Environmental Assessment

Hanscom Air Force Base

Massachusetts

Vandenberg Gate Complex Construction
Dorm Construction and Demolition

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FINDING OF NO SIGNIFICANT IMPACT
VANDENBERG GATE COMPLEX AND AIRMEN DORMITORY
CONSTRUCTION/DEMOLITION
HANSCOM AIR FORCE BASE, MASSACHUSETTS

Pursuant to the Council on Environmental Quality regulation for implementing the procedural provisions of the National Environmental Policy Act (NEPA), Title 40 of the Code of Federal Regulation (CFR) §§ 1500–1508; Air Force Environmental Impact Analysis Process (EIAP) regulations 32 CFR § 989 and Department of Defense Directive 6050.1, the Air Force has prepared an Environmental Assessment (EA) to identify and assess the potential impacts on the natural and human environment associated with the construction of a new west-side entry gate (the Vandenberg Gate Complex) to replace the existing Vandenberg Gate main entrance to Hanscom Air Force Base (AFB). The EA also evaluates the construction of a new Airmen dormitory and the demolition of existing Airmen dormitories on Hanscom AFB.

Background **(EA § 1.1, pages: 1 and 2):** The existing Vandenberg Gate operates as both the commercial vehicle gate as well as the personally-owned vehicle (POV) gate; however, the existing gate does not comply with current standards. The construction of a multi-story Airmen dormitory and the demolition of two existing Airmen dormitories are also being proposed due to the rapidly deteriorating condition of the existing dormitories.

Purpose of and Need for the Proposed Action **(EA § 1.2, page: 3):** The purpose of the Proposed Action is three-fold: 1) to make near-term improvements to base infrastructure; 2) to improve base access and security while reducing delays; and 3) to upgrade facilities and Airmen quality of life. To accomplish these goals the Air Force is pursuing two (2) projects, the Vandenberg Gate Complex and Dormitory Construction/Demolition projects. The need for the proposed action stems from the fact that current base facilities do not meet compliance standards or support mission requirements. The Vandenberg Gate Complex will meet base access and security standards, and also alleviate traffic congestion. Traffic congestion is caused by the lack of separate commercial and POV lanes and lack of an adequate turn-around for unauthorized vehicles attempting to enter the Base. This lack of separation causes traffic backups towards Route 2A while trucks are waiting to be searched. When this traffic congestion occurs, it not only impedes traffic flow into the Base, but also negatively impacts traffic flow into Hanscom field, a general aviation airport operated by the Massachusetts Port Authority, as well as area businesses and residences serviced by this access roadway. In addition, the project includes the construction of a new dormitory to replace the existing Airmen dormitories (Buildings 1510 and 1511) which are rapidly deteriorating and require replacement. The existing dormitories do not comply with current Air Force Unaccompanied Housing Guide standards for Airmen and other applicable standards. The demolition of two Airmen dormitories will be accomplished upon completion of the new dormitory. The Air Force focuses on limiting its resources on only that infrastructure needed to perform Air Force missions.

Description of Proposed Action **(EA § 2.1, pages: 5 to 8):** The Vandenberg Gate Complex is proposed to be constructed on a 22-acre parcel of land located immediately adjacent to the existing Vandenberg Gate located in Lincoln, Massachusetts (MA). The project includes two phases of construction. Phase I involves the construction of a new Search Pit as a temporary measure to provide enhanced security while the Vandenberg Gate Complex is being constructed. Phase II of the project involves the construction of

the Vandenberg Gate Complex and the demolition of the old Vandenberg Gate. The proposed action also involves the construction of a three-story Airmen dormitory, approximately 28,009 square feet in size, to be located in a grassed area in between Buildings 1530, 1531 and 1548, and a parking lot in Bedford and Lincoln, MA. The demolition of two dormitories (Buildings 1510 and 1511), also located in Bedford and Lincoln, will be accomplished upon completion of the new dormitory.

Description of No-Action Alternative **(EA § 2.2, pages: 8 and 9):** The Council on Environmental Quality's (CEQ) regulations implementing NEPA require that a no-action alternative be evaluated. The no-action alternative serves as a baseline against which the proposed action and alternatives can be evaluated. Under the no-action alternative, Hanscom AFB would remain in its current condition and there would not be construction of the Vandenberg Gate Complex. The no-action alternative was determined unreasonable because the existing Vandenberg Gate does not meet current standards and does not address current traffic congestion. In addition, under the no-action alternative, Airmen would continue to use the existing dormitories (Buildings 1510 and 1511) in their current condition and a new dormitory would not be constructed. Adequate living quarters, which provide a level of privacy required for today's airmen, will not be available. The no-action alternative was determined unreasonable because the existing dormitories are in a deteriorated condition and do not meet current standards.

