Environmental Assessment for Force Protection and Traffic Improvement Measures at the West Gate, Langley Air Force Base, Virginia

September 2004

Report Documentation Page

Form Approved
OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
SEP 2004		**00-00-2004 to 00-00-2004**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
Environmental Assessment for Force Protection and Traffic Improvement Measures at the West Gate, Langley Air Force Base, Virginia	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **URS,13825 Sunrise Valley Drive. Suite 250,Herndon,VA,20171**	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT **unclassified**	b. ABSTRACT **unclassified**	c. THIS PAGE **unclassified**	**Same as Report (SAR)**	**89**	

Environmental Assessment
for Force Protection and Traffic Improvement Measures at the West Gate,
Langley Air Force Base

The attached Environmental Assessment (EA) document was developed in accordance with the regulations for implementing the procedural provisions of the National Environmental Policy Act of 1969 (NEPA) and 32 Code of Federal Regulations (CFR) Part 989. This document originates from LAFB 1 CES/CEVQA and is coordinated through Headquarters Air Combat Command.

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ACRONYMS AND ABBREVIATIONS

1FW	1st Fighter Wing
ACC	Air Combat Command
AFB	Air Force Base
AFI	Air Force Instruction
APZ	Accident Potential Zone
AT	Antiterrorism
AT/FP	Antiterrorism/Force Protection
BASH	Bird/Aircraft Strike Hazard
BMPs	Best Management Practices
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CRMP	Cultural Resources Management Plan
CVI	Commercial Vehicle Inspection Facility
CZMA	Coastal Zone Management Act
DNL	Day-night Average Noise Level
DOD	Department of Defense
EA	Environmental Assessment
ECP	Entry Control Point
EPA	Environmental Protection Agency
ERP	Environmental Restoration Program
FACEUP	Federal Agencies' Chesapeake Ecosystem Unified Plan
FP	Force Protection
NAAQS	National Ambient Air Quality Standards
NASA	National Aeronautics and Space Administration
NASA LaRC	NASA Langley Research Center
NEPA	National Environmental Policy Act
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
O_3	Ozone
Pb	Lead
PM_{10}	Particulate Matter Less Than 10 Microns
ROI	Region of Influence
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SO_x	Sulfur Dioxides
UFC	Unified Facilities Criteria
USAF	United States Air Force
USC	United States Code
VA DCR	Virginia Department of Conservation and Recreation
VCP	Virginia Coastal Program
VOCs	Volatile organic compounds
VRC	Visitor Reception Center

FINDING OF NO SIGNIFICANT IMPACT/
FINDING OF NO PRACTICABLE ALTERNATIVE

1.0 NAME OF ACTION

Force Protection and Traffic Improvement Measures at the West Gate, Langley Air Force Base (AFB), Virginia

2.0 INTRODUCTION

The primary purpose of this project is the improvement of antiterrorism/force protection conditions at Langley AFB. To achieve that objective, the Proposed Action involves construction activities that are subject to the National Environmental Policy Act (NEPA) review. The Environmental Assessment (EA), required by NEPA, examines the potential impacts of constructing a stand-off road to divert Langley AFB-bound traffic from Armistead Avenue, a commercial vehicle inspection facility, an additional lane along Sweeney Boulevard (Sweeney Blvd) from the West Gate to its intersection with Elm Street, realignment of Lee Road and Warehouse Road, and reconstruction of the West Gate guard house.

The redesign of the West Gate and a portion of Sweeney Blvd would expedite vehicle flow and mitigate traffic back-ups, an integral concern within Department of Defense (DOD) force protection requirements as identified in Air Force Instruction (AFI) 10-245, Air Force Antiterrorism Standards. The construction of a stand-off road would keep traffic further away from the entry point and the construction of an additional lane on Sweeney Blvd would better absorb traffic flow from west of the gate. Faster traffic flow would limit the presence of a vehicle threat being located in close proximity to the guard house.

3.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

Proposed Action: Construct a Stand-Off Road, Improve the Guard House, Construct a Commercial Vehicle Inspection (CVI) Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the North.

Under the Proposed Action, the gate complex improvements would be the construction of a stand-off road immediately west of the gate, across Armistead Avenue. A CVI facility would be constructed at the southwest corner of the intersection of Armistead Avenue and Sweeney Blvd. This facility would include a parking area that could accommodate 8 personnel vehicles and 10 spaces for commercial trucks; a small building for inspection personnel; and a separate small building for the canine inspectors.

The guard house would be demolished and reconstructed to provide full ballistic protection coverage to security forces personnel. The approach to the guard house would be redesigned to utilize a serpentine effect and varying pavements to limit the possibility of a high-speed approach to the gate. The Proposed Action would require limited

movement/realignment of two existing roads, Lee Road and Warehouse Road. The Proposed Action would upgrade Sweeney Blvd expanding it to the north, creating a permanent four lane road with two lanes running in each direction with an east-west orientation. Each two-lane roadway would be 26-feet wide.

Alternative 1: Construct a Stand-Off Road, Improve the Guard House, Construct a CVI Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the South.

Under this alternative the West Gate improvements would be the same as those in the Proposed Action except that the CVI facility would be located in the southeastern corner of the intersection of Sweeney Blvd and Armistead Avenue and the expansion of Sweeney Blvd would be to the south, expanding the road away from the flight line.

Alternative 2: Reroute Traffic from Armistead Avenue to Lee Road, Improve the Guard House, Construct a CVI Facility off of Lee Road, and Create a Median and Additional Lane on Sweeney Blvd

Under this alternative the West Gate improvements would be similar to those in the Proposed Action except that the stand-off road would not be constructed. Instead, traffic would be rerouted to Lee Road and the CVI facility would be constructed in the northeast rather than southwest corner of the intersection of Sweeney Blvd and Armistead Avenue, one of the few areas on base that is in the 500-year, rather than 100-year, flood plain. This alternative would result in the least disturbance due to construction, and would involve a significant portion of construction outside of the heavily regulated wetlands and the 100-year flood plain but it would also result in the placement of traffic closer to the flight line than the existing traffic pattern.

Sweeney Blvd would be upgraded in the same manner described under the Proposed Action by creating a permanent four lane road with two lanes running in each direction with an east-west orientation. Each two-lane roadway would be 26-ft wide and under this alternative they would be separated by a 16-ft wide median. A substantial median would enhance perimeter security, but the new width of the roadway would impact wetlands and encroach on the flight line.

Although there are some benefits associated with Alternative 2, e.g. fewer disturbances due to construction and a substantial protection measure provided by the median included in the Sweeney Blvd expansion, the costs of this alternative outweigh the benefits. Implementation of Alternative 2 would not draw unscreened traffic away from the base and the West Gate; it would negatively impact wetlands; and, it would impinge on flight line operations. For these reasons, Alternative 2 is not carried forward for analysis.

No Action Alternative

Under the no action alternative, the West Gate complex would remain unchanged and no reduced or increased impacts to the environment would occur. However, the threat of a

high-speed vehicle breaking the installation's perimeter security by "running the gate" would not be mitigated. The current guard house would continue to be below current ballistic design standards and the excessive traffic backups experienced on Armistead Avenue and Sweeney Blvd would continue.

4.0 SUMMARY OF THE ENVIRONMENTAL CONSEQUENCES

The Proposed Action would generate minor impacts on the surrounding environment. Impacts associated with the Proposed Action would be either short-term, mitigated by the utilization of best management practices, or off set by actions taken elsewhere on base.

4.1 Land Use

Land use would be impacted by the Proposed Action since approximately 6.8 acres of open space would be paved over to accommodate the stand-off road, the CVI facility and the adjustments to Lee Road, Warehouse Road, and Sweeney Blvd. Traffic flow on public roads in the vicinity of the improvements would be changed but would remain accessible. However, land use in this area is already severely limited because of the proximity of the flight line while the benefits realized by the Proposed Action include expedited traffic flow and improved antiterrorism/force protection conditions.

4.2 Air Quality

Air quality would be degraded temporarily because of increased vehicle traffic and dust associated with demolition, clearing and grading, paving and emissions from line painting associated with the Proposed Action. Use of common construction practices, such as site watering to ensure that dusty conditions are avoided during the construction period, limiting truck idling and use of paint formulations with low volatile organic compound content would reduce the temporary degradation of air quality associated with the Proposed Action.

4.3 Coastal Zone, Wetlands and Floodplains

Intermittent wetlands are located throughout the construction area included in the Proposed Action. Facilities in the Proposed Action were designed to meet the requirements of DOD and Air Force antiterrorism/force protection requirements while also minimizing the destruction of the intermittent wetlands in the area. Since a Section 404 Clean Water Act permit would be required and the creation of wetlands in lieu of those that are lost due to the Proposed Action would be necessary, the wetlands creation would be coordinated with other wetland creation activities required of the base.

4.4 Solid Waste and Hazardous Materials/Waste

Waste management would be required during the construction period. Solid wastes from the removal of the existing guard house would be recycled, if possible, at the time of demolition. Organic debris from clearing and grubbing activities would be composted, if

local composting facilities would accept the material. Other materials, kept on site temporarily to service and maintain vehicles, would be managed in accordance with pertinent storage and handling regulations. The use and storage of fertilizers or other chemicals for landscaping would be conducted in accordance with established guidelines, including policies designed to contain any unintended release.

4.5 Socioeconomics

The noise, traffic, and general disruption created during the Proposed Action would directly impact the small trailer park located immediately south of the West Gate and other private homes located immediately south of the proposed location of the CVI facility. However, these residences are already subjected to the noise associated with flight line operations and the routine traffic back-ups experienced at the West Gate. Once the Proposed Action was completed, the residents would realize improved air, noise and traffic congestion conditions due to improved traffic flow in the vicinity of their homes.

5.0 HQ ACC/CV COORDINATION

Pursuant to NEPA, its implementing regulations (40 Code of Federal Regulations Parts 1500-1508), DOD Regulation 5000.2 and Air Force regulations which implement *The Environmental Impact Analysis Process,* codified at 32 Code of Federal Regulations Part 989, the U.S. Air Force (USAF) has conducted an assessment of the potential environmental consequences of the force protection and traffic improvement measures proposed for the West Gate and part of Sweeney Blvd. As the Proposed Action is sited within the 100-year flood plain and proximate to intermittent wetlands, this action has also been evaluated for conformance with Executive Order (EO) 11990 *Protection of Wetlands*, and EO11988 *Floodplain Management.* There are no EO 12898 *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations* concerns since the Proposed Action would affect neither minority nor low-income groups disproportionately.

I find that there is no significant impact to the environment from the Proposed Action described in this EA. Taking the above information into account, I find that there is no practicable alternative to this action and that the Proposed Action includes all practicable measures to minimize harm to wetlands and floodplain environments.

Bruce A Wright

30 SEP 2004

BRUCE A. WRIGHT
Lieutenant General, USAF
Vice Commander, Air Combat Command

DATE

EXECUTIVE SUMMARY

This Environmental Assessment (EA) examines the potential environmental impacts of a proposal to construct and operate new force protection, antiterrorism, and traffic improvement measures designed to comply with Department of Defense (DOD) Force Protection requirements at the West Gate, an entry control point (ECP) to Langley Air Force Base (AFB). The Proposed Action is subject to review under the National Environmental Policy Act (NEPA) of 1969 (42 U.S. Code [USC] 4321-4347). Federal Agency NEPA compliance is governed by implementing regulations promulgated by the Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] Parts 1500-1508). CEQ NEPA regulations are supplemented by agency-specific regulations, which for the Air Force is *The Environmental Impact Analysis Process,* codified at 32 CFR Part 989.

Purpose and Need for the Action

On a continual basis, antiterrorism/force protection (AT/FP) defends against asymmetric threats in accordance with Department of Defense Instruction 2000.16, DOD Antiterrorism Standards, within the Area of Responsibility to defeat or mitigate the effects of a terrorist attack. The definition of an asymmetric threat is a broad and unpredictable spectrum of military operations conducted by nations, organizations or individuals specifically targeting weaknesses and vulnerabilities within an enemy government or armed force. Deterrence is the first line of defense against such a terrorist attack. This is best accomplished by proper intelligence and adequate perimeter security. Presently, all Langley AFB gate complexes fail to meet DOD Force Protection requirements as identified in Air Force Instruction (AFI) 10-245, Air Force Antiterrorism Standards.

The purpose of the Proposed Action is two-fold: to address traffic congestion in the vicinity of Sweeney Blvd and Armistead Avenue and to enhance force protection at the West Gate via: traffic flow improvements, the inspection of commercial vehicles, and construction of a new guard house that provides full ballistic protection coverage to Security Forces personnel. The redesign of the West Gate would expedite vehicle flow and mitigate traffic back-ups, an integral concern within DOD force protection requirements. Diversion of traffic bound for the base from the other Armistead Avenue traffic would aid in the elimination of back-ups immediately outside the guard house.

Proposed Action and Alternatives

Proposed Action: Construct a Stand-off Road, Improve the Guard House, Construct a Commercial Vehicle Inspection (CVI) Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Boulevard (Blvd) to the North.

Under the Proposed Action, the gate complex improvements would require road construction in the area immediately west of the gate, across Armistead Avenue. A stand-off road would be constructed within the more than 50 acres of land owned by Langley AFB on the west side of Armistead Avenue to draw traffic destined for the base off of Armistead and instead stack it in the newly constructed road to be processed through the gate.

In addition, a CVI facility would be constructed at the southwest corner of the intersection of Armistead Avenue and Sweeney Blvd to process commercial vehicles. This facility would consist of a parking area that can accommodate 8 personnel vehicles and 10 spaces for commercial trucks; a small building for inspection personnel; and a separate small building for the canine inspectors.

The guard house and the approach to it would be redesigned to utilize a serpentine effect and varying pavements to limit the possibility of a high-speed approach to the gate. The Proposed Action would also include demolition and reconstruction of the existing guard house to provide full ballistic protection coverage to Security Forces personnel.

Finally, limited movement of two existing roads, Lee Road and Warehouse Road would be required under the Proposed Action and another lane would be added to Sweeney Blvd, extending eastward from the West Gate, north of the existing roadway, to Elm Street. The Proposed Action would make Sweeney Blvd a permanent four lane road with two lanes running in each direction with an east-west orientation. Each two-lane roadway would be 26 ft wide.

Alternative 1: Construct a Stand-Off Road, Improve the Guard House, Construct a CVI Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the South.

Under this alternative the West Gate improvements would be the same as those in the Proposed Action except that the CVI facility would be located in the southeastern corner of the intersection of Sweeney Blvd and Armistead Avenue and the expansion of Sweeney Blvd would be to the south, expanding the road away from the flight line.

Alternative 2: Reroute Traffic from Armistead Avenue to Lee Road, Improve the Guard House, Construct a CVI Facility off of Lee Road, and Create a Median and Additional Lane on Sweeney Blvd.

Under this alternative the West Gate improvements would be similar to those in the Proposed Action except that the stand-off road would not be constructed. Instead, traffic would be rerouted to Lee Road and the CVI facility would be constructed in the northeast rather than southwest corner of the intersection of Sweeney Blvd and Armistead Avenue, one of the few areas on base that is in the 500-year, rather than 100-year, flood plain. This alternative would result in the least disturbance due to construction, and would involve a significant portion of construction outside of the heavily regulated wetlands and the 100-year flood plain but it would also result in the placement of traffic closer to the flight line than the existing traffic pattern.

Sweeney Blvd would be upgraded in the same manner described under the Proposed Action by creating a permanent four lane road with two lanes running in each direction with an east-west orientation. Each two-lane roadway would be 26-ft wide and under this alternative they would be separated by a 16-ft wide median. A substantial median would enhance perimeter security, but the new width of the roadway would impact wetlands and encroach on the flight line.

Although there are some benefits associated with Alternative 2, e.g. fewer disturbances due to construction and a substantial protection measure provided by the median included in the

Sweeney Blvd expansion, the costs of this alternative outweigh the benefits. Implementation of Alternative 2 would not draw unscreened traffic away from the base and the West Gate; it would negatively impact wetlands; and, it would impinge on flight line operations. For these reasons, Alternative 2 is not carried forward for analysis.

No Action Alternative

Under the no action alternative, the West Gate complex would remain unchanged and no reduced or increased impacts to the environment would occur. However, the threat of a high-speed vehicle breaking the installation's perimeter security by "running the gate" would not be mitigated. The current guard house would continue to be below current ballistic design standards and the excessive traffic backups experienced on Armistead Avenue and Sweeney Blvd would continue.

Summary of Impacts

The Proposed Action at the West Gate would generate minor negative impacts on the surrounding environment. There would be no significant impacts during the implementation of the Proposed Action. In the table below Land Use, Biological Resources, Water Quality and Coastal Zone, Wetlands and Floodplains are all given a "-" rating. This corresponds to the facts that if the Proposed Action were implemented 6.8 acres of open land would be covered; that whatever plant and animal populations were using the 6.8 acres for habitat or to forage would be displaced; that 0.44 acres of intermittent wetlands are among the 6.8 acres to be covered so that the benefit those wetlands had on water quality in the vicinity would be removed; and that all of the Proposed Action would be conducted within the 100-year floodplain. All other impacts noted in this EA would be temporary and could be mitigated with common construction practices except for the loss of 0.44 acres of intermittent wetland which would require the creation of the same area of wetlands elsewhere on base or the purchase of that amount through the wetlands banking system.

Land use, air quality, biological resources, safety, solid waste and hazardous materials/waste, water quality, the coastal zone, wetlands and floodplains, noise, cultural resources, geology and soils, and socioeconomic factors were examined. Impacts are summarized below.

