flight Safety. The potential for aircraft mishaps during flight is a primary public concern with regard to flight safety. Mishaps may occur as a result of midair collisions, collisions with manmade structures or terrain, mechanical failure, weather-related accidents, pilot error, BASH, or strikes from defensive countermeasures used during training. The AFPD 91-2, Safety Programs, defines four major categories of reportable mishaps based on total cost of property damage or the degree of injury: Class A, B, C, and D mishaps. Mishap types range from loss of life or destruction of an aircraft (Class A) to a minor, reportable

injury or property damage less than $50,000 (Class D). Reporting and investigation requirements for aviation mishaps are defined in AFI 91-204, Safety Investigation and Hazard Reporting, and AFM 91-223, Safety: Aviation Safety Investigations and Reports. The Air Force maintains a Safety and Aviation Statistics website, a publicly available reporting forum, that provides aircraft mishap data, which can be used to assess flight safety records for aircraft. The data includes flight "rates," which are the number of mishaps per 100,000 flight hours. The Air Force Safety Center published aviation safety data for 2019 indicates the F-22 average Class A rate for 5 years is 8.59 and the T-38 average Class A rate for five years is 0.77.

JBLE-Langley maintains an established Mishap Response Plan that guides actions to be taken immediately by tasked agencies following notification that a safety investigation is in progress. The plan also ensures proper assembly and use of an interim safety board in the event of an aircraft, ground or weapons mishap. The Mishap Response Plan fulfills requirements set forth in AFI 91-202 and AFI 91-204 and establishes requirements not covered by Joint Base Emergency Management Plan 10-2.

In accordance with AFI 91-202, JBLE-Langley also maintains a BASH plan to reduce hazardous bird/wildlife activity relative to airport flight operations. The bird watch condition at JBLE-Langley is monitored to determine any restrictions on wing- assigned aircraft operating in Class D airspace. The Supervisor of Flight determines the bird watch condition during flight operations. Airfield management decides this condition during periods outside of flight operations (JBLE-Langley, 2021).

Categorical Exclusions

A2.3.10. Routine facility maintenance and repair that does not involve disturbing significant quantities of hazardous materials such as asbestos and lead-based paint.

A2.3.26. Undertaking specific investigatory activities to support remedial action activities for purposes of cleanup of Environmental Restoration Account—Air Force and RCRA corrective action sites. These activities include soil borings and sampling, installation, and operation of test or monitoring wells. This CATEX applies to studies that assist in determining final cleanup actions when they are conducted in accordance with legal agreements, administrative orders, or work plans previously agreed to by EPA or state regulators.

A2.3.27. Normal or routine basic and applied scientific research confined to the laboratory and in compliance with all applicable safety, environmental, and natural resource conservation laws.

A2.3.28. Routine transporting of hazardous materials and wastes in accordance with applicable Federal, state, interstate, and local laws.

A2.3.29. Emergency handling and transporting of small quantities of chemical surety material or suspected chemical surety material, whether or not classified as hazardous or toxic waste, from a discovery site to a permitted storage, treatment, or disposal facility.

A2.3.30. Immediate responses to the release or discharge of oil or hazardous materials in accordance with an approved Spill Prevention and Response Plan or Spill Contingency Plan or that are otherwise consistent with the requirements of the National Contingency Plan.

Compliance Activities

Ground Safety. Aircraft arresting is a significant aspect of ground safety because they ensure military aircraft can stop on the runway. JBLE-Langley has BAK-12 cable arresting systems on each end of RW 08/26. An E-5 arresting gear is installed in the overrun of RW 26 (end of runway) designated for replacement by a BAK-15. A BAK-15 (hook/net) arresting gear is installed in the overrun of RW 08 (JBLE-Langley, 2021).

Explosives Safety. Defined distances are maintained between MSA and a variety of other types of facilities. The type and quantity of explosive material to be stored determine these distances, called quantity-distance (Q-D) arcs. Each explosive material storage or handling facility has Q-D arcs extending outward from its sides and corners for a prescribed distance. Within these Q-D arcs, development is either restricted or prohibited altogether to ensure personnel safety and to minimize potential for damage to other facilities in the event of an accident (JBLE-Langley, 2021).