Description of Alternatives Eliminated from Detailed Analysis **(EA § 2.4, pages: 13 and 14):** Alternative locations within the confines of Hanscom AFB's existing boundary line were examined for suitability for the Vandenberg Gate Complex construction. Overall, "on-base" alternative locations do not meet the purpose and need of the proposed action because they would not meet near-term base infrastructure goals, improve base access or reduce traffic. The proposed location on an adjacent 22-acre parcel represents Hanscom AFB's only viable alternative for the Vandenberg Gate Complex. With regard to the construction of the Airmen dormitory, an alternative location and alternative building orientations were evaluated. The preferred location had the least impact to wetlands and the preferred north-south building orientation provided living quarters on either side of the central linear corridor to give all bedrooms and unit living areas partial access to daylighting (either morning or afternoon). Other locations on the base would not be close enough to community facilities and would not meet near-term base infrastructure improvement goals. The current condition of both dormitories (Buildings 1510 and 1511) do not meet current standards and the locations are not near community facilities. The renovation of the existing dormitories to meet current standards was determined to be cost prohibitive. Renovation of the existing dormitories is not a reasonable alternative because it does not meet installation near-term infrastructure improvement or Airman quality of life goals, so it was eliminated from further analysis.

Summary of Environmental Consequences **(EA § 4, pages: 34 to 51):** The Vandenberg Gate Complex and Airmen Dormitory Construction/Demolition EA evaluates in detail the consequences of the proposed action and the no-action alternative on both the natural and man-made environments. The construction, demolition and site restoration activities have potential to affect adjacent land uses due to elevated noise levels, increased dust, minor interferences with roadway access, and visual effects. The construction and demolition activities associated with the Vandenberg Gate Complex and Airmen Dormitory projects would create construction and demolition debris, and may cause minor soil and topographic disturbance. Some vegetation would need to be cleared to construct Phase I of the Vandenberg Gate Complex project (the Search Pit). This loss of some vegetation is not anticipated to substantially impact the biological community on, or in the vicinity of, the proposed action site since the Search Pit area will be located partially in a vegetated area adjacent to the existing access roadway to Hanscom AFB (Hanscom Drive).

There are no existing underground stormwater drains in the area of the new Vandenberg Gate Complex. The addition of a new visitor center and gate complex will create more impervious surface, even though two existing buildings/structures will be demolished. However, stormwater management systems that utilize the pervious landscape, vegetative filtration, sediment removal, infiltration via bioswales, deep sump catch basins, and detention basins are examples of options that can be considered to offset any increase in impervious surface. With regard to the Airmen Dormitory construction, a base-wide stormwater standard requires redevelopment projects to reduce stormwater rate and volume by 10% over the existing condition for the 2, 10 and 100 year storm events. This will require that a significant volume of stormwater from the Airmen Dormitory be stored in underground leaching chambers (clean water from the building roof). As a result, there will be higher infiltration rates, and thus the total volume of storm water runoff from the site will be reduced, protecting the headwaters of the Shawsheen River. No impacts to wetlands are anticipated.

It is anticipated that the following best management practices (BMPs) would be used during the Vandenberg Gate Complex and Airmen Dormitory Construction/Demolition projects. All equipment and vehicles used during the proposed action will be maintained in good operating condition so exhaust emissions are minimized, thus reducing the potential for air quality impacts. Dust will be controlled onsite by using water to wet down disturbed areas. Sedimentation controls will be installed to minimize offsite runoff that may contain suspended solids. Disturbed areas will be seeded and stabilized as soon as possible to reduce erosion of disturbed soil with erosion controls left in place until vegetation is established. Drainage design must meet Massachusetts Stormwater Management Standards and also comply with the federal Clean Water Act. During demolition, all activities will be conducted in accordance with Hanscom AFB's BMPs to prevent adverse effects to receiving waters. Also, all hazardous materials used during construction will be handled and disposed of in accordance with Hanscom AFB policies and protocols and all applicable state and federal regulations.

While some negative environmental impacts will result from this project, they are expected to be minor. The anticipated short-term construction impacts are not atypical compared with other construction projects undertaken at Hanscom AFB in recent years. Additionally, Hanscom AFB has undertaken, or will employ, a number of pro-active measures to reduce the project's potential impact to the environment. Therefore, all negative impacts are insignificant and can be minimized further by using the BMP's described in the previous paragraph and in the Vandenberg Gate Complex and Airmen Dormitory Construction/Demolition EA. No significant impact associated with land use, socioeconomics, occupational safety and health, water supply, wastewater, solid waste, transportation, noise, air quality, geology/soils, surface water/groundwater, floodplains, biological resources, cultural resources, hazardous waste, or the environmental restoration program would be anticipated.

The proposed actions will yield many positive impacts. The new Airmen Dormitory is intended to qualify for certification under the Leadership in Energy and Environmental Design (LEED) Silver Standard. With the incorporation of LEED technologies, it is expected that the new Airmen Dormitory will operate more efficiently and use fewer resources than the buildings it will replace. In addition, one of the existing Airmen dormitories to be demolished will be used as a green space which will provide benefits to the Hanscom AFB community. The construction of the Vandenberg Gate Complex and Airmen Dormitory will create short-term business in the local construction industry. The construction employees will utilize local businesses which will generate more revenue in the short-term. Over the long-term, the upgrading of non-compliant and aging infrastructure will support the continued viability of Hanscom AFB as a premier military base and as a concentrated area for regional economic activity.

Overall, project actions are expected to have a positive and cohesive impact on the Hanscom AFB community.