Issue Area	Proposed Action	Alternative 1	No Action
Land Use	-	-	0
Air Quality	0	0	-
Biological Resources	-	-	0
Safety	+	+	-
Solid Waste and Hazardous Materials/Waste	0	0	0
Water Quality	-	-	0
Coastal Zone, Wetlands, and Floodplains	-	-	0
Noise	+	+	0
Cultural Resources	0	0	0
Geology and Soils	0	0	0
Socioeconomics	0	0	0

- represents an adverse, but not significant impact

0 represents a neutral effect
+ represents a positive effect

1.0 PURPOSE AND NEED FOR THE ACTION

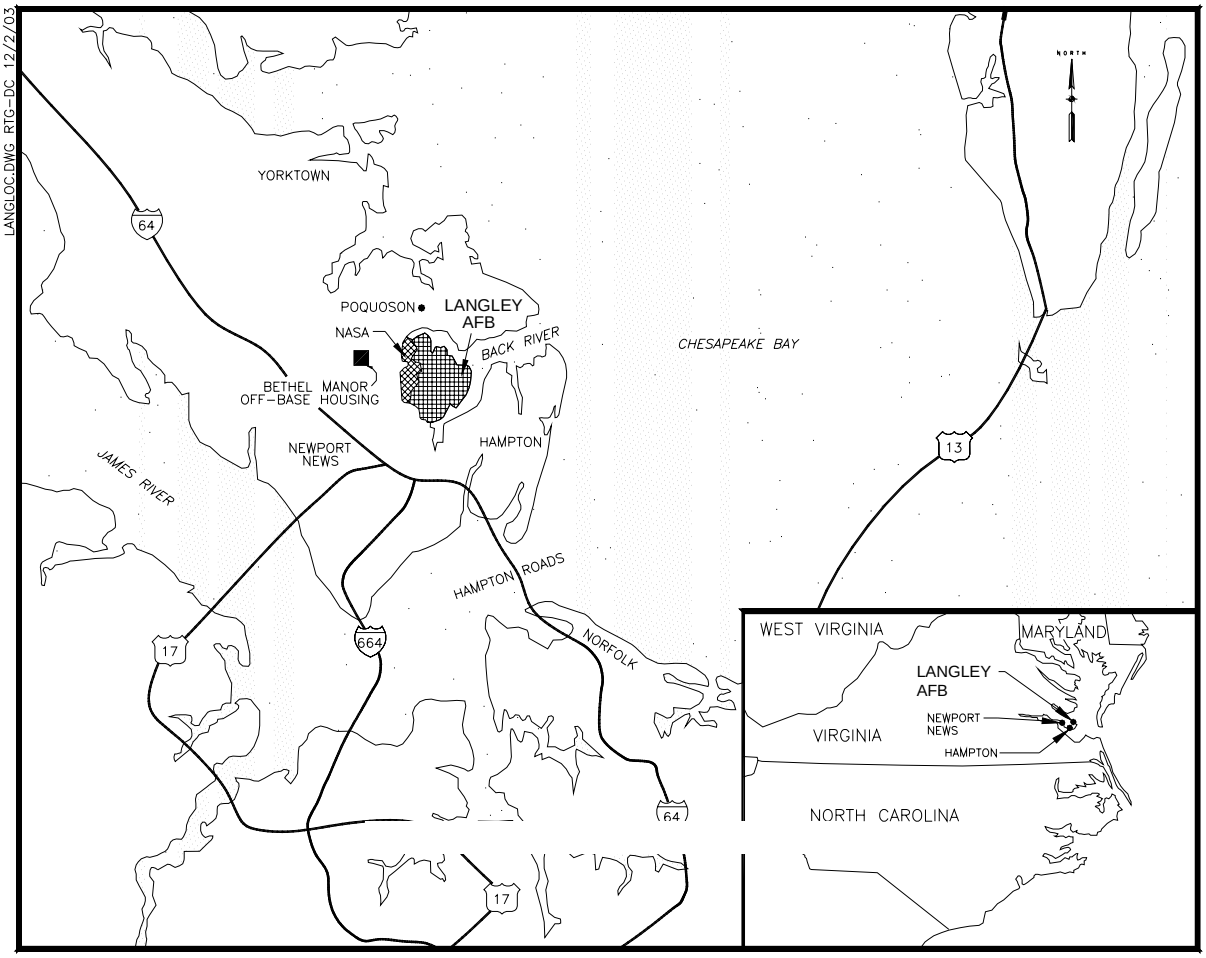
This Environmental Assessment (EA) examines the potential impacts of AT/FP and traffic improvement measures at the West Gate, an entry control point (ECP) located within Langley AFB. The Proposed Actions are subject to review under the National Environmental Policy Act (NEPA) of 1969 (42 U.S. Code [USC] 4321-4347). Federal Agency NEPA compliance is governed by implementing regulations promulgated by the Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] Parts 1500-1508). CEQ NEPA regulations are supplemented by agency-specific regulations, which for the Air Force are contained in *The Environmental Impact Analysis Process,* codified at 32 CFR Part 989.

1.1 Introduction

Langley AFB is located in Hampton, Virginia. The main base is occupied jointly with the National Aeronautics and Space Administration Langley Research Center (NASA LaRC) on 2,883 acres. Currently, the host unit at the base is the 1st Fighter Wing (1FW). The Back River, a tidal estuary that flows east and discharges into the lower reaches of the Chesapeake Bay, surrounds the base on three sides. A peninsula separates the main channel of the river into the Northwest and Southwest Branches. Langley AFB and the NASA LaRC occupy this peninsula, as shown in Map 1-1 on page 1-2.

Much of the peninsula occupied by Langley AFB and NASA LaRC is located within the 100-year floodplain. Most of the area within the base is highly developed. Along the shoreline, development generally extends near or to the riverbank, although a narrow buffer of grassland is present in some locations.

The west end of the flight line is less than a quarter mile north of the West Gate and the subject portion of Sweeney Boulevard (Sweeney Blvd). Private property, including a debris and fill company and residential trailer park, occupies a portion of the land south of Sweeney Blvd near the West Gate. An auto salvage yard occupies a portion of land west of Armistead Avenue, at the far end of the airfield's clear zone. Otherwise, the area is surrounded by open grassy areas and wetlands.



Map 1-1. Location Map, Langley Air Force Base, Virginia

Langley AFB is one of many federal facilities that fall within the Chesapeake Bay Watershed. Because of the large number of federal facilities in the area, the United States Environmental Protection Agency's (EPA's) Chesapeake Bay Program established a Federal Agencies Committee in 1984. Langley AFB has been an active participant in the Program since 1994, when the first Federal Agencies' Agreement committed federal lands to long-term and specific water quality goals and required cooperative efforts to improve the ecosystem management of the Chesapeake Bay. In 1998, the federal agencies, including the DOD and the United States Air Force (USAF), renewed their commitments to the Chesapeake Bay Program by signing the Federal Agencies' Chesapeake Ecosystem Unified Plan (FACEUP) (Appendix A).

1.2 Background

The West Gate is located on Sweeney Blvd approximately 280 feet east of the intersection of Sweeney Blvd and Armistead Avenue, creating a three-way signalized T-intersection. Sweeney Blvd consists of two eastbound lanes that approach the West Gate and two westbound lanes that exit the gate. To the east of Lee Road, Sweeney is a three lane road, where the direction of the center lane is changed to accommodate incoming (eastbound) traffic in the mornings and exiting (westbound) traffic in the afternoons. Sweeney is the only road on base serving the West Gate.

Warehouse Road, with one lane in each direction, extends to the west of the intersection approximately aligned with Sweeney Blvd. Armistead Avenue is a north-south arterial street with two northbound and two southbound lanes. Cmdr. Shepard Blvd is an east-west improved arterial street with two lanes in each direction; it forms a T-intersection with Armistead Avenue.

The West Gate accommodates approximately 45 percent of the total base traffic. During the peak commuting hours, traffic consistently extends beyond Sacramento Avenue to the south, and Cmdr. Shepard Blvd to the north. The West Gate and the portion of Sweeney Blvd subject to the Proposed Action are within the airfield clear zone, and currently operate with an airfield waiver. See Figure 1-1 on page 1-4 for the area immediately west of the gate and Figure 1-2 on page 1-5 for the area to the east of West Gate, including Sweeney Blvd and the Airfield.

1.3 Purpose and Need

On a continual basis, antiterrorism/force protection (AT/FP) defends against asymmetric threats in accordance with Department of Defense (DOD) Instruction 2000.16, DOD Antiterrorism Standards, within the Area of Responsibility to defeat or mitigate the effects of a terrorist attack. The DOD definition of an asymmetric threat is a broad and unpredictable spectrum of military operations conducted by nations, organizations or individuals specifically targeting weaknesses and vulnerabilities within an enemy government or armed force. Deterrence is the first line of defense against such a terrorist attack. This is best accomplished by proper intelligence and adequate perimeter security. Presently, all Langley Air Force Base (Langley AFB or the base) gate complexes fail to meet DOD Force Protection requirements as identified in Air Force Instruction (AFI) 10-245, Air Force Antiterrorism Standards.

The purpose of the Proposed Action is two-fold: addressing traffic congestion in the vicinity of Sweeney Blvd and Armistead Avenue and enhancing force protection at the West Gate through traffic flow improvements. The redesign of the West Gate serves to expedite traffic and reduce

back-ups, an integral concern within DOD force protection requirements. Diversion of traffic bound for the base from the other Armistead Avenue traffic would aid in the elimination of back-ups immediately outside the guard house.

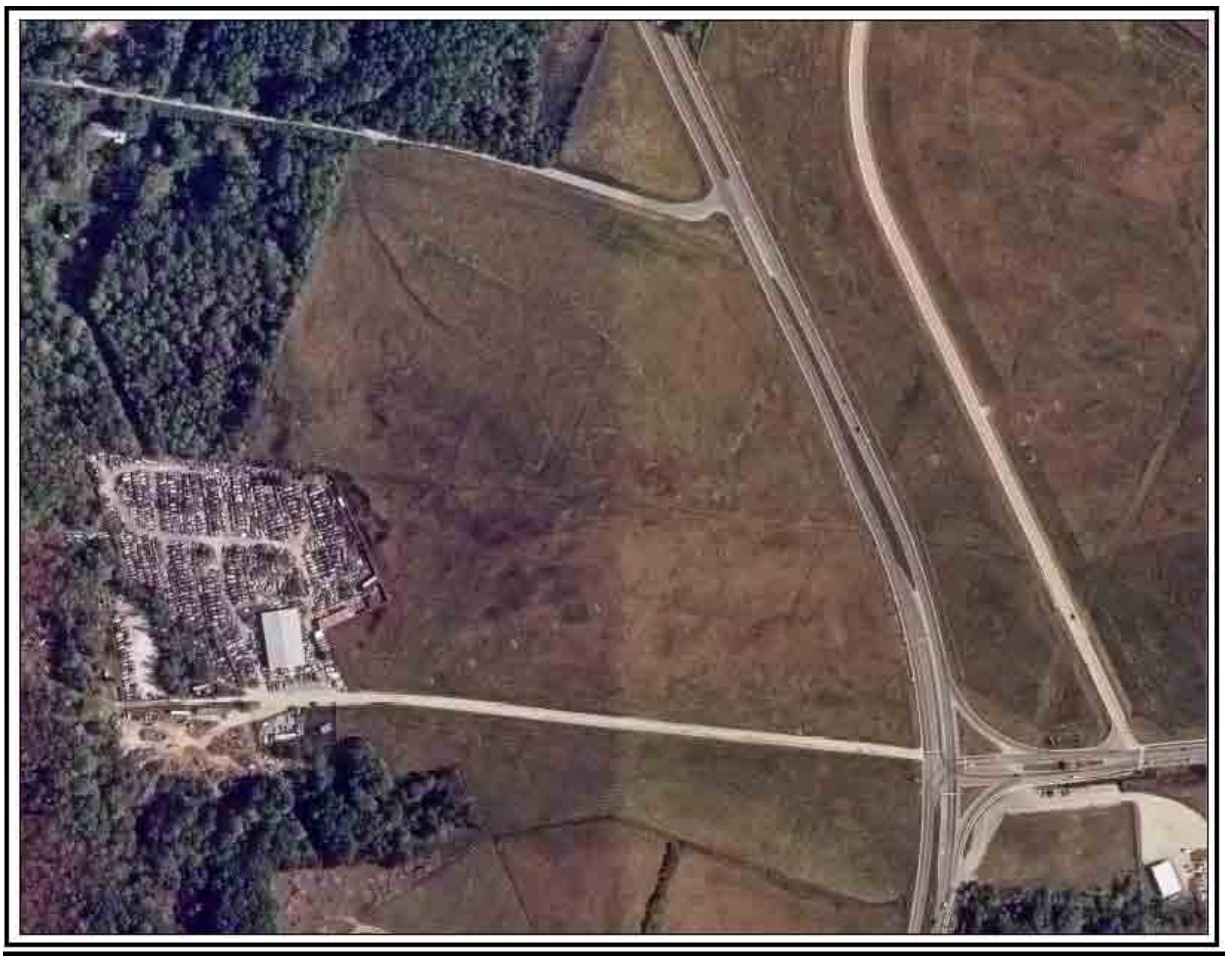


Figure 1-1. West Gate and Land Immediately West of Gate

Figure 1-2. West Gate, Sweeney Blvd, and Airfield

2.0 PROPOSED ACTION AND ALTERNATIVES

The Proposed Action, to construct a stand-off perimeter road; locate a Commercial Vehicle Inspection (CVI) facility; move Lee and Warehouse Roads slightly; expand Sweeney Blvd; and, to move and enlarge the guard house and add structures to support force protection principles, was selected from the four alternatives discussed in this section and is based upon the selection criteria described in Section 2.1, below.

2.1 Selection Criteria

Seven selection criteria were used to evaluate alternatives to meet the Proposed Action. The selection criteria are defined below.

Improve Force Protection Conditions

The selected action should result in provision of adequate perimeter security. Presently, all Langley AFB gate complexes, including the West Gate, fail to meet DOD force protection requirements. Programs of deterrence are made up of various approaches including the implementation of defensive measures as identified in the Air Force AT/FP standards contained in AFI 10-245. This includes improvements in entry control point lighting, pavements, and providing a rejection capability at the gate. New facilities should provide protection for security personnel while allowing for surveillance of the site.

Improve Traffic Management

The selected action should result in improved flow of vehicles in and out of the gate complex resulting in a measurable improvement in the traffic backups on Armistead Avenue.

Provide Processing Capabilities for Commercial and Truck Traffic

The selected action should be able to process commercial vehicles, which would no longer be handled by the Visitor Reception Center (VRC) at the LaSalle Gate.

Present Minimal Environmental Impact

The selected action should have the least negative environmental impact possible during and after construction activities.

Preserve Existing Vegetation and Habitat

The selected action should preserve and be developed within the existing vegetation and habitat to the extent possible.

Provide a Welcoming and Attractive Entrance to the Base

The selected action should result in an improved entrance to the base. The West Gate is the base's most heavily used gate, it should extend a sense of pride, professionalism, and readiness to all that seek to enter the base. The selected action should provide an attractive and welcoming design that also ensures protection and allows for security.

Accomplish in a Timely Manner

The selected action should be one that can be implemented quickly so that force protection requirements can be met.

2.2 Application of the Selected Criteria to Alternatives

The criteria and their applicability to the four alternatives for force protection and traffic improvement measures at the West Gate are shown in Table 2-1 below.

Table 2-1. Selection Criteria for The Proposed Action

	Improve Force Protection Conditions	Improve Traffic Management	Provide Processing Capabilities for Commercial and Truck Traffic	Present Minimal Environmental Impact During Construction	Preserve Existing Vegetation and Habitat	Provide a Welcoming and Attractive Entrance to the Base	Accomplish in a Timely Manner
Proposed Action	✓	✓	✓			✓	
Alternative 1	✓	✓				✓	
Alternative 2		✓	✓	✓			
No Action Alternative					✓	✓	✓

2.3 Proposed Action: Construct a Stand-off Road, Improve the Guard House, Construct a Commercial Vehicle Inspection (CVI) Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the North.

Under the Proposed Action, the gate complex improvements would require major road construction. In the area immediately west of the gate and across Armistead Avenue, within the more than 50 acres of land owned by Langley AFB, a two-lane stand-off road would be constructed to draw southbound traffic destined for the base off of Armistead and instead stack it in the newly constructed road to be processed through the gate. The stand-off road accounts for 1.7 acres of land that will be paved over.

The CVI facility would be constructed south of the stand-off road, southwest of the guard house, to process commercial vehicles that seek entry to the base. This facility would consist of a parking area; a small building for inspection personnel; and a separate small building for the canine inspectors. This facility would increase the paved surface of the gate complex by 2.2 acres.

The guard house and the approach to it would be redesigned to utilize a serpentine effect and varying pavements to limit the possibility of a high-speed approach to the gate. Active hydraulic pop-up barriers would be placed across all lanes of traffic, both ingress and egress lanes, with the controls located at the guard house. Berming and fencing would be use to prevent vehicles from leaving the roadway and running the gates and/or avoiding the pop-up barriers.

The Proposed Action would also include demolition and reconstruction of the existing guard house to provide full ballistic protection coverage to Security Forces personnel.

Some movement/realignment of two existing roads, Lee Road and Warehouse Road would be required by the Proposed Action. The addition of one lane along the northern edge of Sweeney Blvd, making it a permanent four lane road with two lanes running in each direction with an east-west orientation, supports force protection measures proposed for the West Gate. Each two-lane roadway would be 26 ft wide and would extend eastward to Elm Street.

Figure 2-1 on page 2-5 provides an aerial view of the construction as described in the Proposed Action in relation to the current layout of the West Gate. New construction is indicated by yellow markings; the blue striped areas indicate delineated wetlands.

2.4 Alternatives to the Proposed Action

Reasonable alternatives have been identified based upon their ability to provide needed force protection measures; improve traffic flow; and have minimal environmental impact. Discussion of each alternative, and the no action alternative, is presented below.

Alternative 1: Construct a Stand-Off Road, Improve the Guard House, Construct a CVI Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the South.

Under this alternative the West Gate improvements would be the same as those in the Proposed Action except that the CVI facility would be located in the southeastern corner of the intersection of Sweeney Blvd and Armistead Avenue and the expansion of Sweeney Blvd would be to the south, expanding the road away from the flight line.

Alternative 2: Reroute Traffic from Armistead Avenue to Lee Road, Improve the Guard House, Construct a CVI Facility off of Lee Road, and Create a Median and Additional Lane on Sweeney Blvd.

Under this alternative the West Gate improvements would be similar to those in the Proposed Action except that the stand-off road would not be constructed. Instead, traffic would be rerouted to Lee Road and the CVI facility would be constructed in the northeast rather than southwest

corner of the intersection of Sweeney Blvd and Armistead Avenue, one of the few areas on base that is in the 500-year, rather than 100-year, flood plain. This alternative would result in the least disturbance due to construction, and would involve a significant portion of construction outside of the heavily regulated wetlands and the 100-year flood plain but it would also result in the placement of traffic closer to the flight line than the existing traffic pattern.

Sweeney Blvd would be upgraded in the same manner described under the Proposed Action by creating a permanent four lane road with two lanes running in each direction with an east-west orientation. Each two-lane roadway would be 26-ft wide and under this alternative they would be separated by a 16-ft wide median. A substantial median would enhance perimeter security, but the new width of the roadway would impact wetlands and encroach on the flight line.

Although there are some benefits associated with Alternative 2, e.g. fewer disturbances due to construction and a substantial protection measure provided by the median included in the Sweeney Blvd expansion, the costs of this alternative outweigh the benefits. Implementation of Alternative 2 would not draw unscreened traffic away from the base and the West Gate; it would negatively impact wetlands; and, it would impinge on flight line operations. For these reasons, Alternative 2 is not carried forward for analysis.

No Action Alternative

Under the no action alternative, the conditions at the West Gate complex would remain unchanged.

2.5 Comparison of Alternatives

Table 2-2 summarizes the potential environmental impacts of the Proposed Action and the alternatives that were carried forward for analysis based upon the detailed impact analyses presented in Section 4.0.