Flight Safety. JBLE-Langley maintains an established Mishap Response Plan that guides actions to be taken immediately by tasked agencies following notification that a safety investigation is in progress. The plan also ensures proper assembly and use of an interim safety board in the event of an aircraft, ground or weapons mishap. The Mishap Response Plan fulfills requirements set forth in AFI 91-202 and AFI 91-204 and establishes requirements not covered by Joint Base Emergency Management Plan 10-2.

In accordance with AFI 91-202, JBLE-Langley also maintains a BASH plan to reduce hazardous bird/wildlife activity relative to airport flight operations. The bird watch condition at JBLE-Langley is monitored to determine any restrictions on wing- assigned aircraft operating in Class D airspace. The Supervisor of Flight determines the bird watch condition during flight operations. Airfield management decides this condition during periods outside of flight operations (JBLE-Langley, 2021).

Criteria for Determining Significance

- Substantially increase risks associated with the safety of construction personnel, contractors, military personnel, or the local community;
- Substantially hinder the ability to respond to an emergency; or,
- Introduce a new health or safety risk for which the installation is not prepared or does not have adequate management and response plans in place.

5.12 Socioeconomics and Environmental Justice

Applicable Regulatory Drivers: Executive Order 12898, Executive Order 13045
Categorical Exclusions: None
Criteria for Determining Significance: Disproportionate effect on low-income or minority populations or on children. Creation of an environment deemed harmful to human health or the environment or the creation of undesirable living conditions.

Analysis Discussion

JBLE-Langley is located in the Coastal Plain/Tidewater region of Virginia, in an area known as the Virginia Peninsula. It is situated just north of Hampton, Virginia and is on the western edge of the Chesapeake Bay. It is approximately 80 miles southeast of Richmond, Virginia and occupies 2,883 acres of land. It is bordered by York County and Poquoson to the north and the City of Newport News to the west.

The population estimate for York County as of 2019 was 68,280. This was a 5.29% increase from the 2010 Census. According to the 2021 Census Bureau, the Newport News and Poquoson populations had no significant change and Hampton saw a decrease of 3.4%. The table below shows the population in the JBLE-Langley surrounding area.

Table 5.12-1. Population in Areas Surrounding JBLE-Langley (2019)

	Hampton	Newport News	Poquoson	York County
Population Estimate 2019	134,510	179,225	12,271	68,280
Population 2010 Census	139,046	181,822	12,099	64,846
Percent Change	3.4%	1.45%	1.40%	5.29%

Source: 2019 U.S. Census Data (accessed in 2021).

JBLE-Langley's presence is a major economic advantage to the surrounding communities. It provides direct and indirect economic benefits, through increased employment opportunities, increases in revenue for local businesses, property sales, and tax revenue (Air Force, 2020).

The largest contributors to employment in the surrounding area are educational services and health care and social assistance services, followed by professional, scientific, management, administrative and waste management services (US Census Bureau, 2021).

As shown in the Table 5.12-2, there is a median household income difference of $3,072 between Hampton and Newport News. The median household income in Poquoson is $87,118, which is significantly higher than Hampton and Newport News. The Unemployment rate ranges from 2.0% to 6.2% in the area surrounding JBLE-Langley (US Census Bureau, 2021).

Table 5.12-2. Employment in Areas Surrounding JBLE-Langley (2019)

Location	Civilian Labor Force	Armed Forces Labor Force	Unemployment Rate	Median Household Income
York County	32,377	3,724	5.6%	92,069
Hampton	65,782	5,149	6.1%	56,287
Newport News	86,749	8,470	6.2%	53,215
Poquoson	5,873	267	2.0%	87,118

Source: 2019 U.S. Census Data

32 CFR Part 651.17 Environmental justice indicates EO 12898 (Federal Actions to Address Environmental Justice in Minority and Low-Income Populations, 11 February 1994, 3 CFR, Comp., p. 859) requires the proponent to determine whether a proposed action will have a disproportionate impact on minority or low-income communities, both off-post and on-post. U.S. Census Data pertaining to those criteria in the surrounding area are included in Table 5.12-3.