Cumulative Impacts **(EA § 4.14, pages: 51 to 53):** The cumulative impacts of implementing proposed project actions, along with other known past, present, and future projects, were assessed in the EA. No significant impacts were identified for past or present projects when evaluated together with the Vandenberg Gate Complex and Airmen Dormitory Construction/Demolition EA.

Measures to Reduce Potential for Impact **(EA § 5, pages: 53 and 54):** It is anticipated that the following best management practices (BMPs) would be used during the construction of the Vandenberg Gate Complex and the construction of an Airmen dormitory and demolition of the existing Airmen dormitories. A phased construction schedule would be implemented to reduce peak traffic/noise levels and thus minimize disruption to nearby land uses. Transportation of heavy trucks would only be allowed during normal business hours to avoid the disturbance of surrounding residential areas. The contractor must submit a traffic control plan including the approximate duration of the project and affected roads prior to receiving a notice to proceed from Hanscom AFB. Mufflers would be used on construction equipment and vehicles to minimize noise impact. A site specific safety plan (SSSP) would be developed by the contractor and approved by the government prior to the start of work to ensure occupational safety and health compliance. Existing utility alignments will be identified through markings (similar to "Dig Safe") prior to any excavation to prevent damage to existing infrastructure. Hanscom AFB dig permitting procedures must be followed.

Solid waste management would be in compliance with Hanscom AFB recycling policies to minimize the amount of solid waste disposed of without beneficial reuse during demolition, construction, and operation of new facilities. All hazardous materials used during construction would be handled and disposed of in accordance with Hanscom AFB policies and protocols and all applicable state and federal regulations. All equipment and vehicles used during the proposed actions would be maintained in good operating condition so exhaust emissions are minimized, thus reducing the potential for air quality impacts. Dust would be controlled onsite and sedimentation controls would be installed to minimize offsite runoff that may contain suspended solids. Disturbed areas will be seeded and stabilized as soon as possible to reduce erosion of disturbed soil with erosion controls left in place until vegetation is established.

The future proposed actions are anticipated to have a positive and cohesive impact on the Hanscom AFB community. The enhanced main entry control point will improve security, alleviate traffic congestion on the main access road to Hanscom AFB and create short-term business in the local construction industry. Another benefit is that as construction employees utilize local businesses, more revenue is generated in the short term. A significant positive impact to occupational, health, and safety as well as short-term positive impact to local businesses is anticipated with the proposed project actions.

Required Permits **(EA § 1.4, page: 4):**

- Construction General Permit (CGP) (for work greater than one acre)
- Request for Determination of Applicability (RDA) (if applicable)
- MassDEP BWP AQ 06 – Notification Prior to Construction or Demolition
- Mass DEP Asbestos Notification ANF-001 (if applicable)
- Hanscom Digging Permit

***Consultation, Coordination, and Public Involvement* (EA § 6, pages: 55 to 96):** Hanscom AFB consulted with the U.S. Fish and Wildlife Service, National Park Service – Minute Man National Historical Park, Massachusetts Department of Environmental Protection – NE Region – Wetland Protection Program, Massachusetts Natural Heritage Program of the Division of Fisheries and Wildlife, Massachusetts Historical Commission, Massachusetts Commission of Indian Affairs, and the Wampanoag Tribe of Gay Head (Aquinnah). Letters pertaining to the consultations are included in the Vandenberg Gate Complex and Airmen Dormitory Construction/Demolition EA (Section 6).

Copies of the Draft Vandenberg Gate Complex and Airmen Dormitory Construction/ Demolition EA and Finding of No Significant Impact (FONSI) were made available for public review at the main public libraries in Bedford, Concord, Lexington, and Lincoln, and at the Hanscom AFB Environmental Office, Building 1825. The Public Notice period began on 20 November 2014 and ended on 10 January 2015. No comments were received during the Public Notice period.

Finding of No Significant Impact

Based on the detailed description of effects described in the Vandenberg Gate Complex and Airmen Dormitory Construction and Demolition Environmental Assessment, I have determined that the proposed actions; the construction of the Vandenberg Gate Complex and demolition of the existing Vandenberg Gate and the construction of a new Airmen dormitory and the demolition of two existing Airmen dormitories (Buildings 1510 and 1511), would not have a significant impact on the natural or human environment; therefore, an Environmental Impact Statement is not required. This analysis fulfills the requirements of NEPA, the President's Council on Environmental Quality 40 C.F.R. §§ 1500-1508 and the Air Force EIAP regulations 32 C.F.R. § 989.