Table 2-2. Summary of the Potential Impacts of the Proposed Action and Alternatives

Issue Area	Proposed Action	Alternative 1	No Action
Land Use	-	-	0
Air Quality	+	+	-
Biological Resources	-	-	0
Safety	+	+	-
Solid Waste and Hazardous Materials/Waste	0	0	0
Water Quality	-	-	0
Coastal Zone, Wetlands, and Floodplains	-	-	0
Cultural Resources	+	+	0
Geology and Soils	0	0	0
Noise	0	0	0
Socioeconomics	0	0	0

- represents an adverse, but not significant impact
0 represents a neutral effect
+ represents a positive effect

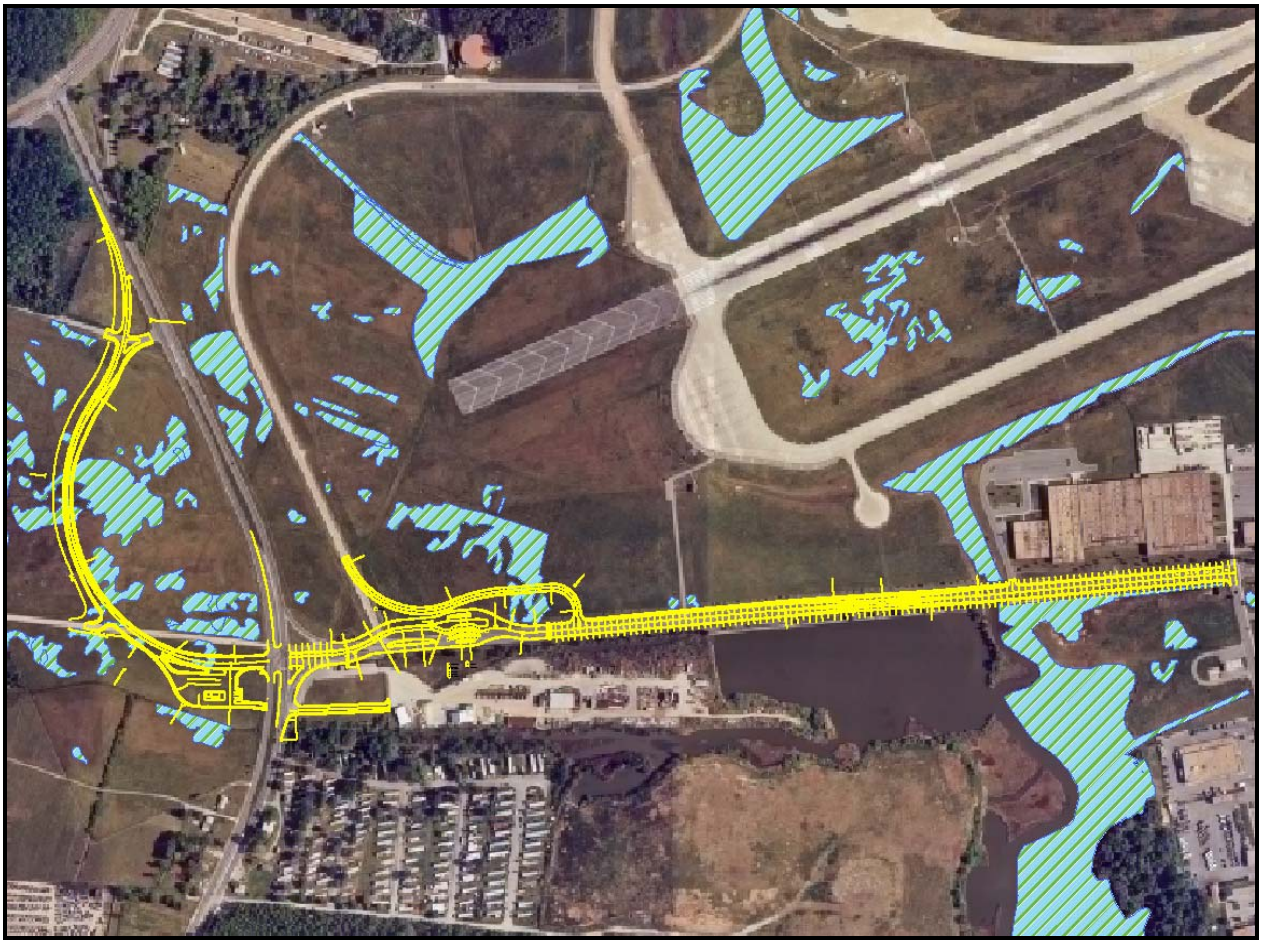


Figure 2-1. Proposed Construction and Wetland Coverage at West Gate and Sweeney Blvd

3.0 EXISTING ENVIRONMENT

This section describes relevant environmental conditions at Langley AFB and the resources potentially affected by the Proposed Action and the alternatives described in Sections 2.3 and 2.4. The analyzed resources are within the geographic scope of potential impacts, known as the region of influence (ROI), and are defined below. The environment includes all areas and lands that might be affected, as well as the natural, cultural, and socioeconomic resources they contain or support.

3.1 Land Use

The site of the Proposed Action includes the land around the existing small brick guard house and portions of Sweeney Blvd, Lee Road, Warehouse Road, and Armistead Avenue, which provide vehicle passage through the West Gate and the surrounding area.

The West Gate complex is less than one quarter of a mile south of the runway, and is also located within the Clear Zone, a 3,000 × 3,000-foot area at the end of the runway. The site of the Proposed Action also overlaps with the Accident Potential Zone (APZ), an extension of the Clear Zone; the APZ is a tool for local planners to promote development that is compatible with airfield operations. The Clear Zone, APZ 1 and APZ 2 are areas that should remain "free and clear of obstructions" since most aircraft mishaps occur on or near the runway, or along the centerline of the runway.

The complex lies within the 100-year floodplain. The area is interspersed with wetlands, including drainage ditches in which wetland vegetation has become established. See Figure 2-1 on page 2-5.

The land beginning approximately 30 ft south of Sweeney Blvd, and 10 ft south of the West Gate area, is privately owned, supporting a fill and debris company and a small trailer park. The fill and debris company property extends approximately 1700 ft east of Armistead Avenue., and the trailer park property extends approximately 1100 ft east of Armistead Avenue. Several private residences are located to the south of the proposed site for the stand-off road and CVI facility; and, an auto salvage yard is west of the Proposed Action. The remaining land in the area is open space containing small intermittent wetlands.

3.2 Air Quality

The EPA developed National Ambient Air Quality Standards (NAAQS) for criteria pollutants to establish primary standards at levels sufficient to protect the public health with an adequate margin of safety. The criteria pollutants that have standards are sulfur dioxide (SO_2), particulate matter less than ten microns (PM_{10}), carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), and lead (Pb). O_3 is controlled by regulating its precursors, volatile organic compounds (VOCs) and nitrogen oxides (NO_x). NAAQS are implemented by states through a state implementation plan (SIP). Those areas that persistently violate NAAQS are designated as nonattainment. Table 3-1 on page 3-2 shows the baseline emissions of the first five criteria pollutants emitted by Langley AFB and the Hampton Roads Air Quality Control Region.

Langley is located in an area originally designated by EPA as an attainment area for all NAAQS, except for ozone. The area then reached attainment for ozone in July 1997. However, the area was redesignated as a marginal nonattainment area for ozone on April 15, 2004 with an effective date of June 15, 2004 (Volume 69 of the Federal Register, Page 23857) because its ozone levels were between 0.085 and 0.092 ppm.

The Clean Air Act prohibits a federal agency from engaging in an activity that would: (1) cause or contribute to any new violation of any air quality standard in any area; (2) increase the frequency or severity of any existing violation; or (3) delay timely attainment. Under the Clean Air Act, the conformity rule applies to federal actions occurring in nonattainment or maintenance areas and would therefore apply to the Proposed Action, since Langley is in a maintenance area for ozone.

The conformity rule defines applicability criteria and includes several exemptions and emissions thresholds, which determine whether the federal action requires a conformity determination. Non-exempt federal actions with total direct and indirect emissions that remain below the *de minimis* thresholds and are not regionally significant do not require conformity determinations. The *de minimis* thresholds for the base are 100 tons per year (tpy) of NO_x and 100 tpy of VOC since it is in a maintenance area outside the ozone transport region that extends from northern Virginia to Maine.

Table 3-1. Baseline Emissions for Langley Air Force Base

Emissions Source	Pollutant (tons/year)				
	CO	**VOCs**	**NO_x**	**SO_2**	**PM_{10}**
Langley AFB[1]					
Stationary Sources	15.7	88.9	46.2	1.2	5.2
Mobile Sources	778.99	36.78	247.61	5.61	8.63
Total	794.69	125.68	293.81	6.81	13.83
Hampton Roads Air Quality Control Region[2]	257,325	79,750	83,560	110,220	49,860

[1] Source: Robert D. Jones, CES/CEVC 2003.
[2] Source: Environmental Assessment, Demolition of the Langley Tow Tank Facility, April 2001.

3.3 Biological Resources

No threatened or endangered species are known to exist on Langley AFB, although bald eagles feed and forage on the surrounding waters and tidal flats. All rare, threatened, and endangered plant and animal species that potentially occur on base are listed in Appendix C. Also included in Appendix C is correspondence from the Fish and Wildlife Service's Ecological Services Office, the Virginia Department of Game and Fisheries' Environmental Services Section, and the Virginia Department of Conservation and Recreation's (VA DCR) Division of Natural Heritage

stating the known threatened or endangered species that they are aware of in the Hampton/Langley AFB area.

Vegetation

The area included in the Proposed Action is disturbed and urbanized. The land use in this area is characterized by treeless grassy fields, roads, drainage ditches, and small wetlands. The vegetative community in these areas is mostly native grass, Leyland cypress, and weeds. The disturbed/urbanized community areas, with the exception of wetlands and ditches, generally do not provide potential habitat for rare, threatened, or endangered plants and animals.

Wildlife

Habitat quality for wildlife in the area is low because of the proximity to high levels of human activity, including the flight line. Noise from aircraft creates a disturbance that limits wildlife habitat. The motion, noise, and pollution of automobile traffic on the roads limit the quality of wildlife habitat, as well. Insects and small mammals typically associated with grassy areas and the small, intermittent wetlands may inhabit the area.

3.4 Safety

The existing West Gate complex does not meet DOD's AT/FP standards, putting base personnel at risk. The guard house does not meet ballistic standards, and there is no physical barrier to prevent a terrorist from "running the gate." Sweeney Blvd is currently not wide enough to accommodate vertical stacking of traffic associated with the West Gate.

The nature of airfield operations imposes certain constraints on land uses and facility heights in areas on or near the airfield. The Unified Facilities Criteria (UFC) 3-260-01, Airfield and Heliport Planning and Design, defines areas that must remain clear of obstructions. The process of identifying hazards and restricting development in these areas promotes flying safety and minimizes the number of people and facilities exposed to danger.

The flight line is located north and east of the Proposed Action. Bird/Aircraft Strike Hazard (BASH) issues are of concern elsewhere on base and steps have been taken to minimize BASH hazards. The base is located along migratory bird routes and contains numerous natural areas that attract transitory birds.

3.5 Solid Waste and Hazardous Materials/Waste

The base is subject to and routinely maintains compliance with solid waste and hazardous materials/waste regulations, including rules pertaining to chemical storage in tanks and containers. Hazardous waste management requirements, including waste minimization policies, are applied to all actions taken at the base. Solid waste leaving the base is taken to the Bethel Sanitary Landfill, and efforts are made to recycle construction debris.

3.6 Water Quality

The base is bordered by the Northwest and Southwest Branches of the Back River. The Back River is a tributary of the Chesapeake Bay. The water is estuarine and primarily saline in nature.

Drainage ditches along Sweeney Blvd convey storm water runoff to tributaries that ultimately empty into the Back River.

Storm water runoff from base roads and the flight line may carry minimal amounts of oil, grease, jet fuel, deicing compound and hydraulic fluid into tributaries of the Back River; however, the releases of these materials are infrequent and small in quantity because of pollution prevention and waste management measures conducted by the base. Occasionally, runoff may contain fertilizer and pesticide residue from landscaping efforts to minimize the presence of invasive weeds and to keep turf healthy and green.

3.7 Coastal Zone, Wetlands, and Floodplains

The federal Coastal Zone Management Act (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)). Executive Order 11988, Floodplain Management, requires that each federal agency "shall provide leadership and shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains."

Virginia requirements applicable to actions in the coastal zone, wetlands and floodplains are managed under the Virginia Coastal Program (VCP). The VCP goals include prevention of damage to the Commonwealth's natural resources, the protection of public and private investment in the coastal zone, and the promotion of resources development and public recreation opportunities. Nine enforceable regulatory programs are gathered under the VCP to protect and enhance the coastal zone. Once this EA is reviewed by the appropriate individuals within the Commonwealth of Virginia, the signed Coastal Compliance Determination would be attached in Appendix D.

The Chesapeake Bay Preservation Act, adopted by the General Assembly in 1988, provides for the protection and improvement of water quality of the Chesapeake Bay, its tributaries, and other state waters by minimizing the effects of human activity upon these waters and implementing the Act, which provides for the definition and protection of certain lands called Chesapeake Bay Preservation Areas. All counties, cities, and towns in Tidewater Virginia fall under the jurisdiction of the Act.

Executive Order 11990, Protection of Wetlands, requires that each federal agency "shall provide leadership and shall take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands." Federal, state, and local wetland construction permits are required for any construction within the wetland and coastal zone management areas.

Intermittent wetlands occur in a number of areas near the West Gate.

3.8 Noise

Sound levels are expressed in decibels and are usually "A-weighted" for human hearing. On military installations, the Day-night average Noise Level (DNL) is used to determine impacts. The DNL metric provides a single measure of overall noise exposure and is used to predict human annoyance. Different functions such as residential, commercial, and recreational activities have varying sensitivities to noise levels. According to the Langley AFB General Plan of July 2003, the West Gate and the western portion of Sweeney Blvd involved in the Proposed Action is along or near the 85 decibel noise contour on an "average busy day."

3.9 Cultural Resources

Section 106 of the National Historic Preservation Act of 1966 requires that federal agencies take into account the effects of their undertakings on historic properties. According to the base General Plan, most areas with historical or archaeological significance are located along the shore on the eastern side of the base.

The area along the southwest end of the flight line is assessed as having a low potential for containing historical remains. It is likely that previous development, such as clearing, grading, roadwork, and runway construction, have destroyed any potential for intact deposits.

3.10 Geology and Soils

Soils at Langley are mostly unconsolidated fluvial, marine, and estuarine deposits that may date as far back as the Cretaceous era, circa 135 million years ago. During the construction of the base, fill was added for leveling. The fill was compacted in areas where roads and buildings were constructed.

3.11 Socioeconomics

Environmental justice concerns the disproportionate effect of a federal action on low-income or minority populations. The existence of disproportionately high and adverse impacts depends on the nature and magnitude of the effects identified for each of the individual resources. If implementation of the Proposed Action were to have the potential to significantly affect people, those effects would have to be evaluated for how they adversely or disproportionately affect low–income or minority communities.

4.0 ENVIRONMENTAL CONSEQUENCES

The proposed force protection and traffic management activities at the West Gate would generate relatively minor short-term impacts on the surrounding environment. The nature and duration of the impacts are such that, with the use of common construction practices, there would be no significant impacts during the implementation of the Proposed Action. Potential impacts would be either short-term or could be mitigated by utilization of best management practices (BMPs).

4.1 Land Use

Proposed Action: Construct a Stand-off Road, Improve the Guard House, Construct a Commercial Vehicle Inspection (CVI) Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the North.

The Proposed Action would be at the same location as the existing gate and roadways, but expands their footprint to accommodate improvements, reducing open space at the base. Since the Base General Plan identifies this area as an integral part of the airfield, the Proposed Action would require an amendment to the existing airfield waiver under which the gate currently operates.

Roadways would be added, moved and expanded. The stand-off road would be constructed west of Armistead Avenue in an open field. Warehouse Road would be moved slightly to merge with the stand-off road to provide access to the CVI facility and ultimately to form a T intersection with Armistead Avenue. The West Gate would be relocated approximately 230 feet east of its existing location, and Lee Road would be realigned to approximately 180 feet east of the relocated West Gate. These actions would result in paving over 6.8 acres of open space, including 0.44 acres of wetland.

Although the Proposed Action would occur on Federal property, it would affect traffic flow for Tidewater Road. Construction of the stand-off road could potentially impede traffic exiting Tidewater Road. Tidewater Road dead-ends at its western end and would be intercepted by the proposed stand-off road before reaching Armistead Road, the only way in and out of the street at this time. Mitigating measures, ensuring the option to exit Tidewater Road, have been identified and may be added to the Proposed Action.

Alternative 1: Construct a Stand-Off Road, Improve the Guard House, Construct a CVI Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the South.

Under this alternative the West Gate improvements would be the same as those in the Proposed Action except the CVI facility would be located in the southeastern corner of the intersection of Sweeney Blvd and Armistead Avenue. The CVI facility would be located in an area that is already paved, thereby avoiding the loss of approximately 2.24 acres of undisturbed land. However, this space would not accommodate all truck types and sizes that may wish to enter the base. A back up system, e.g. use of the LaSalle Gate, would be needed to accommodate the largest trucks.

The expansion of Sweeney Blvd would be to the south, expanding the road away from the flight line.

No Action Alternative

Under the no action alternative, the conditions at the West Gate complex would remain unchanged.

4.2 Air Quality

According to 40 CFR Part 93, the *de minimis* levels for general conformity are 100 tons each for NO_x and VOCs. Construction activities, including operation of diesel-powered equipment and architectural painting, stationary sources, and mobile sources were considered in this determination. Increased vehicle traffic beyond that necessary for the actions themselves was not considered because the proposed action and alternatives will not facilitate or promote an increased number of personnel using the gate. The assumptions and calculations used to arrive at these emissions are provided in Appendix B.

Proposed Action: Construct a Stand-off Road, Improve the Guard House, Construct a Commercial Vehicle Inspection (CVI) Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the North.

Under the Proposed Action, fugitive dust and vehicle emissions would temporarily increase because of increased construction vehicle traffic, site clearing, and demolition activities. Emissions from the work associated with the Proposed Action are shown in Table 4-1. Emissions calculations are based on construction activities occurring over an 8-month construction period.

Fugitive dust would be minimized through the application of water to disturbed areas and haul roads as a dust suppressant, and low speed limits would be enforced on clearing equipment and haul trucks to reduce the amount of dust created during use.

The base environmental compliance office would enforce policies regarding truck trips, idling, and size and type of earth moving equipment that would minimize construction vehicle emissions.

Table 4-1. Emissions from the Proposed Actions

Pollutant	Tons Per Year	Percent Regional Contributions
CO	1.03	<0.01
VOCs	0.20	<0.01
NO_x	0.46	<0.01
SOx	0.05	<0.01
PM_{10}	3.18	<0.01

Emissions generated from the operation of diesel-fueled construction equipment during construction are expected to be below the *de minimis* levels of the Clean Air Act's General Conformity Regulations. Based on emission factors provided in EPA's Compilation of Air Pollutant Emission Factors annual emissions of NO_x and VOCs during the construction period

are approximately 0.26 tons and 0.09 tons respectively. The assumptions and calculations used to arrive at these emissions are provided in Appendix B. These emissions would not significantly impact local or regional air quality, or result in violations of NAAQS.

Alternative 1: Construct a Stand-Off Road, Improve the Guard House, Construct a CVI Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the South.