Table 5.12-3. 2019 U.S. Socioeconomic Data

Geographic Unit	Total Population	Percent Minority	Percent Low-income	Percent Youth (younger than age 18)	Percent Elderly (above age 65)
York County	68,280	24.6%	5.1%	23.5%	16.6%
Hampton	134,510	58.8%	13.8%	20.9%	15.7%
Newport News	179,225	51.3%	15.1%	23.1%	13.3%
Poquoson	12,271	6.8%	5.3%	22.4%	19.6%

Source: 2019 U.S. Census Data

According to the below definitions, a minority population is present in Hampton and Newport News. As defined by the CEQ report, Environmental Justice Guidance Under the National Environmental Policy Act, a minority population should be identified where either:

- The minority population of the affected area exceeds 50 percent; or
- The minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

Also as defined by the CEQ report, low-income populations in an affected area should be identified with:

- The annual statistical poverty thresholds from the Bureau of the Census' Current Population Reports.

- A group of individuals living in geographic proximity to one another, or a set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect.

Categorical Exclusions

There are no CATEX specific to socioeconomics or environmental justice listed in 32 CFR 989.13 and Appendix B to Part 989, Categorical Exclusions.

Please note that 32 CFR 989.13(b)(4) indicates that characteristics of categories of actions that usually do not require either an EIS or an EA (in the absence of extraordinary circumstances) include:

Socioeconomic effects only.

Current Compliance Activities

Activities subject to NEPA evaluation always analyze socioeconomic and environmental justice impacts.

Criteria for Determining Significance

General criteria to determine significance include:

- Create an environment where the health and safety of socioeconomically disadvantaged community members and their surrounding area is at risk;

- Create the potential to substantially affect human health or the environment by excluding persons, denying persons benefits, or subjecting persons to discrimination because of their race, color, national origin, or income level;

- Create undesirable living conditions for socioeconomically disadvantaged community members; and

- Create health and safety risks that may disproportionately affect children (as indicated in EO 13045 Protection of Children from Environmental Health Risks and Safety Risks).

5.13 Threatened and Endangered Species

Applicable Regulatory Drivers: ESA, 4VAC15-20-130, MMPA, BGEPA, and MBTA
Categorical Exclusions: None
Criteria for Determining Significance: Implementation of an action that would result in an adverse impact of species or habitats considered threatened or endangered or would result in reductions to population size or distribution of a species or habitat considered threatened or endangered.

Analysis Discussion

The Endangered Species Act (ESA) of 1973 provides a program for the conservation of threatened and endangered plants and animals and their current habitats. The lead federal agencies for implementing the ESA are the U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration (NOAA), and the National Marine Fisheries Service (NMFS). Generally, the USFWS manages land and freshwater species, and the NMFS manages marine and anadromous species, which are species that breed in freshwater but live most of their lives in the sea. The law requires federal agencies to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species. The law also prohibits any action that causes a "taking" of any listed species of endangered fish or wildlife. Section 7 of the ESA requires that federal actions determined to potentially impact federally listed species consult with the USFWS or the NMFS.

Select species in Virginia are also under regulatory protection in accordance with 4VAC15-20-130. This state rule adopts the ESA list and declares additional endangered or threatened species in the Commonwealth (VAC, 2022). As such, the Virginia Administrative Code should be referenced to determine if there are state-listed species considered threatened or endangered.

Special-status species may include other species not ESA or state listed but which are protected under the Marine Mammal Protection Act (MMPA), Bald and Golden Eagle Protection Act (BGEPA), or Migratory Bird Treaty Act (MBTA). According to the INRMP there are bald eagle hazing events that occur on the airfield each year (JBLE-Langley, 2021). The hazing events discourage eagles away from the runway. As such, this special-status species is subject to the BGEPA.