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Base Civil Engineer

27 JAN 15

Date

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LIST OF ACRONYMS:

AAQS	Ambient Air Quality Standards
ABG	Air Base Group
ACM	Asbestos Containing Material
AFB	Air Force Base
AFI	Air Force Instruction
AFCR	Air Force Cambridge Research Lab
AFLCMC	Air Force Life Cycle Management Center
AFMC	Air Force Material Command
AFOSHSTD	Air Force Occupational Safety and Health Standard
AFRL	Air Force Research Lab
AFRPA	Air Force Real Property
AT/F	Antiterrorism/Force Protection
Bgs	Below Ground Surface
BMP	Best Management Practice
BRAC	Base Realignment and Closure
C&D	Construction and Demolition
CAA	Clean Air Act
CE	Civil Engineering
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CH4	Methane
CHP	Central Heat Plant
CO	Carbon Monoxide
CO2	Carbon Dioxide
CWP	Chilled Water Plant
dB	Decibel
DoD	Department of Defense
DoDEA	Department of Defense Education Activity
EA	Environmental Assessment
EHS	Environmental Health and Safety
EMCS	Energy Management Control System
EO	Executive Order
ESC	Electronic Systems Center
FAMCAMP	Family Campground
FEMA	Federal Emergency Management Agency
FIRM	Federal Insurance Rate Map
FONSI	Finding of No Significant Impact
FY	Fiscal Year
GHG	Greenhouse Gas
Gpm	Gallons per minute
gsf	Gross Square Feet
HAFB	Hanscom Air Force Base
HARM	Hazard Assessment Rating
HAZMAT	Hazardous Materials
ICP	Integrated Contingency Plan
IRP	Installation Restoration Program
JFHQ	Joint Force Headquarters
k-W	Kilowatt
kWh	Kilowatt-hour
kV	Kilovolt
LCMC	Life Cycle Management Center
LEED	Leadership in Energy and Environmental Design
MA	Massachusetts
MAARNG	Massachusetts Army Nation Guard
MAANG	Massachusetts Air National Guard
MassDEP	Massachusetts Department of Environmental Protection
Massport	Massachusetts Port Authority
MCF	Million cubic feet
MCP	Massachusetts Contingency Plan
MEPA	Massachusetts Environmental Policy Act
mgd	Million gallons per day
MHC	Massachusetts Historic Commission
MILCON	Military Construction
MIT	Massachusetts Institute of Technology
MIT LL	Massachusetts Institute of Technology Lincoln Laboratory
MPE	Maximum Permissible Exposure

MS4	Municipal Separate Storm Sewer System
MSDS	Material Safety Data Sheets
MWRA	Massachusetts Water Resource Authority
NAAQS	National Ambient Air Quality Standards
NHESP	Natural Heritage and Endangered Species Program
NOI	Notice of Intent
NOx	Nitrous oxide
NPDES	National Pollution Discharge Elimination System
NRCS	Natural Resources Conservation Service
OSHA	Occupational Safety and Health Administration
PA	Programmatic Agreement
PAL	Public Archeology Laboratory
Pb	Lead
PCBs	Polychlorinated Biphenyls
PEL	Personal Exposure Limit
PM	Particulate Matter
POV	Personal Occupancy Vehicle
RACT	Reasonably Available Control Technology
RFTA	Reserve Forces Training Area
R&D	Research and Development
RCRA	Resource Conservation and Recovery Act
RV	Recreational Vehicle
SAPS	Satellite Accumulation Points
SARA	Superfund Amendments and Reauthorization Act
SHPO	State Historic Preservation Office
SF	Square feet
SIP	State Implementation Plan
SO2	Sulfur dioxide
SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SCA	Toxic Substances Control Act
U.S.	United States
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish & Wildlife Service
UST	Underground Tank
USGBC	United States Green Building Council
VOC	Volatile Organic Compounds

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ENVIRONMENTAL ASSESSMENT

SECTION 1. PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1. Introduction

Hanscom Air Force Base (AFB) is proposing the construction of a new west-side entrance gate (henceforth called the Vandenberg Gate Complex) to replace the existing Vandenberg Gate main entrance to the base. In addition, the construction of a multi-story dormitory and the demolition of two existing dormitories (Buildings 1510 and 1511) are also being proposed (see Figure 1 – Location Map). The purpose of this Environmental Assessment (EA) is to address the Proposed Actions and the No-Action Alternatives for these projects in accordance with the National Environmental Policy Act (NEPA) (42 United States Code [USC] 4321-4347), Council on Environmental Quality (CEQ, 1978) Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] §§ 1500-1508), and 32 CFR 989 et seq., *Environmental Impact Analysis Process* (formerly known as Air Force Instruction [AFI] 32-7061). NEPA procedures were established to ensure environmental information is available to public officials and citizens before decisions are made and before actions are taken.

According to the regulations and guidelines for implementing NEPA, the Environmental Assessment is a written analysis which serves to (1) provide analysis sufficient to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI); and (2) aid federal agencies in complying with NEPA when no EIS is required. If this EA were to determine the proposed action would significantly degrade the environment, significantly threaten public health or safety, or generate significant public controversy, then an EIS would be completed. An EIS involves a comprehensive assessment of project impacts and alternatives, as well as a high degree of public input. Alternatively, if this EA results in a FONSI, then the action would not be the subject of an EIS. The EA is not intended to be a scientific document. The level and extent of detail and analysis in the EA is commensurate with the importance of the environmental issues involved and with the information needs of both the decision-makers and the general public.

This EA will address the site-specific impacts of the proposed actions described in the following sections.