Under Alternative 1, as under the Proposed Action, fugitive dust would temporarily increase during demolition, site clearing, and construction activities. Emissions from the work associated with Alternative 1 are shown in Table 4-1. Emissions calculations are based on construction activities occurring over an 8-month construction period.

Fugitive dust would be minimized through the application of water to disturbed areas and haul roads as a dust suppressant, and low speed limits would be enforced on clearing equipment and haul trucks to reduce the amount of dust created during use.

The base would enforce policies regarding truck trips, idling, and size and type of earth moving equipment that would minimize construction vehicle emissions.

Table 4-2. Emissions from Alternative 1

Pollutant	Tons Per Year	Percent Regional Contributions
CO	1.03	<0.01
VOCs	0.20	<0.01
NO_x	0.46	<0.01
SOx	0.05	<0.01
PM_{10}	3.18	<0.01

Emissions generated from the operation of diesel-fueled construction equipment during construction are expected to be below the *de minimis* levels of the Clean Air Act's General Conformity Regulations. Based on emission factors provided in EPA's Compilation of Air Pollutant Emission Factors annual emissions of NO_x and VOCs during the construction period are approximately 0.26 tons and 0.09 tons respectively. The assumptions and calculations used to arrive at these emissions are provided in Appendix B. These emissions would not significantly impact local or regional air quality, or result in violations of NAAQS.

Alternative 1 would have positive long-term effects on vehicle emissions at the West Gate and on surrounding roads. By reducing the long-lines of standing traffic during rush hour periods and increasing traffic flow, emissions from idling vehicles would be reduced.

No Action Alternative

This alternative would not affect the short-term air quality at the project area since no construction would occur. The long-term benefits of reduced emissions from idling vehicles would not be realized.

4.3 Biological Resources

Construction activity would have minor impacts on vegetation and wildlife. Limited amounts of the existing vegetation would be removed because of road construction. The noise and activity during construction could temporarily disturb wildlife.

Proposed Action: Construct a Stand-off Road, Improve the Guard House, Construct a Commercial Vehicle Inspection (CVI) Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the North.

More than half of the approximately 6.8 acres affected by the Proposed Action would be open space where vegetation would be covered. Approximately 0.44 of those acres include wetlands that would be filled in to accommodate the Proposed Action.

The Proposed Action would have a minimal effect on wildlife. The West Gate and the surrounding area are extensively developed and experience high levels of human activity. An increase in the footprint of the gate complex would have little effect on wildlife since the presence of human activity already results in very little wildlife present in the area. Coordination with Virginia's Departments of Conservation and Recreation, Game and Inland Fisheries, and Fish and Wildlife is documented in Appendix C.

Alternative 1: Construct a Stand-Off Road, Improve the Guard House, Construct a CVI Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the South.

Vegetation would be affected similarly to the Proposed Action; however, the CVI facility would be located at an area that is already paved, thereby avoiding the loss of approximately 2.24 acres of undisturbed vegetation.

Impacts on wildlife and wildlife habitat would be similar to impacts discussed above under the Proposed Action.

No Action Alternative

This alternative would not negatively impact vegetation or wildlife, nor would it benefit them since no construction activity would occur.

4.4 Safety

Proposed Action: Construct a Stand-off Road, Improve the Guard House, Construct a Commercial Vehicle Inspection (CVI) Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the North.

The main purpose of the Proposed Action is to increase force protection measures at the West Gate. Thus the safety of the base in general and of security personnel would increase as a result of the Proposed Action. The razing and reconstruction of the guard house would provide full ballistic protection for gate personnel. Other design elements would limit the possibility of a high-speed breech of the base perimeter.

A security fence and system, and the gate for the secure area, also are sited within the Primary Surface. The closest point that the infrastructure which protects the secure area will approach the runway centerline will be no nearer than 360' from the runway centerline. An airfield waiver has been prepared for the force protection and traffic improvement measures for the West Gate; the risk assessment for that waiver has determined that the greatest level of risk for the improvements will be a "medium". 1 CES, 1 FW/SE, and 1 OSS/OSA assisted in the Risk Assessment process that is required per Unified Facilities Criteria (UFC) 3-260-01, Airport and Heliport Planning and Design Standards.

Under the Proposed Action, the construction would not attract additional local and migratory bird populations and would not result in an increased BASH hazard.

Although the additional lane on Sweeney Blvd would draw traffic closer to the flight line, the resulting traffic mitigation from the Proposed Action would improve traffic flow through the West Gate, decreasing the quantity and duration of vehicles sitting in the airfield Clear Zone.

Worker safety during construction would be enhanced by the closure of the gate function. Other entry control points would absorb the West Gate traffic during implementation of the Proposed Action. Exposure to hazards associated with the operation of heavy equipment and typically associated with road and building construction would exist for workers during the construction period.

Alternative 1: Construct a Stand-Off Road, Improve the Guard House, Construct a CVI Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the South.

Safety concerns would be not different than those of the Proposed Action. However, since the location of the commercial vehicle inspection facility would not accommodate all truck types and sizes that may wish to enter the base. Some back up system, e.g., use of the LaSalle Gate, would be needed to accommodate the largest trucks, negating the effort to keep all commercial truck traffic away from the LaSalle Gate where a CVI facility would not be available to inspect potential visitors to the base. Force protection measures, and thus the level of safety on the base, would be reduced by the occasional rerouting of commercial vehicles for inspection under makeshift conditions.

No Action Alternative

Under this alternative, the West Gate would continue to fail to meet force protection and antiterrorism guidelines. The threat of a high-speed vehicle breaking the base's perimeter security by "running the gate" would not be mitigated. The current guard house would continue to be below current ballistic design standards.

Traffic would continue to be stacked vertically at the West Gate although horizontal stacking of traffic is required to meet the DOD's increased force protection requirements.

4.5 Solid Waste and Hazardous Materials/Waste

Langley AFB's Environmental Restoration Program (ERP) investigates and remediates historic contamination sites on base. Air Combat Command (ACC) policy requires that any construction project on or near an ERP site be coordinated through the ERP Manager. The project area is not located near any ERP sites.

Construction debris would be recycled to the maximum extent practicable, and all contractors would be responsible for any hazardous materials they may bring to and use at the construction site. Recycled materials would be used in construction where feasible, in compliance with Executive Order 13101.

Proposed Action: Construct a Stand-off Road, Improve the Guard House, Construct a Commercial Vehicle Inspection (CVI) Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the North.

During the construction period associated with the West Gate, approximately 5 truckloads (or 50 tons) of debris (construction debris, demolition debris, concrete, asphalt, soil, etc.) would be taken off site to the Bethel Sanitary Landfill, or another local facility that can receive this type of material for disposal. The volume of construction waste sent to the landfill can be reduced by recycling. Raw materials for construction containing recycled material would be used whenever possible.

Use of construction equipment such as dump trucks, backhoes, bulldozers, etc., may require temporary storage of oils and fluids used to service them. Storage of these materials would be subject to the same storage requirements utilized elsewhere on base in conformance with state and Federal regulations. These requirements include marking the containers with the name of the contents of a tank or drum, placing the unit in a containment area, and routinely checking these units to see that they are in good condition and have no leaks or signs of repeated dripping or spilling. Once the project was completed, all chemicals would be removed from the base.

Any storage of fertilizers, pesticides, or herbicides associated with the planting activities would be managed in the same way as described immediately above.

Alternative 1: Construct a Stand-Off Road, Improve the Guard House, Construct a CVI Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the South.

Like the consequences described under the Proposed Action, the solid waste generated as a result of implementing Alternative 1 would consist of approximately 5 truckloads (or 50 tons) of debris (construction debris, demolition debris, concrete, asphalt, soil, etc.). This debris would be taken off site to the Bethel Sanitary Landfill, or another local facility that can receive this type of material for disposal. The volume of construction waste sent to the landfill can be reduced by recycling. Raw materials for construction containing recycled material would be used whenever possible.

Use of construction equipment such as dump trucks, backhoes, bulldozers, etc., may require temporary storage of oils and fluids used to service them. Storage of these materials would be subject to the same storage requirements utilized elsewhere on base in conformance with state and Federal regulations. These requirements include marking the containers with the name of the contents of a tank or drum, placing the unit in a containment area, and routinely checking these units to see that they are in good condition and have no leaks or signs of repeated dripping or spilling. Once the project was completed, all chemicals would be removed from the base.

Any storage of fertilizers, pesticides, or herbicides associated with the planting activities would be managed in the same way as described immediately above.

No Action Alternative

This alternative would create no solid or hazardous waste in the project area.

4.6 Water Quality

If there is an increase in paved surfaces, an increase in storm water run-off would occur. Run-off for the newly constructed areas would be collected at various locations and discharged to the various appropriate areas around the site. Soil disturbance as a result of earth-moving could contribute to turbid run-off, and accidental spills at the site could add hazardous and other waste to the run-off. Extensive erosion/sediment control measures would be installed at designated locations to prevent erosion and keep sediment from leaving the site. In the long-term, the increase in the amount of paved areas at the site would facilitate the more rapid transfer of storm water run-off into surrounding areas triggering the need for storm water management measures to be put in place to slow and disperse storm water. Landscape and wetland vegetation improves the natural filtration process that slows storm water and removes its pollutants, affecting the water quality of nearby streams and ponds. The filtration function performed by the vegetation would result in a reduction in pollutants associated with storm water runoff.

Proposed Action: Construct a Stand-off Road, Improve the Guard House, Construct a Commercial Vehicle Inspection (CVI) Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the North.

The destruction of small wetland areas to build roads would result in a net loss of vegetative filtration capacity. However, mitigation of traffic congestion increases the speed at which vehicles pass through the West Gate, and reduces idling times, which in turn reduces some pollutants such as oil, antifreeze, and other vehicular pollutants that runoff from roadways. Siltation would be kept to a minimum during construction by use of erosion and sediment control

barriers. Also, runoff from new pavement will temporarily contain more pollutants than typical runoff.

Alternative 1: Construct a Stand-Off Road, Improve the Guard House, Construct a CVI Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the South.

Under this alternative, the destruction of small wetland areas to build roads would result in a net loss of vegetative filtration capacity. However, mitigation of traffic congestion increases the speed at which vehicles pass through the West Gate, and reduces idling times, which in turn reduces some pollutants such as oil, antifreeze, and other vehicular pollutants that runoff from roadways. Siltation would be kept to a minimum during construction by use of erosion and sediment control barriers. Also, runoff from new pavement will temporarily contain more pollutants than typical runoff.

No Action Alternative

This alternative would not impact water quality.

4.7 Coastal Zone, Wetlands, and Floodplains

Proposed Action: Construct a Stand-off Road, Improve the Guard House, Construct a Commercial Vehicle Inspection (CVI) Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the North.

All work associated with the Proposed Action would be conducted in accordance with Virginia's Water Protection Permit Program. Once this EA is reviewed by the appropriate individuals within the Commonwealth of Virginia, the signed Coastal Compliance Determination would be attached in Appendix D. Similarly, any Section 404 Clean Water Act Permit issued by the Army Corps of Engineers related to the filling of wetland areas would also be included in Appendix D.

The Proposed Action would have an impact on the intermittent wetlands located in the area around the West Gate. Approximately 0.44 acres of wetlands would be lost because of the Proposed Action. To mitigate the loss of wetland area, an equal amount of wetland would be created elsewhere on base or purchased by the base on behalf of the Proposed Action from the Mitigation Bank maintained under Clean Water Act regulations. Other options, such as the payment of a lien fee to the National Conservation Trust Fund could be considered if the Proposed Action was carried out and wetland mitigation was necessary.

The Proposed Action lies within the 100-year floodplain, as virtually all of Langley lies within this designation.

Alternative 1: Construct a Stand-Off Road, Improve the Guard House, Construct a CVI Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the South.

Alternative 1 would also impact the coastal zone, the 100-year floodplain, and existing wetlands. Wetlands would be affected to a greater extent than under the Proposed Action because of the presence of the wetland area and water body just south of the existing roadway.

No Action Alternative

This alternative would not impact the coastal zone, wetlands, and floodplain environment of the base. All wetlands in the area would remain intact, but traffic problems and base security would not be improved.

4.8 Noise

Proposed Action: Construct a Stand-off Road, Improve the Guard House, Construct a Commercial Vehicle Inspection (CVI) Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the North.

During the Proposed Action, construction vehicles would be used to move construction materials. The construction is anticipated to occur over an eight month period, and it is expected that construction crews would be operating construction equipment intermittently during normal business hours. While noise produced during construction would be noticeable, it would be similar to that produced by other construction occurring on base and would be temporary in nature. Because the DNL is dominated by long-term aircraft operations, noise sources from temporary construction activity occurring intermittently would not change the overall DNL; therefore, no adverse impacts are anticipated.

Alternative 1: Construct a Stand-Off Road, Improve the Guard House, Construct a CVI Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the South.

Like the Proposed Action, Alternative 1 would include road construction. The construction is anticipated to occur over an eight month period, and it is expected that construction crews would be operating construction equipment intermittently during normal business hours. While noise produced during construction would be noticeable, it would not add to the DNL in the area, which is generated predominately by aircraft operations. Therefore, no adverse impacts are anticipated.

No Action Alternative

This alternative would create no noise impacts on the project area since no construction activity would occur.

4.9 Cultural Resources

Proposed Action: Construct a Stand-off Road, Improve the Guard House, Construct a Commercial Vehicle Inspection (CVI) Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the North.

In the event that features or deposits were encountered during the Proposed Action, Langley would implement the procedures in Air Force Instruction 32-7065 and the Cultural Resources Management Plan (CRMP) for unanticipated archeological discoveries. Since this general area has been extensively developed in the past, it is not likely that there are any undisturbed cultural resources.

Alternative 1: Construct a Stand-Off Road, Improve the Guard House, Construct a CVI Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the South.

As indicated under the Proposed Action, if features or deposits were encountered during the implementation of Alternative 1, Langley would implement the procedures in Air Force Instruction 32-7065 and the CRMP for unanticipated archeological discoveries. Since this general area has been extensively developed in the past, it is not likely that there are any undisturbed cultural resources.

No Action Alternative

This alternative would not disturb any cultural resource that may be in the project area. Since this general area has been extensively developed in the past, it is not likely that there are any undisturbed cultural resources. Hence, there are neither positive benefits nor negative impacts from this alternative.

4.10 Geology and Soils

Proposed Action: Construct a Stand-off Road, Improve the Guard House, Construct a Commercial Vehicle Inspection (CVI) Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the North.

The Proposed Action would not have an effect on soils. The base is built mostly on fill; hence, original soils are not intact. During construction, contractors would follow the Erosion and Sedimentation Plan they are required to develop to reduce soil loss. The completed construction would leave all soil under vegetation or paved areas, leaving no bare soil vulnerable to erosion.

Alternative 1: Construct a Stand-Off Road, Improve the Guard House, Construct a CVI Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the South.

Implementation of this alternative would not have an effect on soils. The base is built mostly on fill; hence, original soils are not intact. During construction, contractors would follow the Erosion and Sedimentation Plan they are required to develop to reduce soil loss. The completed construction would leave all soil under vegetation or paved areas, leaving no bare soil vulnerable to erosion.

No Action Alternative

This action would neither disturb nor enhance soils in the project area.

4.11 Socioeconomics

Proposed Action: Construct a Stand-off Road, Improve the Guard House, Construct a Commercial Vehicle Inspection (CVI) Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the North.

Construction at the West Gate would affect the residents of a small trailer park east of Armistead Avenue, south of Sweeney Blvd. There are several private homes located on Armistead Avenue, south of the area where the CVI facility would be built. Noise and air pollution would increase temporarily during construction. The location of the CVI facility southwest of the gate would create a long-term source of vehicle emissions and noise. This would be offset to a degree by the improved traffic conditions resulting from the Proposed Action. This area is already severely impacted by proximity to the flight line and the fill and debris company that operates in the immediate vicinity of the Proposed Action. Traffic mitigation will alleviate backups on Armistead Avenue that potentially frustrate residents attempting to pull out on to Armistead Avenue.

Alternative 1: Construct a Stand-Off Road, Improve the Guard House, Construct a CVI Facility, Realign Lee Road and Warehouse Road and Expand Sweeney Blvd to the South.

As with the Proposed Action, construction at the West Gate would affect the residents of a small trailer park east of Armistead Avenue, south of Sweeney Blvd. There are several private homes located on Armistead Avenue, south of the area where the CVI facility would be built. Noise and air pollution would increase temporarily during construction. The location of the CVI facility southwest of the gate would create a long-term source of vehicle emissions and noise. This would be offset to a degree by the improved traffic conditions resulting from the Proposed Action. This area is already severely impacted by proximity to the flight line and the fill and debris company that operates in the immediate vicinity of the Proposed Action. Traffic mitigation will alleviate backups on Armistead Avenue that potentially frustrate residents attempting to pull out on to Armistead Avenue.

No Action Alternative

The no action alternative would not create further disturbance for nearby residents who are already impacted by proximity to the flight line. However, residents would continue to be frustrated by traffic problems in the area and subjected to the noise and pollution from traffic backups that are experienced on a regular basis along Armistead Avenue.

5.0 CUMULATIVE EFFECTS

This section provides a definition of cumulative effects, a description of past, present, and reasonably foreseeable actions relevant to cumulative effects, and an evaluation of cumulative effects potentially resulting from these interactions.

5.1 Definition of Cumulative Effects

Cumulative effects on environmental resources result from incremental impacts of Proposed Actions, when combined with other past, present, and reasonably foreseeable future projects in the area. Cumulative impacts can result from minor, but collectively substantial, actions undertaken over a period of time by various agencies (Federal, state, and local) or individuals.

In accordance with NEPA, a discussion of cumulative impacts resulting from projects that are proposed, under construction, recently completed, or anticipated to be implemented in the near future is required. The scope of the cumulative effect analysis involves both the geographic extents of the effects and the time frame in which the effects could be expected to occur. For this EA, the region of influence (ROI) includes the base and the portion of the clear zone that extends across Armistead Avenue, and the areas immediately adjacent to this area, including the small residential trailer park, the private homes on Armistead Avenue across from the trailer park, the fill and debris company and the auto salvage yard. Actions not occurring within the ROI are not considered in the cumulative effects analysis.

5.2 Past, Present, and Reasonably Foreseeable Actions

Langley AFB is an active military installation that undergoes changes in mission and in training requirements in response to defense policies, current threats, and tactical and technical advances. The base, like any other major institution (e.g., university, industrial complex), requires new construction, facility improvements, infrastructure upgrades, maintenance and repairs. In addition, tenant organizations such as the Air National Guard occupy portions of the base, conduct aircraft operations, and maintain facilities. All of these factors (e.g., mission changes, facility improvements, and tenant use) have and will continue to apply before, during, and after the Proposed Action.