Special species status was verified using U.S. Fish and Wildlife Information for Planning and Consultation (IPaC) reports generated on July 5, 2021. No critical habitat, refuge lands, or fish hatcheries exist within the footprint of JBLE-Langley.

The August 2021 updated JBLE-Langley 2021 INRMP Annual Review Summary Report indicates that while monitoring for both currently listed and newly listed species is ongoing, no new discoveries of rare threatened or endangered species have been reported. This includes the Eastern Black Rail, which is the only species indicated as a potential visitor to JBLE-Langley as per the IPaC. There are no known critical habitats as indicated in the paragraph above (JBLE-Langley, 2021).

Categorical Exclusions

There are no known categorical exclusions specific to threatened and endangered species listed in Appendix B to CFR Part 989.

Current Compliance Activities

According to the INRMP, there are five research projects on-going to support a better understanding of species and populations present on JBLE-Langley and include:

- The Bald Eagle Management Study,
- Marsh Size and Marsh Bird Diversity Study,
- Bat Land Use and Migration,
- Snake Fungal Disease Surveys, and
- Salt marsh skipper research (*Panoquina panoquin*).

There are also wildlife surveys of species that require management or protection and include turkey and nest surveys. JBLE-Langley manages nuisance wildlife on the installation through an integrated pest management program and the USDA Wildlife Services personnel actively manage wildlife that pose a direct threat to aircraft and/or human health and safety on JBLE-Langley.

Related permit actions identified in the INRMP include:

- VDWR Official Kill Permit (GFK21010289) for deer/turkey that pose threats to aircraft,
- USFWS Airport Depredation Permit (MB030595-0),
- USFWS State of Virginia Canada Goose Depredation Permit (MBPER0014753), and
- A Bald Eagle Harassment Permit (USFWS Permit MB201205-0), which allows eagle harassment away from the airfield.

Criteria for Determining Significance

Significant impact to threatened or endangered species would occur if an action was implemented that would result in an adverse impact of species or habitats that are considered threatened or endangered or would result in reductions to population size or distribution of a species or habitat considered threatened or endangered. The proposed action would also need to be in compliance with applicable federal and state regulatory drivers.

5.14 Transportation

Applicable Regulatory Drivers: NEPA
Categorical Exclusions: Yes
Criteria for Determining Significance: Travel demand, construction vehicles.

Analysis Discussion

The Installation is within the area of the Hampton Roads Transportation Planning Organization (HRTPO), which is the Metropolitan Planning Organization (MPO), a federally mandated transportation planning organization, for the Hampton Roads area. One of the long-term goals of an MPO is to establish a long-range transportation plan. The current plan outlines the transportation goals, objectives, and policies and projects to the year 2034 and was adopted by the board in January 2012 as the official Transportation Plan for the Hampton Roads Area (Mason & Hanger, 2017). While the existing transportation network includes vehicle, pedestrian/bicycle, air, regional transit, rail, and parking, this resource area will focus on vehicular transportation as it relates to both the Regional Network and the Installation Network at JBLE-Langley.

Regional Network. JBLE-Langley is located approximately three miles northeast of Interstate 64, which provides regional access to the Installation. This region is a major network for transportation across the east coast. The network consists of Interstates 64, 664 as the main regional roadways, in addition to Interstates 264, 464, and 564 (Mason & Hanger, 2017). As such, the ROI for analysis of potential transportation impacts should evaluate regional access to the installation.