1.1.1. Vandenberg Gate Complex Construction

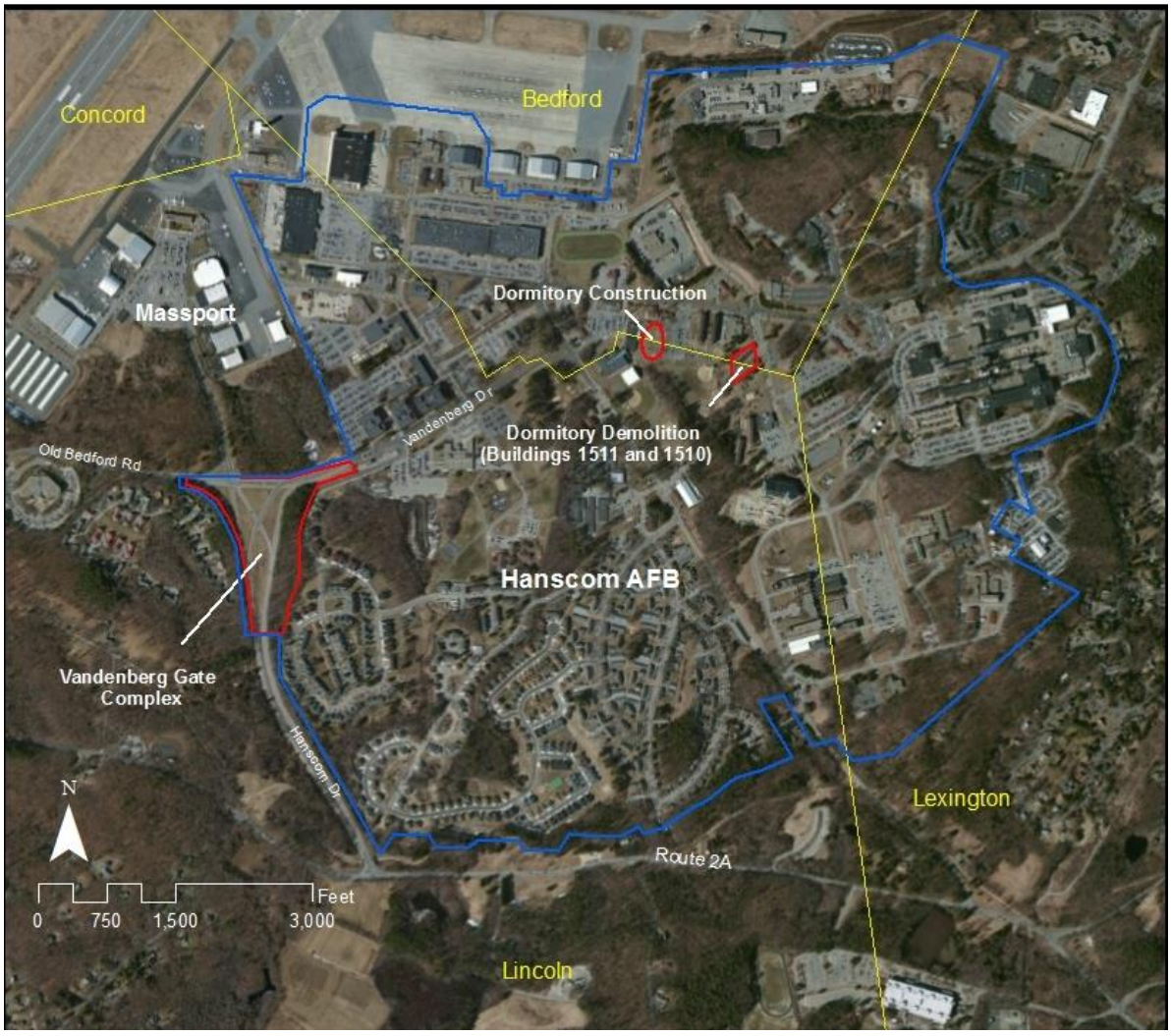
The existing Vandenberg Gate, located on the west side of Hanscom AFB in Lincoln, Massachusetts (MA), operates as both the commercial vehicle gate as well as the personally-owned vehicle (POV) gate; however, the existing gate does not comply with current standards. A new entry control facility is necessary to improve traffic flow into Hanscom AFB and enhance the operation of the installation's main entry control point so it is in compliance with current standards.

The Vandenberg Gate Complex is proposed to be constructed on a 22-acre parcel of land located immediately adjacent to the existing gate. The project includes two phases of construction. Phase I involves the construction of a new Search Pit as a temporary measure to provide enhanced security while the Vandenberg Gate Complex is being constructed. Phase II of the project involves the construction of a new entrance gate, the Vandenberg Gate Complex and the demolition of the old Vandenberg Gate.

1.1.2. Dormitory Construction and Demolition

The proposed action involves the construction of a three-story dormitory approximately 28,009 gross square foot (SF) in size at Hanscom AFB located in Bedford and Lincoln, MA. Existing Airmen dormitories (Buildings 1510 and 1511), located approximately 100 yards west of the construction site in Bedford and Lincoln, MA, are rapidly deteriorating and are in need of replacement. The Airmen dormitories (Buildings 1510 and 1511) will be demolished as part of this project.