A number of construction activities completed in the recent past, currently underway and planned for the near future should be considered under this analysis of cumulative effects. Within the last year Langley has completed six construction projects: Alert Crew Living Facility, Approach Lights Runway 08, Fitness Center, 96-Room Dormitory, Dormitory Parking Lot, and the Base Operations Facility. Another five are expected to be completed in 2004: Air Combat Command Operations Support Center, Housing Management Office, F/A-22 Flight Simulator, F/A-22 Squadron Operations and Aircraft Maintenance Unit Hangars, and F/A-22 Low Observable/ Composite Repair Facility. Additional construction that is planned for 2005 includes: Force Protection Measures at the LaSalle Gate and King Street Gate, AAFES Mini Mall, Munitions Storage Area (repair and construction, multiple buildings), 480th Intelligence Wing Distributed Common Ground System, Consolidated Communications Squadron Facility, Demolition of Two-Million Gallon Tank and Replacement with Two One-Million Gallon Tanks,

Golf Course Improvements, Repair Firing Range, Demolish Building 633 and Construct a Parking Lot, Skill Center, and Demolish 4 Historic Homes in the LTA Area.

At the same time, Langley's Integrated Natural Resources Management Program has an ongoing effort to proactively provide stewardship of lands under USAF control. Within the ROI for the Proposed Actions, various organizations outside of the Air Force are also working to proactively restore and protect the Chesapeake Bay and its tributaries. Langley AFB is partnering with the EPA and other agencies within the Chesapeake Bay Program to plant riparian forest buffers along the Bases' shoreline.

5.3 Analysis of Cumulative Effects of the Proposed Actions

Land Use

While the improvements to the West Gate would have a relatively minor negative impact particularly in comparison to the benefits that would be realized by the Proposed Action, the greater concern would be that of the contribution to the loss of open space due to the numerous construction projects currently underway at the base.

Air

Under the Proposed Action, fugitive dust and vehicle emissions would temporarily increase due to increased construction vehicle traffic and demolition activities. Vehicular emissions of PM_{10}, SO_2, and CO would be expected to increase during the demolition of the guard house, the clearing and grubbing activities, and construction of new gate facilities. Although gate traffic would be rerouted elsewhere, other local traffic could be affected by the construction vehicles operating in the area.

The other projects that are considered under this subsection would contribute air emissions during their construction and subsequent operations. There are 11 projects that were recently completed or are concurrently scheduled with the Proposed Action. In addition there may be 12 more construction projects on base within a year of the Proposed Action. The total emissions for VOCs and NO_x are expected to be below the 100 tpy *de minimis* threshold for the operating facilities, but management practices to reduce emissions during construction would be important particularly if multiple large projects are underway at one time.

Water Quality

Increases in paved areas throughout the base would negatively affect water quality in the Back River and its tributaries which in turn impact the Chesapeake Bay. Storm water that is unable to soak into pervious surfaces, rushes across paved areas, picking up pollutants and then overloads nearby water bodies depositing those pollutants.

Coastal Zone, Wetlands, and Floodplains

As more and more of the open spaces throughout the base are developed, this puts greater stresses on the health of nearby habitats, including wetlands and the tributaries of the Chesapeake Bay. Compliance with the Clean Water Act, the Chesapeake Bay Protection Act, as well as good faith participation in the FACEUP requires that wetlands be created that make up for the wetlands lost to new construction. The ratio for new wetland created to old wetland lost depends on the type and quality of wetland that was lost. Other steps, such as the planting of native species and the responsible stewardship of the dwindling natural resources on the base would be useful, proactive actions to be taken in light of the pace of construction occurring at Langley AFB.

6.0 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Irreversible and irretrievable resource commitments are related to the use of non-renewable resources and the effects that the uses of these resources have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (e.g., energy or minerals) that cannot be replaced within a reasonable time and could have been used for other purposes. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action (e.g., the extinction of an endangered or threatened species).

For the Proposed Action, resource commitments are neither irreversible nor irretrievable. The relatively minor environmental consequences would be temporary or can be mitigated through the use of best management practices.

7.0 RELATIONSHIP BETWEEN SHORT TERM USE OF THE ENVIRONMENT AND LONG-TERM PRODUCTIVITY

This section summarizes the relationship between the use of the environment for AT/FP improvements and different actions that could be taken to maintain and enhance the long-term productivity of the same land and its resources.

Because the construction activity would occur at an existing ECP the location of such improvements is not subject to change. Bringing each of Langley's three gates into compliance with DOD and USAF force protection standards is of the highest priority. While is it regrettable that the West Gate is proximate to wetlands, steps can be taken to minimize the impact of ECP improvements. Other impacts would be temporary and are not significant. There are no practical alternative uses for this land due to its proximity to the flight line and its inclusion in the clear zone.

The long term human productivity associated with the AT/FP improvements would be securing the perimeter of Langley AFB.

8.0 LIST OF PREPARERS

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Elizabeth Skane, Environmental Scientist, URS.

9.0 PERSONS AND AGENCIES CONTACTED

Organizations with approval and permitting authorities associated with the Proposed Action.

- U.S. Army Corps of Engineers, Norfolk District;
- Commonwealth of Virginia, Department of Environmental Quality;
- U.S. Fish and Wildlife Service;
- Commonwealth of Virginia, Department of Game and Inland Fisheries;
- Commonwealth of Virginia, Department of Conservation and Recreation; and
- City of Hampton Planning Office.

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Appendix A

Federal Agencies' Chesapeake Ecosystem Unified Plan

Chesapeake Bay Program

FEDERAL AGENCIES' CHESAPEAKE ECOSYSTEM UNIFIED PLAN

NOVEMBER 5, 1998

WHEREAS, the *Clean Water Action Plan* charts a course toward fulfilling the original goals of the *Clean Water Act* and calls upon Federal agencies to develop a unified policy to enhance watershed management in which Federal, state, and local governments and the public work together to identify critical problems, focus resources, recognize waters of exceptional value, include watershed goals in Federal planning, and implement effective strategies to solve problems; and

WHEREAS, as reported in the April 1997 *Second Biennial Progress Report* of the *1994 Agreement of Federal Agencies on Ecosystem Management in the Chesapeake Bay*, the Federal agency partners of the Chesapeake Bay Program have accomplished, and are committed to accomplish, the numerous goals of that 1994 Agreement; and

WHEREAS, the community of Federal agencies with signed formal Chesapeake Bay partnership agreements has expanded to include 15 agencies dedicated to enhancing stewardship on Federally-managed public lands, supporting cooperative state and community implementation, and contributing expertise in resource management, science and planning to achieve ecosystem-based management; and

WHEREAS, the Chesapeake Bay Program's directives on Nutrient Reduction, Habitat Restoration, Wetlands, and Riparian Forest Buffers, and its Local Government Participation Action Plan and Community Watershed Initiative continue to advance the Program as a national leader in the use of partnerships and sound science for targeting, developing and implementing restoration and protection programs.

Now, therefore, we the undersigned representatives of the participating Federal agencies, establish the following unified plan to meet the goals of the *1987 Chesapeake Bay Agreement* and subsequent amendments and directives, and to build on the achievements of the *1994 Agreement of Federal Agencies on Ecosystem Management in the Chesapeake Bay*, consistent with our missions and our success in securing the necessary resources. Specifically, we further agree to be:

PARTNERS FOR THE CHESAPEAKE

creating new opportunities for Federal agencies to work with states to carry out the commitments of the Clean Water Action Plan. We commit to:

1. target Conservation Reserve Enhancement funds to Bay watershed states in support of efforts to protect farmland and forests and reduce nutrient inputs to the Chesapeake Bay (USDA lead);
2. work to integrate opportunities to benefit the Bay through existing Federal initiatives such as USDA's Environmental Quality Incentives Program and the Wetlands Reserve program (USDA lead);
3. support the development of state Unified Watershed Assessments and Action Plans for Priority Watersheds;
4. encourage the development of permanent teams within each Bay watershed state, comprised of Federal and state officials with responsibilities for implementing the Clean Water Action Plan;
5. promote the addition of new Federal partners, including agencies that deal with transportation and other infrastructure; establish or update memoranda of understanding with all Federal partners; and strengthen relationships among existing partners through resource sharing and unified program planning and implementation; and
6. develop and adopt a Bay Partner Facility program by March 1, 1999, and seek the designation of at least 30 Federal facilities as partners by December 31, 2000, and 60 Federal facilities by December 31, 2005.

PROTECTORS OF PRIORITY WATERSHEDS

targeting various Federal programs and resources to meet the needs of priority watersheds, particularly those designated by states under the Clean Water Action Plan. We commit to:

1. support geographically-specific programs, such as the Chesapeake Bay Program's Regions of Concern for toxics and Nutrient Areas of Concern;
2. develop, by June 30, 1999, a mechanism to implement wet weather pollution prevention on Federal facilities in the Anacostia River and Rock Creek watersheds and transfer these technologies to other appropriate Federal facilities and urban areas (EPA lead);
3. implement the Biennial Federal Workplan for the Anacostia River Watershed and provide biennial updates beginning in June 30, 1999 (COE lead);
4. support the 18-point restoration plan for the Elizabeth River through active participation in the programs and projects of the Elizabeth River Coalition (COE lead); and
5. participate fully in the American Heritage Rivers Program for the Potomac and Upper Susquehanna/Lackawanna Rivers by: a) identifying relevant Federal landholdings by December 31, 1998; b) establishing partnership agreements with community-based efforts in the Heritage Rivers watersheds by April 30, 1999; c) and supporting directed application of technical and funding resources to aid revitalization efforts (EPA lead).

STEWARDS OF THE BAY'S LIVING RESOURCES AND HABITATS

supporting the restoration of Chesapeake Bay living resources and their habitats by fully implementing fish and wildlife conservation efforts and all habitat restoration authorities on all lands, including Federal lands, in the Bay watershed. We commit to:

1. develop an inventory of habitat restoration needs on Federal lands in the Chesapeake Bay watershed to aid in the creation of an annual list of restoration priority areas, from which two projects will be completed each year beginning in 2000 (NOAA lead);
2. support the Chesapeake Bay Program's Wetlands Directive by assisting states in implementation of their strategies for net gain of wetlands and establishing a restoration goal for Federal facilities of 100 acres per year beginning in 2000 (EPA lead);
3. support conservation and restoration of stream corridors on Federal lands by: a) establishing demonstration sites and implementing restoration technology on three Federal facilities by December 31, 1999 (USFWS lead); b) adopting riparian area conservation policies for Federal lands by September 30, 2000 (USFS lead); c) adopting a stream assessment and inventory protocol for Federal lands by May 31, 2000 and an inventory of stream systems on Federal lands by January 1, 2005 (USFWS lead); and d) restoring 200 miles of riparian forest buffers on Federal lands by January 1, 2010 (USFS lead);
4. identify additional blockages to anadromous fish on Federal lands by December 31, 1999, and open priority blockages to 50 miles of streams by December 31, 2003 (NOAA lead);
5. identify 4 areas for aquatic reef siting at near shore areas adjacent to Federal facilities, in accordance with the Chesapeake Bay Program's Framework for Habitat Restoration and the Aquatic Reef Habitat Plan, by December 31, 1999 (NOAA lead);
6. target priority areas for terrestrial and aquatic invasive species control on Federal facilities by January 1, 2000 and implement controls on priority sites (USFWS lead);
7. expand conservation landscaping on Federal facilities, in keeping with the Presidential directive on beneficial landscaping, by: a) completing a Conservation Landscaping and BayScapes Guide for Federal Land Managers by January 1, 2000; and b) integrating conservation landscaping into Federal agency specifications and design criteria by July 31, 2001 (USFWS lead);
8. develop model lease provisions by September 30, 1999 for facilities, outleases, rights-of-way, and other Federal actions to provide a means for Chesapeake Bay stewardship goals to be considered in the issuance of leases by or to Federal agencies within the watershed (GSA lead); and
9. work with state conservation agencies to determine the effects of nutria on tidal wetland loss and to evaluate methods of controlling this exotic species (USGS lead).

LEADERS IN NUTRIENT AND TOXICS PREVENTION AND REDUCTION ON FEDERAL LANDS AND FACILITIES

working to meet and maintain the nutrient and toxics prevention and reduction goals of the Chesapeake Bay Program, with an emphasis on non-point source controls, and extending our efforts beyond year 2000. We commit to:

1. provide technical assistance and training for Federal landholders for development of nutrient management plans by December 31, 1999 (NRCS lead), and develop nutrient management plans for Federal lands within the watershed by December 31, 2000, emphasizing agricultural, construction, turf, golf course and recreation, and developed lands;
2. assess the performance of Federal on-site septic systems and adopt management plans for priority improvements by December 31, 2000 (USPS lead);
3. expand our existing Chesapeake Bay Program Federal facility site assessment protocol beyond nutrients to include toxics reduction and habitat restoration opportunities, and continue to complete at least five such assessments annually within the Bay watershed (NRCS lead);
4. ensure, by December 31, 2000, that personnel are trained to strengthen and implement comprehensive Integrated Pest Management (IPM) on 75% of all Federally-owned lands in the watershed, and establish a peer review panel to evaluate at least five Federal IPM plans annually (USDA lead);
5. implement pollution prevention and related technologies to achieve, by January 1, 2000, a 75% voluntary reduction from a 1994 baseline in releases of Chesapeake Bay Toxics of Concern and chemicals required for reporting under section 313(c) of the Emergency Planning and Community Right-to-Know Act for Federal facilities in the Chesapeake Bay basin (EPA lead);
6. establish, by January 1, 2000, participation of 30 Federal facilities as mentors in the Chesapeake Bay Program's Businesses for the Bay to implement pollution prevention initiatives (DoD lead); and
7. compile and provide information on the reported occurrence of toxics in wildlife in the Bay ecosystem by January 1, 2003 (USGS lead).

GUARDIANS OF HUMAN HEALTH

focusing renewed efforts on the protection of human health through actions we take to control the effects of harmful pollutants in the Bay watershed. We commit to:

1. coordinate Federal funding and response systems in support of state and local efforts in the Chesapeake Bay watershed for major events, including Pfiesteria-type outbreaks and other harmful algal blooms (NOAA lead);
2. support and target research and monitoring efforts on the relation of harmful microorganisms such as Pfiesteria to aquatic resources and human health (NOAA lead) and the effects of other physical and biological stressors on fin fish and shellfish (USGS lead);

3. provide preliminary identification of nitrate levels over the maximum drinking water contaminant level in shallow aquifers throughout the watershed by January 1, 2001 (USGS lead);
4. identify closed shellfish beds adjacent to Federal lands in the Chesapeake Bay watershed by December 31, 1998 and participate in re-opening priority areas by January 1, 2005 (NOAA lead);
5. locate releases of toxics from Federal facilities in the Chesapeake Bay watershed, with priority on drainage areas where fish consumption advisories exist, and work cooperatively to address these releases by December 31, 2000 (EPA lead); and
6. work with local governments to address pollution from storm drain outfalls on Federal lands that pose a human health risk through exposure by inhalation, ingestion, or body contact such as swimming (EPA lead).

PROVIDERS OF RESEARCH, ASSESSMENT, AND NEW TECHNOLOGIES

assuring "state-of-the-art" technical support for Chesapeake Bay Program partners, ranking research needs, and identifying requirements to develop new technologies. We commit to:

1. sign Memoranda of Agreements to make Chesapeake Bay-related data and information Internet accessible by all Bay Program partners through the Chesapeake Information Management System by July 1, 1999 (EPA lead);
2. complete, by March 1, 1999, a Bay watershed-wide assessment of potential levels of nutrient loadings (USDA lead) and water quality parameters (USGS lead) that support the identification of Nutrient Areas of Concern and serve as a basis for strengthening the ability of local and state jurisdictions to achieve their tributary basins' nutrient reduction goals;
3. complete an inventory, by January 1, 2000, of current science-based technology available for implementation to achieve the agricultural component of Bay nutrient reduction goals (USDA lead), and identify the sources that restrict the production of submerged aquatic vegetation and associated habitat in the middle and upper Bay and tidal tributaries (USGS lead);
4. define and assess, by January 1, 2003, the contribution and implications of nitrogen compound emissions (e.g., ammonia) from agricultural activities; and develop models that characterize the transport of emissions and deposition of these compounds (NOAA lead);
5. provide an assessment, by July 1, 2000, of the amount of nutrients and associated lag times in ground water, and of implications for adjustments to tributary strategies' nutrient reduction goals, and identify follow-up research needs to further address management needs by January 1, 2002 (USGS lead);
6. develop an index of river flow, by January 1, 2001, and other tools to document the long-term changes in water quality, living resources, and sea-level rise (USGS lead);
7. develop an index that demonstrates the changes in climate affecting the Chesapeake Bay ecosystem, as needed to refine restoration strategies by January 1, 2003 (NOAA lead);
8. conduct research and provide information needed to identify species and habitats on Federal lands in need of special management efforts to maintain biodiversity and the integrity of the Chesapeake ecosystem by January 1, 2003 (USGS lead); and
9. complete an analysis of forest distribution and condition in the Chesapeake Bay watershed and host a regional conference to discuss issues related to fragmentation of forest landscape by January 1, 2000 (USFS lead).

SUPPORTERS OF SMART GROWTH

identifying and implementing new mechanisms to avoid development patterns that increase pollution problems, to encourage redevelopment of urban areas, and to raise the quality of life. We commit to:

1. evaluate and implement alternative work practices and other policies of Federal agencies in the watershed to reduce vehicle miles traveled (EPA lead);
2. promote funding for research into the effects of road and highway construction on growth and development within the Chesapeake Bay watershed, and on increasing storm water flow and inputs of nutrients and toxics to the Bay and its tributaries, including air pollution and land use changes (FHWA lead);
3. give preference to re-use and recycling of Federal brownfield sites, and discourage development in greenfield sites (EPA lead);
4. fully cooperate with local governments, states, and other Federal agencies in carrying out voluntary and mandatory actions to comply with the management of storm water (EPA lead);
5. encourage construction design that: a) minimizes natural area loss on new and rehabilitated Federal facilities; b) adopts low impact development and best management technologies for storm water, sediment and erosion control, and reduces impervious surfaces; c) utilizes energy efficient technologies; and d) considers the Conservation Landscaping and Bay-Scapes Guide for Federal Land Managers (GSA lead);
6. develop, by January 1, 2000, a protocol by which Federal facilities proposed for relocation or major expansion within the Chesapeake Bay watershed will assess the direct and secondary ecological, economic, and community effects (DoD lead);
7. increase public access to the Chesapeake Bay, with at least 200 additional miles of Federally-owned shoreline and tidal waters opened or enhanced for public access by January 1, 2005, and participate in the development of water trails to improve access and appreciation of the Bay and its resources (NPS lead); and
8. establish annual meetings, beginning in 1999, with the Office of Management and Budget to assess regional impacts associated with major Federally-funded actions in the Chesapeake Bay watershed (EPA lead).

Finally, we agree to supplement our biennial reporting on the *1994 Agreement of Federal Agencies on Ecosystem Management in the Chesapeake Bay* with progress in the implementation of this new unified plan, beginning April 1, 1999 (EPA lead).