Installation Network JBLE-Langley. Several roads serve as access control points (ACPs) including LaSalle Avenue (State Route 167), Armistead Avenue (State Route 134), and King Street (State Route 278). LaSalle Avenue is a four-lane road which is the ACP to the LaSalle Gate (Main Gate) and Visitor Center. LaSalle Avenue has an average weekday volume from Mercury Boulevard to the Main Gate of 10,539 vehicles with low traffic congestion during peak morning and afternoon travel times (TPO, 2020). **LaSalle Gate** (or Main Gate), handles 27% of the morning peak hour traffic flow ACPs (Mason & Hanger, 2017). Nealy Avenue begins at the Main Gate and continues northeast through the installation. Armistead Avenue is a four-lane road which provides access to the Armistead Gate (West Gate). Armistead Avenue has an average weekday volume from Commander Shepard Boulevard to the HRC Parkway of 17,882 vehicles with low to moderate traffic congestion during peak morning times and low traffic congestion during afternoon peak travel times (TPO, 2020). **Armistead Gate** handles 50% of the morning peak hour traffic flow of all the ACPs (Mason & Hanger, 2017) . Sweeney Boulevard begins at the West Gate and is the primary east-west arterial on the installation. King Street is a two-lane road which provides access to the King Street Gate. King Street has an average weekday volume from Olde Buckingham Road to the King Street Gate (or Langley AFB) of 6,669 vehicles with low to moderate traffic congestion during the peak morning travel times and low traffic congestion in the afternoon travel times (TPO, 2020). This **King Street Gate** handles 15% of the morning peak hour traffic flow (Mason & Hanger, 2017). The **NASA and LaRC Durand Gate**, in the north central portion of the base, provides access to base civilian and active-duty personnel. Commander Shepard Boulevard provides access to the NASA Main Gate and has an average weekday volume from Armistead Avenue to the NASA Main Gate of 16,962 vehicles with low traffic congestion during peak morning and afternoon travel times (TPO, 2020). This gate handles only 8% of the morning peak hour traffic flow (Mason & Hanger, 2017). Construction vehicles typically access the installation via Armistead Avenue and the West Gate.

Categorical Exclusions

CATEX from 32 CFR Appendix B to Part 989 that apply to transportation related actives are as follows:

- A2.3.7. Continuation or resumption of pre-existing actions, where there is no substantial change in existing conditions or existing land uses and where the actions were originally evaluated in accordance with applicable law and regulations, and surrounding circumstances have not changed.

- A2.3.12. Installing, operating, modifying, and routinely repairing and replacing utility and communications systems, data processing cable, and similar electronic equipment that use existing rights of way, easements, distribution systems, or facilities.

- A2.3.19. Granting easements, leases, licenses, rights of entry, and permits to use Air Force controlled property for activities that, if conducted by the Air Force, could be categorically excluded in accordance with this Appendix. The EPF must document application of this CATEX on AF Form 813.

- A2.3.25. The analysis and assessment of the natural environment without altering it (inspections, audits, surveys, investigations). This CATEX includes the granting of any permits necessary for such surveys, provided that the technology or procedure involved is well understood and there are no adverse environmental impacts anticipated from it. The EPF must document application of this CATEX on AF Form 813.

- A2.3.28. Routine transporting of hazardous materials and wastes in accordance with applicable Federal, state, interstate, and local laws.

Current Compliance Activities

There are no applicable compliance activities associated with transportation at this time.

Criteria for Determining Significance

All transportation projects are required to consider NEPA at the beginning stages of project development. The goal is to avoid any adverse impacts to human health or the environment. As stated in 23 CFR § 710.203, NEPA requires the Federal Highway Administration (FHWA) and other transportation planning agencies, such as state and local transportation agencies to consider the potential impacts to the social and natural environment. FHWA must also take into consideration the transportation needs of the public, and what is best for the overall public.

General criteria to determine the significance of transportation impacts include:

- Would impacts increase traffic on the installation and local roads in such a way that they would not be able to accommodate the additional vehicles;

- Impacts do not comply with local, state, or Federal laws and regulations; or,

- Impacts constitute a substantial risk to human health or the environment.

5.15 Water Resources

Applicable Regulatory Drivers: Clean Water Act (CWA) [Sections 401, 402, 404, and 303(d)], Safe Drinking Water Act, Section 438 of the Energy Independence and Security Act, USEPA's National Pollutant Discharge Elimination System (NPDES), administered by VDEQ, EO 11988, Floodplain Management, EO 11990, Protection of Wetlands, Coastal Zone Management Act (CZMA) of 1972, Virginia Water Protection Permit Program (9-VAC25-210) managed by VDEQ.
Categorical Exclusions: Yes.
Criteria for Determining Significance: TMDL, MCL exceedances, significant increases in impervious surface, creation of a new channel, significant removal of vegetation from RPAs, causes degradation of surface or groundwater quality, overdraft of groundwater basins, or violation of Federal, State, or Local laws that currently protect or manage water resources.