Figure 1 – Location Map



1.2. Purpose and Need for the Proposed Action

The purpose of the Proposed Action is three-fold: 1) to make near-term improvements to base infrastructure; 2) to improve base access and security while reducing delays; 3) to upgrade facilities and Airman quality of life. To accomplish these goals the Air Force is pursuing two (2) projects, the Vandenberg Gate Complex and Dormitory Construction/Demolition projects. The need for the proposed action stems from the fact that current base facilities do not meet compliance standards or support mission requirements. The needs of both projects are described individually below.

1.2.1. Vandenberg Gate Complex

The existing Vandenberg Gate does not comply with current standards. The location of commercial vehicle search/inspections is located just inside the gate, in close proximity to mission critical facilities. The existing gate configuration makes the Base vulnerable to high speed vehicle approaches. In addition, the limitation in space does not allow for the separation of commercial and privately-owned vehicles. This lack of separation causes traffic backups towards Route 2A while trucks are waiting to be searched. When this traffic congestion occurs, it not only impedes traffic flow into the Base, but also negatively impacts traffic flow into Hanscom field, a general aviation airport operated by the Massachusetts Port Authority, as well as area businesses and residences serviced by this access roadway. If the proposed action does not occur, there will continued traffic congestion caused by lack of separate commercial and POV lanes and the lack of an adequate turn-around for unauthorized vehicles attempting to enter the Base. In addition, if the proposed action does not occur, the existing Vandenberg Gate will continue to be in non-compliance with current standards.

1.2.2. Dormitory Construction and Demolition

The new dormitory replaces Buildings 1510 and 1511 (the existing Airmen dormitories) which are rapidly deteriorating and require replacement. Existing problems include basement leaks; the existing brick façade is falling off the buildings, broken window locks, broken bathroom fans, shorts cause by dated electrical writing (from 1955), and cracked and uneven sidewalks. The existing dorms do not comply with current Air Force Unaccompanied Housing Guide standards for Airmen, the Hanscom AFB Master Plan, the Hanscom AFB Architectural Design Compatibility Standards, and current Department of Defense (DoD) standards. The new dormitory will provide all required spaces and minimum room areas, comply with multiple Air Force and reference standards and is intended to achieve a Leadership in Energy and Environmental Design (LEED) Silver standard. (LEED is a rating system for the design, construction, operation, and maintenance of environmentally responsible and resource-efficient buildings.) In addition, one building at the dormitory demolition site will be used as a green space; providing credit towards the LEED Silver standard for the dormitory construction project.

The Air Force focuses on limiting its resources on only that infrastructure needed to perform Air Force missions. Hanscom AFB must achieve offsetting efficiencies to ensure

mission capability. The current condition of both dormitories (Buildings 1510 and 1511) does not meet current standards and demolition is the most practicable course of action.

1.3 Applicable Federal Laws and Regulations

- 32 CFR 989, Environmental Impact Analysis Process
- 36 CFR Part 800, Protection of Historic Properties
- 40 CFR §§ 1500-1508, Council of Environmental Quality
- AFI 32-7064, Integrated Natural Resources Management
- AFI 32-7065, Cultural Resources Management Program
- Archaeological Resources Protection Act
- Clean Air Act
- Clean Water Act
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- DoDI 4710.02 (Interactions with Federally-Recognized Tribes)
- Endangered Species Act of 1973
- Executive Order (EO) 11990 (Protection of Wetlands)
- EO 11988 (Floodplain Management)
- EO 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations
- EO 13175 (Consultation and Coordination with Indian Tribal Governments)
- EO 13514 (Federal Leadership in Environmental, Energy, and Economic Performance)
- Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings
- National Environmental Policy Act (NEPA)
- National Historic Preservation Act (NHPA)
- Occupational Safety and Health Administration (OSHA) Regulations
- Pollution Prevention Act of 1990
- Resource Conservation and Recovery Act (RCRA)
- Rivers and Harbors Act
- Toxic Substances Control Act (TSCA) of 1970

1.4 Required Federal, State and Local Permits

Projects that disturb one or more acres of land are required to obtain a Construction General Permit (CGP) from the US Environmental Protection Agency (USEPA) prior to commencement of project activities. The USEPA CGP regulates the discharge of stormwater from construction sites (which include soil disturbing activities such as clearing, grading, excavating, stockpiling, etc.). Operators of regulated construction sites are required to develop a stormwater pollution prevention plan (SWPPP) and to implement sediment, erosion, and pollution prevention control measures during construction activities. In Massachusetts (MA), operators of regulated construction sites may also need to comply with additional permit conditions associated with MA Water Quality regulations and policies, MA Stormwater Management regulations and other state environmental laws, regulations and policies as applicable (e.g., MA Environmental Policy Act, MA Wetland Protection Act, the MA Clean

Water Act, the MA Endangered Species Act, etc.). On February 16, 2012, EPA issued the final 2012 CGP. The 2012 CGP replaces the 2008 CGP (which expired on February 15, 2012), and will provide coverage for eligible new and existing construction projects for a period of five years.

The proposed Vandenberg Gate Complex and the Airmen dormitory construction project includes work within the 100 foot buffer to the wetland. This work will require the filing of a Request for Determination and/or a Notice of Intent (NOI) with the Massachusetts Department of Environmental Protection and the Town of Lincoln Conservation Commission pursuant to the Massachusetts Wetland Protection Act (310 CMR 10.00).