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W. Michael McCabe, *Regional Administrator, Region III*

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Robert B. Pirie, Jr., *Assistant Secretary for Installations and Environment*

FOR THE DEPARTMENT OF THE ARMY

Joseph W. Westphal, *Assistant Secretary for Civil Works*

Mahlon Apgar IV, *Assistant Secretary for Installations, Logistics and Environment*

FOR THE DEPARTMENT OF THE AIR FORCE

for Ruby B. DeMesme, *Assistant Secretary for Manpower, Reserve Affairs, Installations, and Environment*

FOR THE DEFENSE LOGISTICS AGENCY

Lt. Gen. Henry T. Glisson, *Director*

FOR THE DEPARTMENT OF TRANSPORTATION

for Rodney E. Slater, *Secretary*

FOR THE U.S. COAST GUARD

Admiral James M. Loy, *Commandant*

FOR THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

D. James Baker, *Administrator*

FOR THE DEPARTMENT OF AGRICULTURE

James R. Lyons, *Under Secretary for Natural Resources & Environment*

FOR THE FARM SERVICE AGENCY

Keith C. Kelly, *Administrator*

FOR THE U.S. FOREST SERVICE

Michael P. Dombeck, *Chief*

FOR THE NATURAL RESOURCES CONSERVATION SERVICE

Pearlie S. Reed, *Chief*

FOR THE GENERAL SERVICES ADMINISTRATION

David J. Barram, *Administrator*

FOR THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Daniel S. Goldin, *Administrator*

FOR THE U.S. POSTAL SERVICE

William J. Henderson, *Postmaster General and Chief Executive Officer*

FOR THE NATIONAL CAPITAL PLANNING COMMISSION

Harvey B. Gantt, *Chairman*

FOR THE SMITHSONIAN INSTITUTION

I. Michael Heyman, *The Secretary*

OBSERVERS:

U.S. Senator Paul S. Sarbanes

Congresswoman Eleanor Holmes Norton

For the State of Maryland

For the District of Columbia

For the Chesapeake Bay Commission

Appendix B

Emissions Calculations

1.0 INTRODUCTION

Appendix B explains the software used to calculate most of the emissions that may be generated by this project, and states the assumptions used to formulate user inputs for the model. It also explains those emission calculations which were not included in the model.

The Air Force Air Conformity Applicability Model (ACAM) was used to determine most of the air emissions related to the gate improvement project. This program was developed for the Air Force Center for Environmental Excellence (AFCEE) for the purpose of performing air conformity applicability analysis for proposed Air Force actions based on limited user input requirements. Emissions generated from road striping are not calculated by ACAM, therefore an engineering estimate was performed.

ACAM uses emission factors derived from EPA's Compilation of Air Pollutant Emission Factors, Stationary Point and Area Sources (AP-42) when calculating emissions from sources except where otherwise noted and references Air Emissions Inventories at Air Force Installations in order to determine total facility emissions and determine whether construction activities may trigger general conformity regulations.

2.0 EMISSION ESTIMATES USING ACAM

2.1 Demolition

Demolition emissions are calculated in ACAM based on duration of demolition and building dimensions. Two Guard Shacks will be demolished at West Gate. According to architectural drawings of the site, both Guard Shacks measure 17 feet by 20 feet. No height was given in the drawings; therefore, it was assumed that the height of the buildings is approximately 12 feet. Figure B-1 provides a view of the user input values as entered into ACAM.

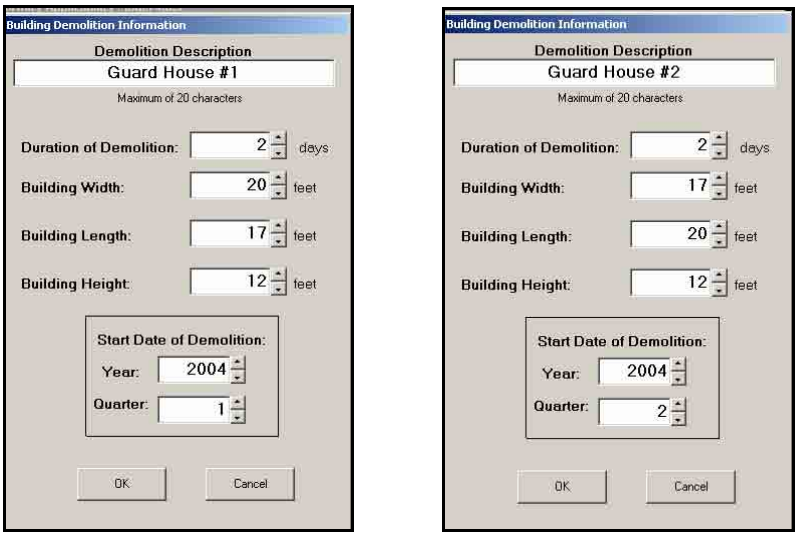


Figure B-1. ACAM User Input Values for Demolition of Current Guard Houses at the West Gate

2.2 Construction

A new Guard House, a Canine Facility, and a Commercial Vehicle Inspection (CVI) Facility are proposed for construction at West Gate. Construction emissions were calculated in ACAM based on building dimensions, construction duration, and dust controls. Dimensions were taken from design schematics, and dust controls were conservatively assumed to be non-existent. (See Figures B-2, B-3 and B-4.)

The activities included in construction operations are grading operations, construction worker trips, stationary equipment (generators, saws, etc), mobile equipment (forklifts, dump trucks, etc), grading, architectural coating application, and asphalt paving. (See ACAM Technical Document, cited in reference list, for emission factors and formulas.)

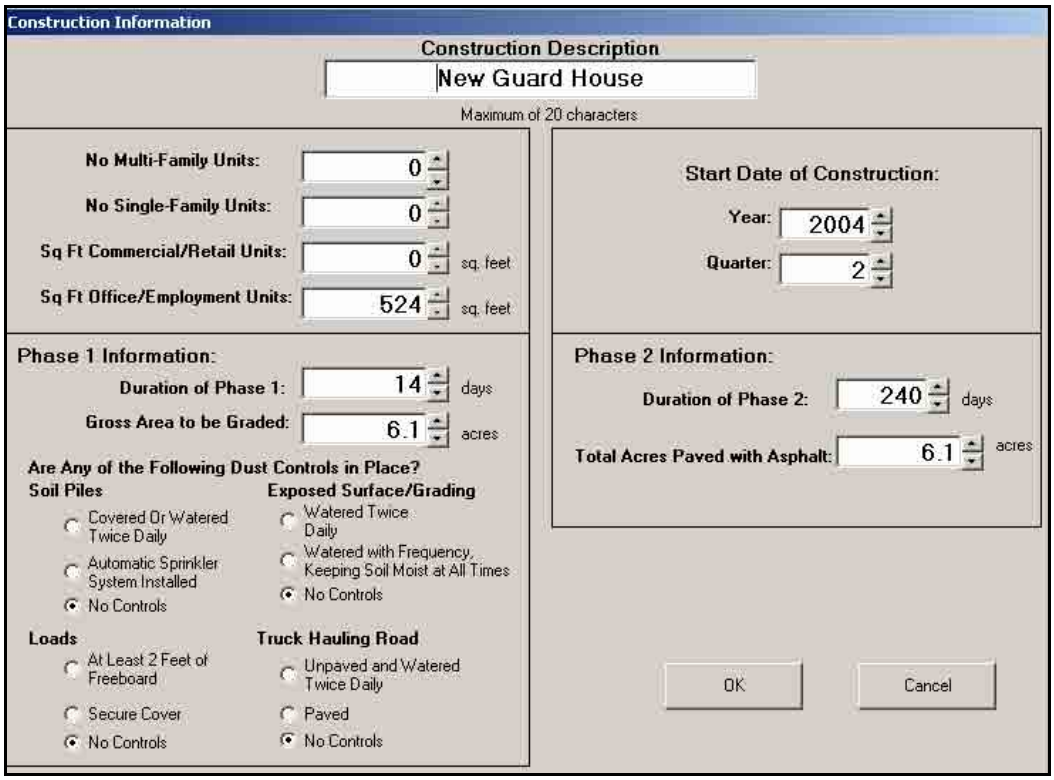


Figure B-2. ACAM User Input Values for New Guard House

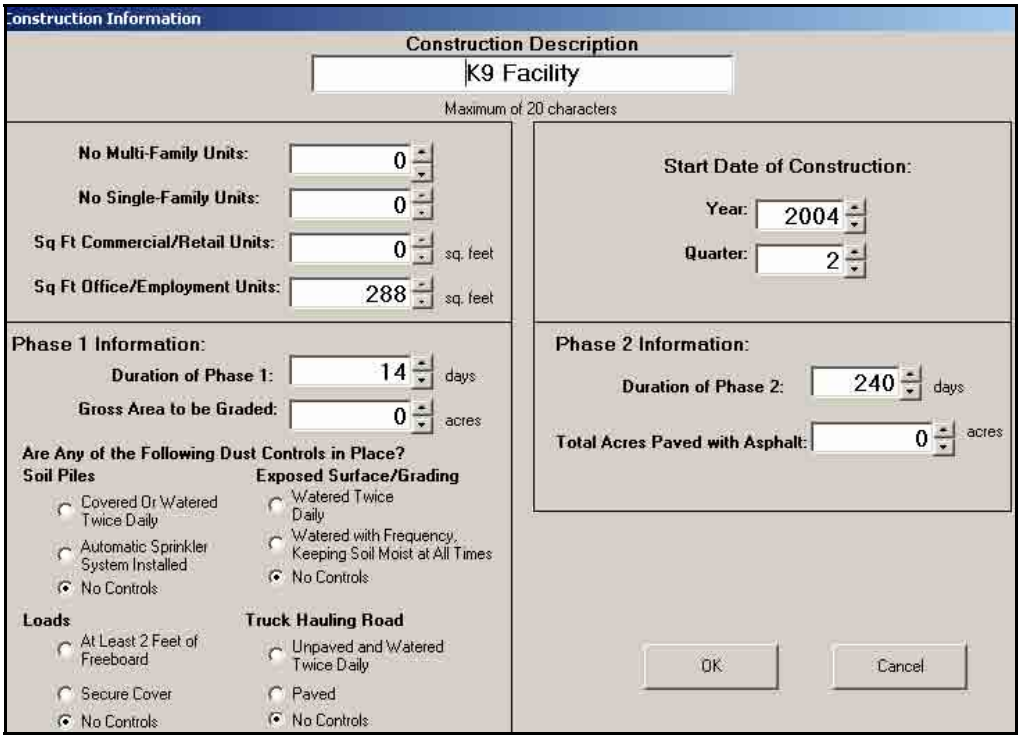


Figure B-3. ACAM User Input Values for Canine Facility

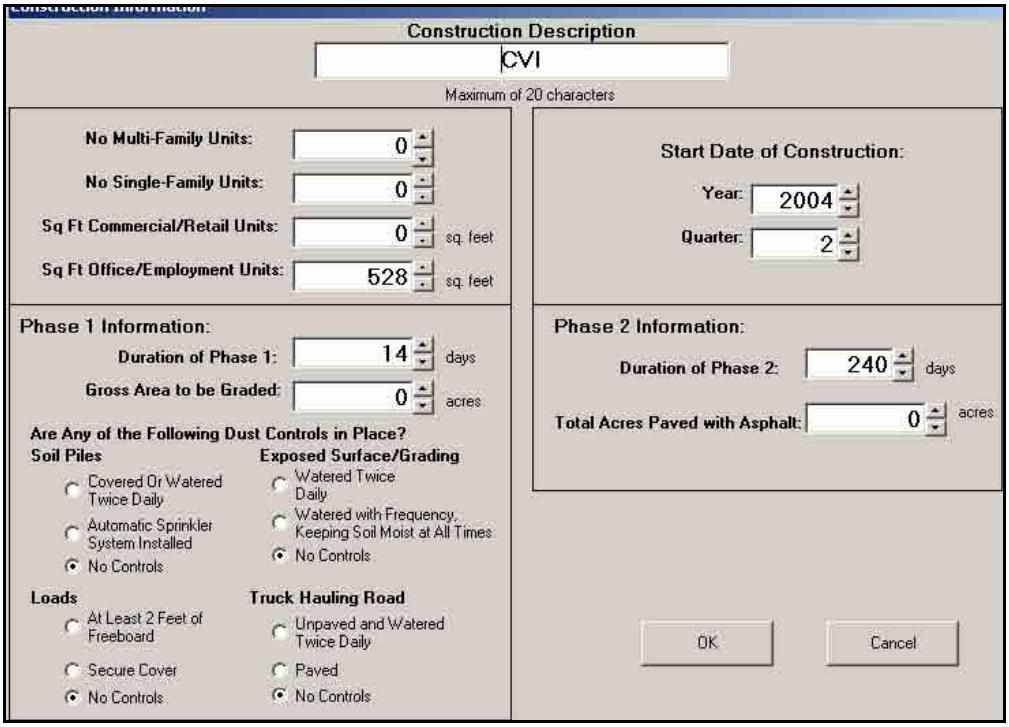


Figure B-4. ACAM User Input Values for Commercial Vehicle Inspection Facility

2.3 Paving

The expansion of Sweeney Boulevard will require the grading and paving of approximately 0.74 acres of land according to design schematics. Emissions were calculated in ACAM based on a construction duration of 94 days (14 days for Phase 1 and 90 days for Phase 2) and dust controls. Dust controls were conservatively assumed to be non-existent. ACAM Input Values are shown in Figure B-5. (See ACAM Technical Document, cited in reference list, for emission factors and formulas.)

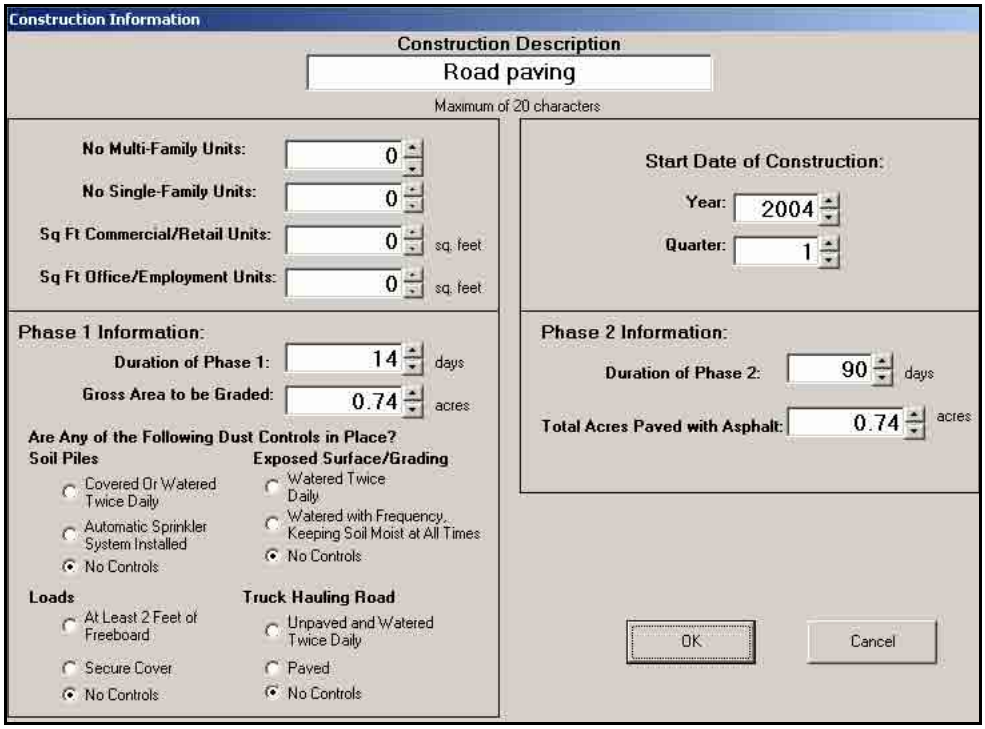


Figure B-5. Sweeney Boulevard Paving User Input Values

2.4 Emergency Generator

A 45 kW emergency generator will be installed at West Gate. Based on a weekly usage rate of one hour and a diesel fuel consumption rate of 3.4 gallons per hour, a throughput of 177 gallons was assumed. Figure B-6 displays the user input values entered into ACAM.

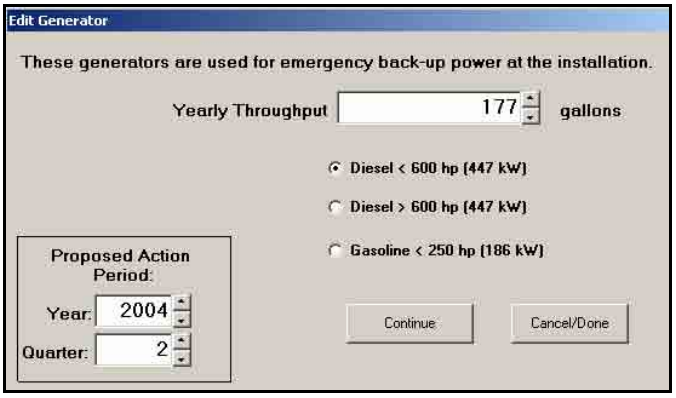


Figure B-6. Emergency Generator User Input Values

2.5 ACAM Total Emissions

Figure B-7 presents a summary table of emissions by source and individual construction activity. Note that emissions of all criteria pollutants are below 5 tpy. The last line of the table presents the total emissions from the project including those calculated from an engineering estimate described in section 3.0.

Source Category	**Emissions, Tons/Year**				
Area Sources	**CO**	**NO_X**	**SO_2**	**VOC**	**PM_{10}**
Demolition	0	0	0	0	0.23
Other Phase I Const. - Grading Equip.	0.03	0.1	0.01	0.01	0.01
Other Phase I Const. - Grading Ops.	0	0	0	0	2.91
Other Phase II Const. - Acres Paved	0	0	0	0.01	0
Other Phase II Const. - Mobile Equip.	0.13	0.3	0.04	0.03	0.02
Other Phase II Const. - Non-Res. Arch. Ctgs.	0	0	0	0.05	0
Other Phase II Const. - Stationary Equip.	0.85	0.02	0	0.03	0
Other Phase II Const. - Workers Trips	0.02	0	0	0	0
Point Sources					
Emergency Generators	0.01	0.04	0	0	0
Total	1.03	0.46	0.05	0.13	3.18
Grand Total with Engineering Estimate	**1.03**	**0.46**	**0.05**	**0.20**	**3.18**

Figure B-7. ACAM Emissions Summary

3.0 ENGINEERING ESTIMATE

One other potential emission source, road striping, was taken into account in calculating total emissions for the Proposed Action but was not calculated using ACAM. An engineering estimate was made based on the available information.

3.1 Road Striping

According to architectural and engineering schematics, approximately 2.84 miles of striping will be applied at the West Gate and Sweeney Boulevard. VOC emissions from road striping were determined using methodology cited in the Air Force document, Air Emissions Inventory Guidance Document for Stationary Sources at Air Force Installations (IERA). The formula for calculating emissions is:

Inventory Area VOC Emissions from Traffic Paints	=	Emission Factor (lb/lane mile)	*	Traffic Lane Miles Painted

where a mile refers to one 4-inch wide stripe that is one mile long. Figure B-8 displays road striping emissions information. This information is also reflected in the last line of Figure B-7.