Analysis Discussion

Water resources at JBLE-Langley include surface water, groundwater, stormwater drainage, wetlands, floodplains, and coastal zone management. Surface and groundwater resources are protected by federal and state laws and regulations, including the Clean Water Act (CWA) [Sections 401, 402, and 303(d)], the Safe Drinking Water Act, Section 438 of the Energy Independence and Security Act, and the United States Environmental Protection Agency's (USEPA) National Pollutant Discharge Elimination System (NPDES), administered by the VDEQ.

The VSMP regulations (9 VAC 25-870), administered by the VDEQ, require that construction and land development activities incorporate measures to protect aquatic resources from the effects of increased stormwater runoff and non-point source pollution. The VSMP also requires a Stormwater Pollution Prevention Plan and a VDEQ permit prior to any land-disturbing activity of one acre or more (JBLE-Langley, 2013b).

Groundwater. The three water bearing units beneath JBLE-Langley are the Water Table Aquifer, the Yorktown-Eastover Aquifer, and the Chickahominy-Piney Point Aquifer. Potable water is supplied by the City of Newport News Water Works and ultimately sourced from the Chickahominy River. The groundwater beneath JBLE-Langley is not a practical source of irrigation or potable water and is not used as such.

Floodplains. As with many coastal areas, JBLE-Langley can be prone to flooding. By having exposed waterfront areas, flat topography, land areas with low elevations, infrastructure, military assets, and people working and living on the installation, the impacts to people, property, and the environment can be significant. The average elevation for JBLE-Langley is generally seven feet above sea level. Along some land areas that are low in elevation, JBLE-Langley experiences nuisance type or minor flooding during a normal astronomical high tide, even on a sunny day when there is no storm or heavy rainfall. Water levels can be higher when high tide occurs during a Spring tide cycle, sometimes referred to as a King Tide. While the flooding may not be life threatening, it can disrupt transportation and cause added maintenance expenses.

Stormwater. JBLE-Langley is serviced by a stormwater drainage system that discharges to the Back River and its tributaries: Brown Creek, Tides Mill Creek, Kiln Creek, and Tabbs Creek. Surface water also may drain directly to these water bodies. Stormwater drainage on JBLE-Langley is carried by a series of pipes, box culverts, and open ditches to 118 outfalls. Due to the flat relief of the area, standing water accumulates during heavy storm events.

Surface Water. JBLE-Langley is located between the Northwest Branch and Southwest Branch of the Back River, a tributary of Chesapeake Bay. The surface water surrounding JBLE-Langley is characteristic of an estuarine environment (land found within the tidal mouth of a large river) and ranges from brackish to saline. In general, the Back River, Newmarket Creek (also referred to as Brown's Creek), Brick Kiln Creek, and Tabbs Creek provide drainage for the area which ultimately flows into Chesapeake Bay.

Water quality standards designate uses for waters. If a water body does not meet the water quality standards, it will not support one or more of its designated uses. Such waters have "impaired" water quality due to factors such as turbidity, bacterial, dissolved oxygen, or nutrients. Total Maximum Daily Loads (TMDLs) must be developed and implemented to restore impaired waters. In accordance with Section 303(d) of the CWA, states are required to identify waters that are not supporting their designated uses and submit to the USEPA the 303(d) list which contains the list of impaired waters. In Virginia, the six designated uses for surface waters include: aquatic life, fish consumption, public water supplies (where applicable), recreation (swimming), shellfishing, and wildlife. According to VDEQ's List of 303(d) Impaired Waters for 2020 (the most recent data available), Brick Kiln Creek, Back River, Tabbs Creek, and Newmarket Creek and their associated water segments are all on the current 303(d) list due to concerns over aquatic weeds, degraded aquatic life, low oxygen and PCBs. This information may be found at https://mywaterway.epa.gov/state/VA/advanced-search, which is updated periodically.