A BWP AQ 06 Form – Notification Prior to Construction or Demolition must be submitted to the Massachusetts Department of Environmental Protection for any construction or demolition of a building. An Asbestos Notification ANF-001 must be submitted to Mass DEP if asbestos abatement is required. Hanscom Digging Permit (similar to Dig Safe) procedures must be followed prior to and during any excavation.

1.5 Agencies and Persons Consulted

Federal
National Park Service - Minute Man National Historical Park
U.S. Fish and Wildlife Service

State
Massachusetts Natural Heritage Program of the Division of Fisheries and Wildlife
Massachusetts Historical Commission
Massachusetts Commission of Indian Affairs

Tribes
Wampanoag Tribe of Gay Head (Aquinnah)

SECTION 2. DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1. Proposed Action

2.1.1. Vandenberg Gate Complex

Vehicular traffic enters Hanscom AFB via one of three control points (a fourth gate is closed). The Wood Street Gate, located on the east side of Hanscom AFB off of Wood Street which connects to Hartwell Avenue on the north and to Massachusetts Avenue on the south. The Barksdale Gate (Hartwell Gate) is located on the north side of Hanscom AFB and is accessed via Hartwell Avenue. The Vandenberg Gate, located on the west side of Hanscom AFB, is the main gate for visitors, commercial vehicles, and many DoD personnel. The Vandenberg Gate is accessed from Route 2A, Hanscom Drive, and a segment of Old Bedford Road.

The existing Vandenberg Gate, located in Lincoln, MA operates as both the commercial vehicle gate as well as the POV gate; however, the existing gate does not comply with current standards. The proposed action would modernize the Vandenberg Gate and would construct a new entry control facility to include a new visitors' center and gatehouse complex, and demolish the existing control facilities. The approach road to the base would be realigned to include striping, sidewalk, utilities, security bollards, drainage structures, manholes, landscaping, signage, vehicle barriers, under vehicle lighting, an emergency generator, fencing, and communications equipment. The proposed facilities would be connected to existing base utility and communication systems. The proposed action includes two phases of construction.

Phase 1 – New Search Pit – A new vehicle search pit is proposed for construction as a temporary measure to provide enhanced security while the Vandenberg Gate Complex is being constructed. The new Search Pit includes a separate vehicle search lane which involves the construction of 600 linear feet of asphalt, a retaining wall and swale (see Figure 2 – New Search Pit).

Phase II – Vandenberg Gate Complex – This project involves the construction of a new entrance gate, the Vandenberg Gate Complex, to be constructed on a 22-acre parcel of land located immediately adjacent to the existing gate. This project includes a one-story building (visitor center), separate POV and commercial traffic lane an readily assessable turn-around land for unauthorized vehicles to exit (see Figure 3 – Vandenberg Gate Complex). The existing Vandenberg Gate would be demolished once the new gate was operational.

The addition of a new visitor center and gate complex would create more impervious surface, even though the existing Vandenberg Gate would be demolished. Stormwater management systems that utilize the pervious landscape, vegetative filtration, sediment removal, infiltration via bioswales, deep sump catch basins, and detention basins are examples of pollution prevention measures that could be considered to offset any increase in impervious surface. Drainage design must meet Massachusetts Stormwater Management Standards, as well as comply with the Federal Clean Water Act. The US Environmental Protection Agency (USEPA) Construction General Permit (CGP) regulates the discharge of stormwater from construction sites that disturb one or more acres of land (which include soil disturbing activities such as clearing, grading, excavating, stockpiling, etc.). Operators of regulated construction sites are required to develop a stormwater pollution prevention plan (SWPPP) and to implement sediment, erosion, and pollution prevention control measures during construction activities. In addition, as a matter of general policy at Hanscom AFB, the future proposed action must be designed to result in a net decrease in runoff and an increase in detention and/or groundwater recharge.

It is anticipated that the following best management practices (BMPs) would be used during the construction of the new Vandenberg Gate Complex and demolition of the existing gate. A phased construction schedule would be implemented to reduce peak traffic/noise levels and thus minimize disruption to nearby land uses. Transportation of heavy trucks would only be allowed during normal business hours to avoid the disturbance of surrounding residential areas. The contractor must submit a traffic control plan including the approximate duration of the project and affected roads prior to receiving a notice to proceed from Hanscom AFB. A site

specific safety plan (SSSP) would be developed by the contractor and approved by the government prior to the start of work to ensure occupational safety and health compliance. Existing utility alignments will be identified through markings (similar to "Dig Safe") prior to any excavation to prevent damage to existing infrastructure. Hanscom AFB dig permitting procedures must be followed.

2.1.2. Dormitory Construction and Demolition

2.1.2.1 Dormitory Construction

The building site for the new dormitory is a grassed area in between Buildings 1530, 1531 and 1548 and a parking lot located in Bedford and Lincoln, MA (see Figure 4 – Airmen Dormitory). The new dormitory will include six standard dorm modules per floor for a total of 64-68 bedrooms. The preferred building design includes a pile foundation, due to mixed, loose soils, with a structural first floor slab and a steel frame superstructure. The exterior wall finish will be a combination of masonry veneer at the lower level with an exterior insulation finishing system (EIFS) above. The roof will be a light-gauge metal frame carrying a sloped, standing-seam metal roof assembly with full perimeter gutters. Utilizing gas was considered to be the most practical, economical and reasonable energy option. The site includes a parking space for each dorm resident.