Emission Factor (lb/lane mile)	Traffic Lane Miles Painted	VOC Emissions (tpy)
52	2.84	**0.074**

Figure B-8. VOC Emissions for Road Striping

Appendix C

Rare, Threatened and Endangered Species

URS

2 December 2003

U.S. Fish and Wildlife Service
Ecological Services
Virginia Field Office
6669 Shore Lane
Gloucester, VA 23061

Subject: **Request for Species List – Project at Langley Air Force Base**

1. The U.S. Air Force is preparing an Environmental Assessment (EA) to evaluate potential environmental impacts associated with three related proposed actions at the base:

   - Antiterrorism/Force Protection (AT/FP) improvements on base along Sweeney Boulevard prior to the West Gate (see attached map);
   - Antiterrorism/Force Protection (AT/FP) improvements at the LaSalle Gate (see attached map); and
   - Antiterrorism/Force Protection (AT/FP) improvements at the West Gate (see attached map).

2. The proposed facility improvements would bring these areas into compliance with DoD Force Protection Requirements as identified in Langley Air Force Base's Antiterrorism Plan 10-245. At each gate, various construction activities may occur, including the razing of inadequate facilities that fail to meet the requirements, the building of more suitable structures, and the expansion of roads.

3. Pursuant to the Endangered Species Act and the National Environmental Policy Act, I am requesting information regarding federally listed or proposed species that may be present in the potentially affected area(s).

4. Please provide responses and direct inquiries on the matter to Laurie Huber, (703) 534-7517.

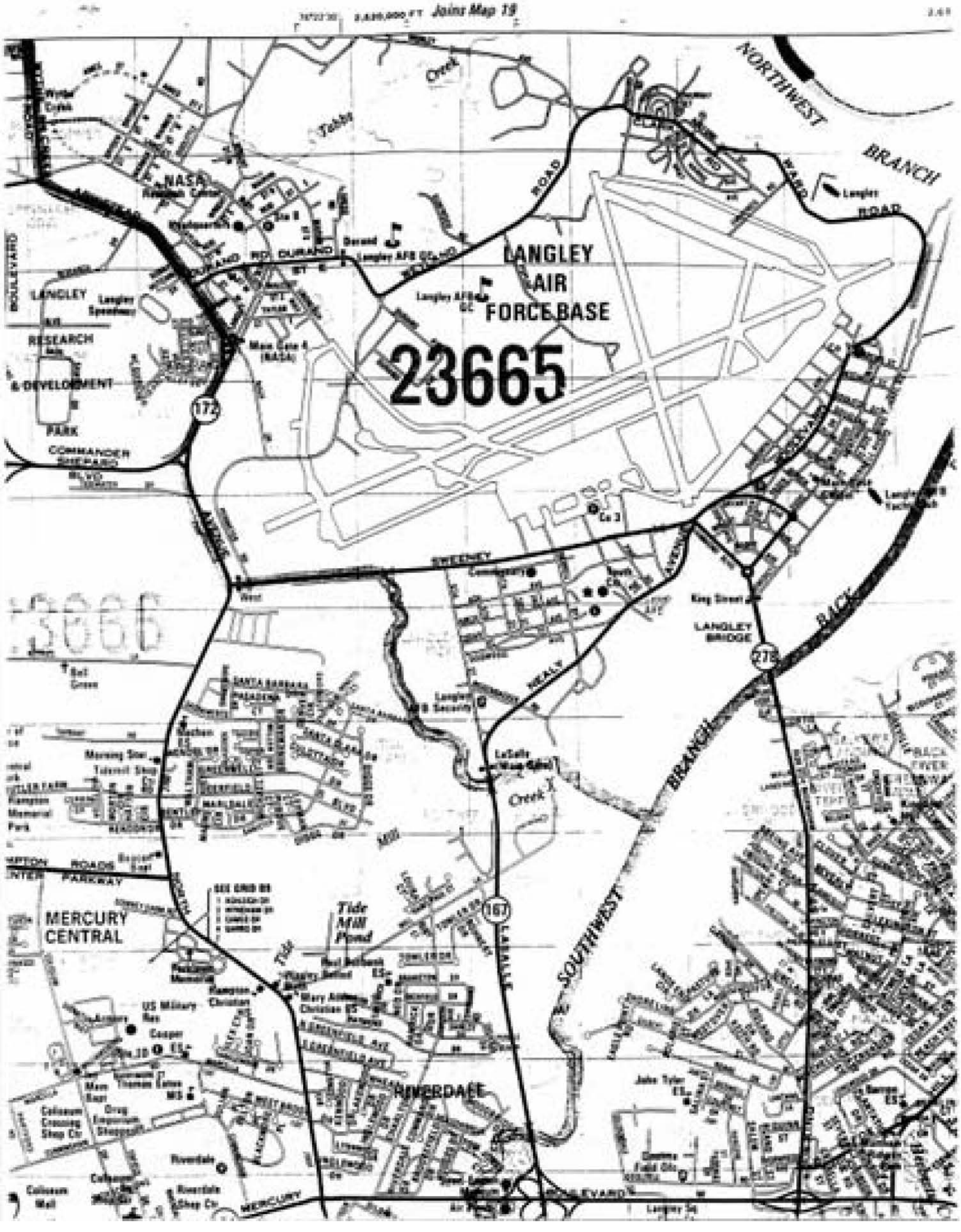
Sincerely,

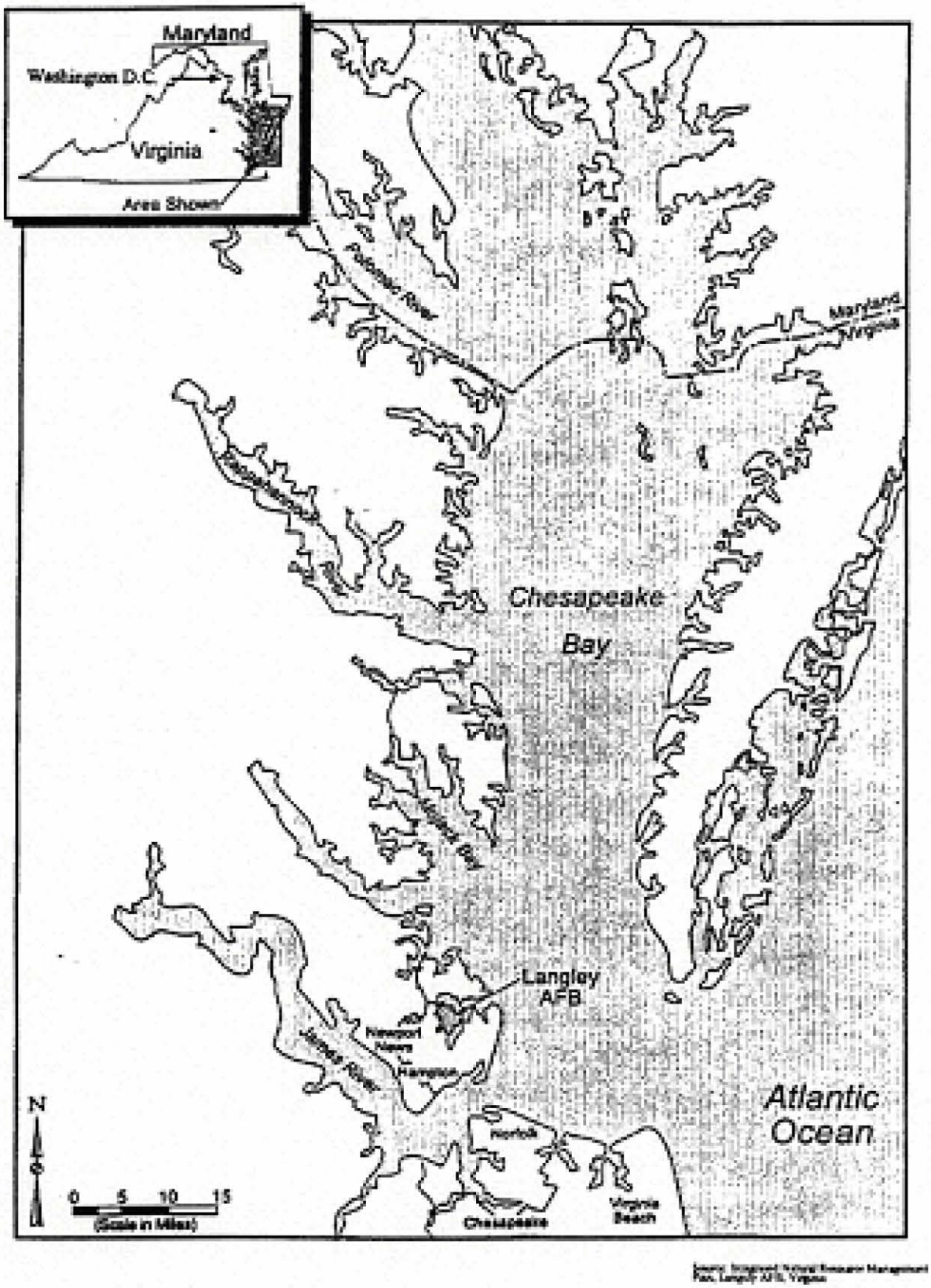
Laurie Huber

Laurie Huber
Sr. Regulatory Specialist

Attachments: Base Layout
Location Map, Langley Air Force Base, Virginia

URS Corporation
13825 Sunrise Valley Drive, Suite 250
Herndon, VA 20171-3426
Tel: 703.713.1500
Fax: 703.713.1512


Joins Map 19
NORTHWEST
BRANCH
ROAD
NASA
DURAND
LANGLEY
AIR
FORCE BASE
23665
LANGLEY
AIR
RESEARCH
& DEVELOPMENT
PARK
Langley Speedway
Main Gate 4 (NASA)
172
COMMANDER
SHEPARD
BLVD
BOULEVARD
SWEENEY
King Street
LANGLEY
BRIDGE
278
BACK
Creek
SOUTHWEST
BRANCH
167
LASALLE
ROADS
PARKWAY
MERCURY
CENTRAL
Tide
Mill
Pond
US Military Res
RIVERDALE
MERCURY
BOULEVARD
Coliseum Mall



Location Map, Langley Air Force Base, Virginia

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
6669 Short Lane
Gloucester, VA 23061

December 18, 2003

Ms. Laurie Huber
URS Corporation
13825 Sunrise Valley Drive, Suite 250
Herndon, Virginia 20171-3426

Re: Project #3176

Greetings:

The U.S. Fish and Wildlife Service (Service) has received your request to review the attached project for potential impacts to federally listed or proposed endangered and threatened species and designated critical habitat in Virginia pursuant to the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*). Attached is a list of species with Federal status and species of concern that have been documented or may occur in the county where your project is located. This list was prepared by this office and is based on information obtained from previous surveys for rare and endangered species.

In order to ensure coordination with the State agencies, we consistently recommend that individuals contact the Virginia Department of Conservation and Recreation, Division of Natural Heritage **and** the Virginia Department of Game and Inland Fisheries, since each agency maintains a different database and has differing expertise and/or regulatory responsibility. You can contact these agencies at the following addresses:

Virginia Department of Game and Inland Fisheries
Environmental Services Section
P.O. Box 11104
Richmond, VA 23230
(804) 367-1000

Virginia Department of Conservation and Recreation
Division of Natural Heritage
217 Governor Street, 2nd Floor
Richmond, VA 23219
(804) 786-7951

If either of these agencies determines that your project may impact a federally listed, proposed, or candidate species OR federally designated critical habitat, please contact this office and provide a copy of the response letter from each agency and the above referenced project number; otherwise, further contact with this office is not necessary.

If you have any questions or need further assistance, please contact Ms. Jolie Harrison at (804) 693-6694, extension 208.

Sincerely,

Karen L. Mayne

Karen L. Mayne
Supervisor
Virginia Field Office

Enclosures

KEY

LE - federally listed endangered.

LT - federally listed threatened.

PE - federally proposed endangered.

PT - federally proposed threatened.

EX - believed to be extirpated in Virginia.

LE(S/A) - federally listed endangered due to similarity of appearance to a federally listed species.

LT(S/A) - federally listed threatened due to similarity of appearance to a federally listed species.

C - candidate species; the U.S. Fish and Wildlife Service has enough information to list the species as threatened or endangered, but this action is precluded by other listing activities.

SOC - species of concern; those species that have been identified as potentially imperiled or vulnerable throughout their range or a portion of their range. These species are not protected under the Endangered Species Act.

G - global rank; the species rarity throughout its total range.

G1 - extremely rare and critically imperiled with 5 or fewer occurrences or very few remaining individuals; or because of some factor(s) making it especially vulnerable to extinction.

G2 - very rare and imperiled with 6 to 20 occurrences or few remaining individuals; or because of some factor(s) making it vulnerable to extinction.

G3 - either very rare and local throughout its range or found locally (abundantly at some of its locations) in a restricted range; or vulnerable to extinction because of other factors. Usually fewer than 100 occurrences are documented.

G_T_ - signifies the rank of a subspecies or variety. For example, a G3T1 would apply to a subspecies of a species that is very rare and local throughout its range or found locally in a restricted range (G3) but the subspecies warrants a rank of T1, critically imperiled.

G_Q - The taxon has a questionable taxonomic assignment.

CITY OF HAMPTON, VIRGINIA
Federally Listed, Proposed, and Candidate Species

SCIENTIFIC NAME	COMMON NAME	STATUS
BIRDS		
Charadrius melodus	Piping plover	LT
Haliaeetus leucocephalus	Bald eagle	LT
INVERTEBRATES		
Cicindela dorsalis dorsalis	Northeastern beach tiger beetle	LT

Species of Concern

VASCULAR PLANTS		
Trillium pusillum var. virginianum	Virginia least trillium	G3T2

May 29, 2001
Prepared by U.S. Fish and Wildlife Service, Virginia Field Office

Bald Eagle

Haliaeetus leucocephalus

Description - The bald eagle occurs throughout the United States. It is a large bird-of-prey with dark brown plumage, a white head and tail, and a yellow bill, feet, and eyes. Juvenile eagles generally have a dark brown body, sometimes with white patches on the tail, belly, and underwings. The head and tail become completely white when full adult plumage is reached at four to five years of age.

Life History - The majority of Virginia's eagle population is found on the coastal plain. The bald eagle breeding season begins in mid-November when large nests are built (or the previous year's nest is repaired) usually in loblolly pine trees that are in close proximity to water. Eagles lay one to three eggs between mid-January and late March. In March, most eggs hatch and by June or July most young have fledged. However, the young will continue to use the nest for several weeks. In Virginia, during the summer and winter months, juvenile and nonbreeding adult eagles congregate along large rivers in areas with abundant food and little human disturbance. During the day, these eagles feed and perch along the river shoreline. In late afternoon, they move inland to roost either singly or communally. Roosts are typically located away from human disturbance and near water and a food source. Bald eagles feed primarily on fish, b t will also eat carrion, waterfowl, small mammals, snakes, and turtles.

Conservation - The bald eagle was federally listed as an endangered species in the Chesapeake Bay Region on March 11, 1967. On July 12, 1995, the bald eagle was reclassified to threatened throughout the 48 lower states because the population had increased due to the banning persistent pesticides, habitat protection, and other recovery activities. On July 6, 1999, the bald eagle was proposed for removal from the list of endangered and threatened wildlife in the lower 48 states. This action was proposed because the available data indicated that this species has recovered. The recovery is due in part to habitat protection and management actions initiated under the Endangered Species Act. It is also due to reduction in levels of persistent pesticides occurring in the environment. If and when the eagle is no longer protected by the Endangered Species Act, it will still be protected by the Bald and Golden Eagle Protection Act, Migratory Bird Treaty Act, and state laws. Until the eagle is officially delisted, it will continue to receive protection pursuant to the Endangered Species Act. Bald eagles in the Chesapeake Bay are increasing. However, habitat destruction through urban and residential development and human disturbance in nesting, roosting, and foraging habitats continue to be a threat.

What You Can Do To Help - If you know of a bald eagle nest on or near property proposed for clearing, development, or logging please contact one of the following agencies for assistance:

Virginia Department of Game and Inland Fisheries
P.O. Box 11104
Richmond, Virginia 23230
(804) 367-1000

U. S. Fish and Wildlife Service
6669 Short Lane
Gloucester, Virginia 23061
(804) 693-6694

References

U.S. Fish and Wildlife Service. 1990. Chesapeake Bay Region bald eagle recovery plan: first revision. Newton Corner, Massachusetts.

U.S. Fish and Wildlife Service. 1999. Proposed rule to remove the bald eagle in the lower 48 states from the list of endangered and threatened wildlife. Federal Register 64(128): 36453-36464.

Watts, B.D., K.W. Cline, and M.A. Byrd. 1994. The bald eagle in Virginia: An information booklet for land planners. The Center for Conservation Biology, College of William and Mary, Williamsburg, Virginia.

U.S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
Gloucester, Virginia 23061
(804) 693-6694
http://www.fws.gov
August 1999

Piping Plover

Charadrius melodus

© J. Zickefoose

Description - Piping plovers occur in three disjunct populations in North America: Northern Great Plains, Great Lakes, and Atlantic Coast. The piping plover is a 5 ½ inch long pale grayish-brown shorebird with a white breast. During the breeding season, it has a black breast band which is sometimes incomplete and a black bar between its eyes. The bill is dull orange with a black tip and the legs and feet are orange.

Life History - The piping plover nesting season is from late April to late July with one brood raised per year. If there is a disturbance or the nest is lost, the birds may renest. Plovers nest on beaches, dunes, and washover areas. They also nest on areas where suitable dredged material is deposited. The nest is a shallow scrape in the sand dug by the adults and is usually lined with broken seashells and small pebbles. The female usually lays four eggs. The chicks are mobile and able to feed themselves within hours of hatching. Piping plovers feed on small invertebrates in intertidal surf zones, mud flats, tidal pool edges, barrier flats, and sand flats and along the ocean and barrier bays. Plovers migrate to breeding grounds from February through early April, and to wintering grounds from late July through September.

Conservation - The piping plover was federally listed as a threatened species along the Atlantic Coast on January 10, 1986. In the Northern Great Plains, it is federally listed threatened and in the Great Lakes, endangered. Destruction and degradation of habitat and disturbance during the nesting season by humans and pets are threats to this species. Piping plovers are extremely sensitive to disturbance during the nesting season. Predation by red foxes, skunks, raccoons, feral cats, herring gulls, fish crows, grackles, and ghost crabs is an additional threat to the eggs and young.

What You Can Do To Help - Respect all signed or fenced shorebird nesting areas; stay as far away from these areas as possible. The birds and their eggs blend in with the sand and are difficult to see. Young birds are particularly vulnerable before they can fly and can be killed by vehicles or trapped in vehicle tracks. Watch for signs of adult birds calling, displaying a feigned broken wing, or flying or running ahead of you. Keep pets leashed or indoors during the nesting season; both dogs and cats are known to prey on eggs and chicks. Take care not to discard trash or food scraps on beaches used by nesting birds, as they attract predators that may prey on eggs and/or chicks.

U.S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
Gloucester, Virginia 23061
(804) 693-6694
http://www.fws.gov
August 1999

To find out more about the piping plover contact:

Virginia Department of Game and Inland Fisheries
P.O. Box 11104
Richmond, Virginia 23230
(804) 367-1000

References

Cross, R.C. 1991. Piping plover. Pages 501-502 in K. Terwilliger, ed. Virginia's Endangered Species, Proceddings of a Symposium. McDonald and Woodward Publishing Company, Blacksburg, Virginia.