Wetlands. Wetlands at JBLE-Langley are comprised of both tidal and non-tidal wetlands. A large portion of JBLE-Langley was filled and leveled when it was established; however, the majority of the remaining natural areas on the installation are the tidal wetlands, comprised largely of a saltmarsh cordgrass community, along the shorelines of Tabbs Creek, and the Northwest Branch of Back River. Established forested wetlands are located in the northwest section of the installation, and some isolated palustrine emergent wetlands exist in the vicinity of the flightline area. The isolated emergent communities vary widely in vegetative composition, but largely consist of species that can tolerate mowing, such as fall panicgrass (Panicum dichotomiflorum). A wetland delineation was recently completed during the summer of 2019 for the majority of the installation except for exclusion areas in the vicinity of the flightline.

Categorical Exclusions

CATEX from 32 CFR Appendix B to Part 989 that apply to water resource related actives are as follows:

- A2.3.7. Continuation or resumption of pre-existing actions, where there is no substantial change in existing conditions or existing land uses and where the actions were originally evaluated in accordance with applicable law and regulations, and surrounding circumstances have not changed.

- A2.3.12. Installing, operating, modifying, and routinely repairing and replacing utility and communications systems, data processing cable, and similar electronic equipment that use existing rights of way, easements, distribution systems, or facilities.

- A2.3.19. Granting easements, leases, licenses, rights of entry, and permits to use Air Force controlled property for activities that, if conducted by the Air Force, could be categorically excluded in accordance with this Appendix. The EPF must document application of this CATEX on AF Form 813.

- A2.3.24. Study efforts that involve no commitment of resources other than personnel and funding allocations.

- A2.3.25. The analysis and assessment of the natural environment without altering it (inspections, audits, surveys, investigations). This CATEX includes the granting of any permits necessary for such surveys, provided that the technology or procedure involved is well understood and there are no adverse environmental impacts anticipated from it. The EPF must document application of this CATEX on AF Form 813.

- A2.3.26. Undertaking specific investigatory activities to support remedial action activities for purposes of cleanup of Environmental Restoration Account (ERA)—Air Force and Resource Conservation and Recovery Act (RCRA) corrective action sites. These activities include soil borings and sampling, installation, and operation of test or monitoring wells. This CATEX applies to studies that assist in determining final cleanup actions when they are conducted in accordance with legal agreements, administrative orders, or work plans previously agreed to by EPA or state regulators.

- A2.3.29. Emergency handling and transporting of small quantities of chemical surety material or suspected chemical surety material, whether or not classified as hazardous or toxic waste, from a discovery site to a permitted storage, treatment, or disposal facility.

- A2.3.30. Immediate responses to the release or discharge of oil or hazardous materials in accordance with an approved Spill Prevention and Response Plan or Spill Contingency Plan or that are otherwise consistent with the requirements of the National Contingency Plan.

Current Compliance Activities

The Coastal Zone Management Act is a major compliance tool used for water resource protection. Lands governed by the Virginia Coastal Resources Management Program (VCRMP) are included in the coastal zone and are pursuant to the federal Coastal Zone Management Act (CZMA) of 1972. The CZMA requires that "federal agency activity within or outside the coastal zone that affects land, water use, or natural resources of the coastal zone shall be carried out in a manner consistent with approved state management programs" (16 U.S.C. 1456(c)(1)(A)). The Chesapeake Bay Preservation Act, administered by the VDEQ, is applicable due to the Black River flowing into the Chesapeake Bay and provides the necessary protection of the Bay and other state waters, as well as the improvement of the water quality by minimizing the effects of human activity on the waters. The CZMA is protected under federal consistency (section 307 of the CZMA) stating that states have a strong voice in any federal decision making for any action regarding the coast of that state if any actions by the federal government can impact the coastal zone in any way or have foreseeable effects on the coastal zone. For the state of Virginia, this includes any proposed projects, design and enlargement of any defense installations, and any actions conducted on federal land with the potential to impact coastal land including construction, expansion or surplusing of buildings, or acquisition of land (https://coast.noaa.gov/data/czm/consistency/media/va.pdf) by the DoD/ Air Force, Army, and Navy.

Groundwater contamination has been identified through investigations performed under the ERP. Long term groundwater monitoring is conducted at the following sites: LF-01, LF-05, LF-07, LF-10, LF-11, LF-12, LF-17, LF-18, LF-22, OT-25, FT-41, and Spill Site [SS]-61. Current compliance activities include groundwater sampling for the listed sites every five years in support of the five-year reviews, with the next event scheduled for 2024.

The USEPA has granted local National Pollutant Discharge Elimination System permitting authority to the VDEQ under the VPDES. The installation is under VPDES Industrial Stormwater Permit Number VAR052285. The VPDES permit identifies effluent limitations and requires semi-annual sampling and management of runoff and sediment and erosion control. The permit also requires analytical sampling of various stormwater outfalls, with results tracked and reported to the appropriate regulatory agencies. JBLE-Langley also operates under VDEQ Municipal Separate Storm Sewer System (MS4) Permit Number VAR040140, which expires on June 30, 2023. JBLE-Langley has prepared and implemented a Stormwater Pollution Prevention Plan (SWPPP) and an MS4 Program Plan to assist and document regulatory compliance. JBLE-Langley would coordinate with VDEQ if a permit modification is needed as a result of any proposed project.

In the Commonwealth of Virginia, tidal and non-tidal wetlands are protected under Virginia Water Protection Permit Program (9-VAC25-210) managed by VDEQ. The Virginia Marine Resources Commission (VMRC) administers a state-local program for tidal wetlands management in accordance with Section 28.2-1300-1320 of the Code of Virginia. Wetlands resources are protected under Section 404 of the CWA (33 U.S.C. § 1344) which establishes a program to regulate the discharge of dredged or fill material into waters of the U.S. Authorization from the USACE is required for impacts to wetlands pursuant to the CWA.

The Chesapeake Bay Preservation Act (CBPA) was enacted by the Virginia General Assembly in 1988 and established a state-local cooperative program to improve water quality and reduce nonpoint source pollution while allowing reasonable development to continue. Chesapeake Bay Preservation Areas are designated in Virginia Administrative Code 9 VAC 25-830-10 et seq. and include Resource Protection Areas (RPAs) and Resource Management Areas (RMAs). The RPA includes tidal waters and wetlands, perennial streams, contiguous wetlands, plus a 100-foot buffer to these “core” components. The RMA includes all lands within 100 feet landward of the landward boundary of the RPA, plus all lands containing slopes greater than 15 percent, highly erodible soils, and the 100-year floodplain. The Coastal Lands Management Program is administered by VDEQ’s Water Division and 84 localities and is one of the enforceable policies of Virginia’s Coastal Zone Management Program.

While several potentially affected environments may have routine compliance activities that, if not performed would potentially contribute to greater insignificant impact, only water resources and air require specific mitigation activities to be performed to ensure no level of impact may occur. Air and work in wetlands require permitting through either the USACE or VDEQ. Loss of wetlands may require payment into the Virginia Aquatic Resources Trust Fund as an appropriate mitigation activity.

Criteria for Determining Significance

Significant impact to water resources would occur if a project:

- Increased the amount of impervious surface significantly, creating measurably more stormwater runoff than was originally experienced in the area;
- Results in the creation of a new channel or relocation of a natural drainage channel;
- Results in the removal of vegetation, increasing their susceptibility to receiving stormwater runoff;
- Results in the discharge of pollutants that exceed federal and state water quality standards such as TMDLs and drinking water maximum contaminant levels (MCLs);

- Cause the degradation of surface or groundwater quality;
- Threaten or damage unique hydrologic characteristics;
- Create or contribute to the overdraft of groundwater basins; or
- Violate established Federal, State, or Local laws or regulations that currently protect or manage water resources.

6.0 REFERENCES

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APPENDIX A

Plat Map