U.S. Fish and Wildlife Service. 1985. Endangered and Threatened Wildlife and Plants: Determination of endangered and threatened status for the piping plover; final rule. Federal Register 50(238):50726-59734.

U.S. Fish and Wildlife Service, Region 5. 1994. You can help protect the piping plover. Newton Corner, Massachusetts.

U.S. Fish and Wildlife Service. 1996. Piping plover (*Charadrius melodus)* Atlantic Coast population, revised recovery plan. Hadley, Massachusetts.

Northeastern Beach Tiger Beetle

Cicindela dorsalis dorsalis

© K. Brown-Wing

Description - Historically, the northeastern beach tiger beetle was common on coastal beaches from Massachusetts to central New Jersey, and along the Chesapeake Bay in Maryland and Virginia. Currently, the only populations known to exist along the Atlantic Coast are in New Jersey and southeastern Massachusetts. The majority of populations occur in the Chesapeake Bay. This insect measures 0.5 inches in length. It has white to light tan wing covers, often with several fine grayish-green lines, and a bronze-green head and body.

Life History - Adult and larval tiger beetles are found on long, wide, dynamic beaches that have little human and vehicular activity, fine sand-particle size, and a high degree of exposure to tidal action. Adult beetles are present from June through August and are active on warm, sunny days where they can be seen feeding, mating, or basking along the water's edge. Adults are active predators that forage on small invertebrates or scavenge on dead fish, crabs, and amphipods. Larvae are sedentary predators that live in well-formed burrows from which they extend to capture passing prey. During the summer, adult tiger beetles lay eggs on the beach. After hatching, the larvae pass through three developmental stages and emerge from their burrows as adults two years following egg-laying.

Conservation - The northeastern beach tiger beetle was federally listed as a threatened species on August 7, 1990. Few northeastern beach tiger beetle sites are protected and many are threatened by human activities. Loss of this beetle from most of its range has been attributed primarily to destruction and disturbance of natural beach habitat from shoreline development, beach stabilization, and high levels of recreational use. Additional threats include pollution, pesticides, oil slicks, and off-road vehicle traffic. Natural limiting factors include winter storms, beach erosion, flood tides, hurricanes, parasites, and predators. Recovery for the tiger beetle depends to a large extent on re-establishing the subspecies across its former range along the Atlantic Coast and protecting it within the Chesapeake Bay.

What You Can Do To Help - If you plan to stabilize a tidal beach along the Chesapeake Bay or its tributaries, please contact the U.S. Fish and Wildlife Service. Such activity may require a federal permit, for more information contact:

U.S. Army Corps of Engineers
Norfolk District
803 Front Street
Norfolk, Virginia 23510-1096
(757) 441-7652

References

Knisley, C.B. 1991. Northeastern beach tiger beetle. Pages 233-234 in K. Terwilliger, ed. Virginia's Endangered Species, Proceedings of a Symposium. McDonald and Woodward Publishing Company, Blacksburg, Virginia.

Knisley, C.B., J.I. Luebke, and D.R. Beatty. 1987. Natural history and population decline of the coastal tiger beetle, *Cicindela dorsalis dorsalis* Say (Coleoptera: Cicindelidae). Virginia Journal of Science 38: 293-303.

U.S. Fish and Wildlife Service. 1994. Northeastern beach tiger beetle (*Cicindela dorsalis dorsalis* Say) recovery plan. Hadley, Massachusetts.

U.S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
Gloucester, Virginia 23061
(804) 693-6694
http://www.fws.gov
August 1999

URS

March 17, 2004

Virginia Department of Conservation and Recreation
Attention: Renee Hypes
217 Governor Street, 2nd Floor
Division of Natural Heritage
Richmond, Virginia 23219

Subject: **Request for Species List – Project at Langley Air Force Base**

In response to a similar request made to the Fish and Wildlife Service, reference was made to contacting your organization as well.

1. The U.S. Air Force is preparing an Environmental Assessment (EA) to evaluate potential environmental impacts associated with two related proposed actions at the base:

   - Antiterrorism/Force Protection (AT/FP) improvements on base along Sweeney Boulevard prior to the West Gate (see attached map);
   - Antiterrorism/Force Protection (AT/FP) improvements at the LaSalle Gate (see attached map); and
   - Antiterrorism/Force Protection (AT/FP) improvements at the West Gate (see attached map).

2. The proposed facility improvements would bring these areas into compliance with DoD Force Protection Requirements as identified in Langley Air Force Base's Antiterrorism Plan 10-245. At each gate, various construction activities may occur, including the razing of inadequate facilities that fail to meet the requirements, the building of more suitable structures, and the expansion of roads.

3. Pursuant to the Endangered Species Act and the National Environmental Policy Act, I am requesting information regarding federally listed or proposed species that may be present in the potentially affected area(s).

4. Please provide responses and direct inquires on this mater to Laurie Huber, (703) 534-7517.

Sincerely,

Laurie Huber
Sr. Regulatory Specialist

Attachments: Base Map

Request Form

URS Corporation
13825 Sunrise Valley Drive, Suite 250
Herndon, VA 20171-3420
Tel: 703.713.1900
Fax: 703.713.1912

URS

March 17, 2004

Virginia Department of Game and Inland Fisheries
Attention: Kathy Graham
Environmental Services Section
P.O. Box 11104
Richmond, Virginia 23230

Subject: Request for Species List – Project at Langley Air Force Base

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Sincerely,

Laurie Huber

Laurie Huber
Sr. Regulatory Specialist

Attachments: Base Map

URS Corporation
13920 Sunrise Valley Drive, Suite 250
Herndon, VA 20171-3420
Tel: 703 [illegible] 2500
Fax: 703.713.1512

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

Joseph H. Maroon
Director

COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

217 Governor Street
Richmond, Virginia 23219-2010
Telephone (804) 786-7951 FAX (804) 371-2674 TDD (804) 786-2121

April 15, 2004

Laurie Huber
URS Corporation
13825 Sunrise Valley Drive, Suite 250
Herndon, VA 20171-4672

Re: West Gate, LaSalle Gate and Sweeney Blvd. Improvements to Langley AFB

Dear Ms. Huber:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

Biotics documents the presence of natural heritage resources in the project area. However, due to the scope of the activity and the distance to the resources, we do not anticipate that this project will adversely impact these natural heritage resources.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the Virginia Department of Conservation and Recreation (DCR), DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

In addition, our files do not indicate the presence of any State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

Any absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks additional natural heritage resources. New and updated information is continually added to Biotics. Please contact DCR for an update on this natural heritage information if a significant amount of time passes before it is utilized.

Due to an increasing number of requests and limiting staffing resources, effective July 1, 2003 DCR-DNH will require 30 days to comment on projects submitted for our review.

A fee of $60.00 has been assessed for the service of providing this information. Please find enclosed an invoice for that amount. Please return one copy of the invoice along with your remittance made payable to the Treasurer of Virginia, Department of Conservation and Recreation, 203 Governor Street, Suite 414, Richmond, VA 23219, ATTN: Cashier. Payment is due within thirty days of the invoice date.

Should you have any questions or concerns, feel free to contact me at 804-692-0984. Thank you for the opportunity to comment on this project.

Sincerely,

Elizabeth Locklear
Locality Liaison

COMMONWEALTH of VIRGINIA

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

Department of Game and Inland Fisheries

William L. Woodfin, Jr.
Director

April 6, 2004

Laurie Huber
Sr. Regulatory Specialist
URS Corporation
13825 Sunrise Valley Drive, Suite 250
Herndon, VA 20171-3426

RE: ESSLOG #19433, Project at Langley Air Force Base

Dear Ms. Huber:

This letter is in response to your request for information related to the presence of threatened or endangered species in the vicinity of the above referenced project.

The *state endangered* canebrake rattlesnake (*Crotalus horridus*) has been documented in the project area. The applicant should coordinate with this Department (Don Schwab, Region 1 Non-game Biologist, 540-899-4169) regarding potential impacts to this species.

The federal species of concern northern diamond-backed terrapin (*Malaclemys terrapin terrapin*), the state special concern great egret (*Ardea alba egretta*), the state special concern yellow-crowned night heron (*Nyctanassa violacea violacea*), the state special concern northern harrier (*Circus cyaneus*), the state special concern Forster's tern (*Sterna forsteri*), the state special concern least tern (*Sterna antillarum*), and the state special concern Caspian tern (*Sterna caspia*) have been documented in the project area. However, the classification of "federal species of concern" and "state special concern" are not legal designations and do not require further coordination.

A block survey of an area encompassing the project site has documented the following species during the breeding season: the state special concern saltmarsh sharp tailed sparrow (*Ammodramus caudacutus*). Though the species may occur at the site if appropriate habitat exists further coordination is not required.

Information about fish and wildlife species was generated from our agency's computerized Fish and Wildlife Information System, which describes animals that are known or may occur in a particular geographic area. Field surveys may be necessary to determine the presence or absence of some of these species on or near the proposed area. Also, additional sensitive animal species

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may be present, but their presence has not been documented in our information system.

Endangered plants and insects are under the jurisdiction of the Virginia Department of Agriculture and Consumer Services, Bureau of Plant Protection. Questions concerning sensitive plant and insect species occurring at the project site should be directed to Keith Tignor at (804) 786-3515.

There is a processing charge of $25.00 for our response. Please remit a check, made payable to **TREASURER OF VIRGINIA**, within 30 days. To insure proper credit to your account, please address your payment envelope directly to MaryBeth Murr at the address listed in the letterhead.

This letter summarizes the likelihood of the occurrence of endangered or threatened animal species at the project site. If you have additional questions in this regard, please contact me at (804) 367-2211.

Please note that the data used to develop this response are continually updated. Therefore, if significant changes are made to your project or if the project has not begun within 6 months of receiving this letter, then the applicant should request a new review of our data.

The Fish and Wildlife Information Service, the system of databases used to provide the information in this letter, can now be accessed via the Internet! The Service currently provides access to current and comprehensive information about all of Virginia's fish and wildlife resources, including those listed as threatened, endangered, or special concern; colonial birds; waterfowl; trout streams; and all wildlife. Users can choose a geographic location and generate a report of species known or likely to occur around that point. From our main web page, at www.dgif.state.va.us, choose the hyperlinks to "Wildlife" then "Wildlife Information and Mapping Services", and then "Wildlife Information Online Service". For more information about the service, please contact Amy Martin, Online Service Coordinator, at (804) 367-2211.

Thank you for your interest in the wildlife resources of Virginia.

Sincerely,

Amy Martin
Online Service Coordinator

cc: R.T. Fernald, VDGIF
Don Schwab, VDGIF

Appendix D

Permits and Regulatory Review

Virginia Coastal Program: Enforceable Regulatory Programs Comprising Virginia's Coastal Resources Management Program Coastal Consistency Determination

Jurisdictional Wetland Determination

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 10009, Richmond, Virginia 23240
Fax (804) 698-4500 · TDD (804) 698-4021
http://www.deq.state.va.us

James S. Gilmore, III
Governor

John Paul Woodley, Jr.
Secretary of Natural Resources

Dennis H. Treacy
Director

(804) 698-4000
1-800-592-5482

Attachment 1

Enforceable Regulatory Programs comprising Virginia's Coastal Resources Management Program (VCP)

a. Fisheries Management - The program stresses the conservation and enhancement of finfish and shellfish resources and the promotion of commercial and recreational fisheries to maximize food production and recreational opportunities. This program is administered by the Marine Resources Commission (VMRC); Virginia Code §28.2-200 to §28.2-713 and the Department of Game and Inland Fisheries (DGIF); Virginia Code §29.1-100 to §29.1-570.

The State Tributyltin (TBT) Regulatory Program has been added to the Fisheries Management program. The General Assembly amended the Virginia Pesticide Use and Application Act as it related to the possession, sale, or use of marine antifoulant paints containing TBT. The use of TBT in boat paint constitutes a serious threat to important marine animal species. The TBT program monitors boating activities and boat painting activities to ensure compliance with TBT regulations promulgated pursuant to the amendment. The VMRC, DGIF, and Virginia Department of Agriculture Consumer Services (VDACS) share enforcement responsibilities; Virginia Code §3.1-249.59 to §3.1-249.62.

b. Subaqueous Lands Management - The management program for subaqueous lands establishes conditions for granting or denying permits to use state-owned bottomlands based on considerations of potential effects on marine and fisheries resources, tidal wetlands, adjacent or nearby properties, anticipated public and private benefits, and water quality standards established by the Department of Environmental Quality (DEQ). The program is administered by the Marine Resources Commission; Virginia Code §28.2-1200 to §28.2-1213.

c. Wetlands Management - The purpose of the wetlands management program is to preserve wetlands, prevent their despoliation, and accommodate economic development in a manner consistent with wetlands preservation.

(1) The tidal wetlands program is administered by the Marine Resources Commission; Virginia Code §28.2 -1301 through §28.2 -1320.

(2) The Virginia Water Protection Permit program administered by DEQ includes protection of wetlands --both tidal and non-tidal; Virginia Code §62.1-44.15:5 and Water Quality Certification pursuant to Section 401 of the Clean Water Act.

d. Dunes Management - Dune protection is carried out pursuant to The Coastal Primary Sand Dune Protection Act and is intended to prevent destruction or alteration of primary dunes. This program is administered by the Marine Resources Commission; Virginia Code §28.2-1400 through §28.2-1420.

e. Non-point Source Pollution Control – (1) Virginia's Erosion and Sediment Control Law requires soil-disturbing projects to be designed to reduce soil erosion and to decrease inputs of chemical nutrients and sediments to the Chesapeake Bay, its tributaries, and other rivers and waters of the Commonwealth. This program is administered by the Department of Conservation and Recreation; Virginia Code §10.1-560 et.seq.).

(2) Coastal Lands Management is a state-local cooperative program administered by the Chesapeake Bay Local Assistance Department and 84 localities in Tidewater (see i) Virginia; Virginia Code §10.1-2100 –10.1-2114 and 9 VAC10-20 et seq.

f. Point Source Pollution Control - The point source program is administered by the State Water Control Board (DEQ) pursuant to Virginia Code §62.1-44.15. Point source pollution control is accomplished through the implementation of:

(1) the National Pollutant Discharge Elimination System (NPDES) permit program established pursuant to Section 402 of the federal Clean Water Act and administered in Virginia as the Virginia Pollutant Discharge Elimination System (VPDES) permit program.

(2) The Virginia Water Protection Permit (VWPP) program administered by DEQ; Virginia Code §62.1-44.15:5 and Water Quality Certification pursuant to Section 401 of the Clean Water Act.

g. Shoreline Sanitation - The purpose of this program is to regulate the installation of septic tanks, set standards concerning soil types suitable for septic tanks, and specify minimum distances that tanks must be placed away from streams, rivers, and other waters of the Commonwealth. This program is administered by the Department of Health (Virginia Code §32.1-164 through §32.1-165).

h. Air Pollution Control - The program implements the federal Clean Air Act to provide a legally enforceable State Implementation Plan for the attainment and maintenance of the National Ambient Air Quality Standards. This program is administered by the State Air Pollution Control Board (Virginia Code §10.1-1300 through §10.1- 1320).

(i) Coastal Lands Management is a state-local cooperative program administered by the Chesapeake Bay Local Assistance Department and 84 localities in Tidewater, Virginia established pursuant to the Chesapeake Bay Preservation Act; Virginia Code §10.1-2100 –10.1-2114 and Chesapeake Bay Preservation Area Designation and Management Regulations; Virginia Administrative Code 9 VAC10-20 et seq.

Attachment 2

Advisory Policies for Geographic Areas of Particular Concern

a. Coastal Natural Resource Areas - These areas are vital to estuarine and marine ecosystems and/or are of great importance to areas immediately inland of the shoreline. Such areas receive special attention from the Commonwealth because of their conservation, recreational, ecological, and aesthetic values. These areas are worthy of special consideration in any planning or resources management process and include the following resources:

a) Wetlands
b) Aquatic Spawning, Nursery, and Feeding Grounds
c) Coastal Primary Sand Dunes
d) Barrier Islands
e) Significant Wildlife Habitat Areas
f) Public Recreation Areas
g) Sand and Gravel Resources
h) Underwater Historic Sites.

b. Coastal Natural Hazard Areas - This policy covers areas vulnerable to continuing and severe erosion and areas susceptible to potential damage from wind, tidal, and storm related events including flooding. New buildings and other structures should be designed and sited to minimize the potential for property damage due to storms or shoreline erosion. The areas of concern are as follows:

i) Highly Erodible Areas
ii) Coastal High Hazard Areas, including flood plains.

c. Waterfront Development Areas - These areas are vital to the Commonwealth because of the limited number of areas suitable for waterfront activities. The areas of concern are as follows:

i) Commercial Ports
ii) Commercial Fishing Piers
iii) Community Waterfronts

Although the management of such areas is the responsibility of local government and some regional authorities, designation of these areas as Waterfront Development Areas of Particular Concern (APC) under the VCRMP is encouraged. Designation will allow the use of federal CZMA funds to be used to assist planning for such areas and the implementation of such plans. The VCRMP recognizes two broad classes of priority uses for waterfront development APC:

i) water access dependent activities;
ii) activities significantly enhanced by the waterfront location and complementary to other existing and/or planned activities in a given waterfront area.

Advisory Policies for Shorefront Access Planning and Protection

a. Virginia Public Beaches - Approximately 25 miles of public beaches are located in the cities, counties, and towns of Virginia exclusive of public beaches on state and federal land. These public shoreline areas will be maintained to allow public access to recreational resources.

b. Virginia Outdoors Plan - Planning for coastal access is provided by the Department of Conservation and Recreation in cooperation with other state and local government agencies. The Virginia Outdoors Plan (VOP), which is published by the Department, identifies recreational facilities in the Commonwealth that provide recreational access. The VOP also serves to identify future needs of the Commonwealth in relation to the provision of recreational opportunities and shoreline access. Prior to initiating any project, consideration should be given to the proximity of the project site to recreational resources identified in the VOP.

c. Parks, Natural Areas, and Wildlife Management Areas - Parks, Wildlife Management Areas, and Natural Areas are provided for the recreational pleasure of the citizens of the Commonwealth and the nation by local, state, and federal agencies. The recreational values of these areas should be protected and maintained.

d. Waterfront Recreational Land Acquisition - It is the policy of the Commonwealth to protect areas, properties, lands, or any estate or interest therein, of scenic beauty, recreational utility, historical interest, or unusual features which may be acquired, preserved, and maintained for the citizens of the Commonwealth.

e. Waterfront Recreational Facilities - This policy applies to the provision of boat ramps, public landings, and bridges which provide water access to the citizens of the Commonwealth. These facilities shall be designed, constructed, and maintained to provide points of water access when and where practicable.

f. Waterfront Historic Properties - The Commonwealth has a long history of settlement and development, and much of that history has involved both shorelines and near-shore areas. The protection and preservation of historic shorefront properties is primarily the responsibility of the Department of Historic Resources. Buildings, structures, and sites of historical, architectural, and/or archaeological interest are significant resources for the citizens of the Commonwealth. It is the policy of the