The major axis of the building is oriented in the North-South direction (i.e. perpendicular to Barksdale Street). Vehicular approach is off Barksdale Street through the existing parking lot. Dormitory parking is accommodated in the existing lot to the east. The north-south orientation of the building provides living quarters on either side of the central linear corridor to give all bedrooms and unit living areas partial access to daylighting (either morning or afternoon).

The dormitory construction project will tie into the existing stormwater system. This work would be done carefully to avoid the two 66" pipes which carry the Shawsheen River to insure water quality is not affected by the construction (USACE 2013). Drainage design must meet Massachusetts Stormwater Management Standards, as well as comply with the Federal Clean Water Act as discussed in Section 2.1.1. As a matter of general policy at Hanscom AFB, the future proposed action must be designed to result in a net decrease in runoff and an increase in detention and/or groundwater recharge. The construction of infiltration chambers (for roof runoff) and other stormwater best management practices will assure compliance with a base-wide stormwater standard that requires new development to reduce stormwater rate and volume by 10% over the existing condition for the 2, 10 and 100 year storm events.

In addition, the entire dormitory can be constructed with required conventional standoff distances from the existing parking lots and access roads. Where the existing parking lot conflicts with current setback requirements (specifically for Building 1530), the condition is considered preexisting and therefore exempt from compliance with current standards. The dormitory entry and common areas are located at the south end of the building which provides more privacy for the common areas, away from the active walkways leading to the bowling center, theater, shoppette and library. The dormitory parking reuses (with new striping and handicapped spaces located close to the proposed building entrance) the existing parking lot to the east while maintaining current traffic patterns and does not add significant paving area or

other impermeable surfaces. There is also a wide grassy area between Building 1531 and the dorm that could be used for outdoor recreational activities and seating. This project is approximately 0.80 acre in size, exclusive of parking.

2.1.2.2. Dormitory Demolition

The project action involves the demolition of two dormitories located at Hanscom AFB in Bedford and Lincoln, MA to be accomplished upon completion of the new dormitory. The existing dormitories (Buildings 1510 and 1511) were constructed in 1955 and renovated in 1997. These buildings are rapidly deteriorating and do not meet current standards. Existing problems include basement leaks; the existing brick façade is falling off the buildings, broken window locks, broken bathroom fans, shorts cause by dated electrical writing (from 1955), and cracked and uneven sidewalks.

This project includes soil disturbing activities such as clearing, grading, excavating, stockpiling, etc.). The existing dormitory foundation that is to be demolished will be broken up and carted off site. Clean fill will be required to infill on site. The contractor will be required to meet Massachusetts Stormwater Management Standards, as well as comply with the Federal Clean Water Act and to implement sediment, erosion, and pollution prevention control measures during construction activities as previously discussed in Sections 2.1.1. and 2.1.2.1.

A hazardous materials building inspection was conducted on Building 1510 (Dewberry 2013) which included a survey for asbestos containing materials (ACM), lead paint, and a visual inspection for PCB containing electrical equipment, light ballasts and other hazardous materials (OHM). Various confirmed and potential hazardous material-containing building components and items were observed within the surveyed areas. In addition Cardno ATC performed sampling for the presence of PCBs in building materials such as caulking, glazing and sealants (Cardno ATC 2012). Based on the findings of the limited survey, PCB concentrations greater than the laboratory method detection limits were not observed in any sealant material. (Note: The construction of Building 1511 was identical to Building 1510, and as such, this information is indicative of the types of hazardous materials that may also be found in building 1511. However, a hazardous materials survey will be conducted on Building 1511 prior to demolition (Wong 2014). The handling and disposal of hazardous materials associated with the demolition of Buildings 1510 and 1511 will be conducted in accordance with federal and state laws and regulations.

2.2. Alternatives

Hanscom AFB is evaluating the construction of the Vandenberg Gate Complex (Phase I and Phase II) and the Airmen Dormitory Construction and Dormitory Demolition projects. Alternatives considered for each project are discussed in the following sections including the No-Action Alternative.

2.2.1. Vandenberg Gate Complex

Hanscom AFB is evaluating two alternatives for the Vandenberg Gate Complex project; 1) Construct a new Vandenberg Gate Complex (Phase I and II) on a 22 acre parcel adjacent to the existing Vandenberg Gate; and 2) take no action and thereby continuing operating the existing Vandenberg Gate in the existing conditions.

Alternatives analyzed in detail in this EA include:

Alternative 1 is the Preferred Alternative, and thus the Proposed Action evaluated in this EA.

Alternative 2 is the No-Action Alternative, and is described in more detail below.

No-Action Alternative - The Council on Environmental Quality's (CEQ) regulations implementing NEPA requires that a no-action alternative be evaluated. The No-Action Alternative serves as a baseline against which the Proposed Action and alternatives can be evaluated. Evaluation of the No-Action Alternative involves assessing the environmental effects that would result if the proposed action did not take place. Under the no-action alternative, the Hanscom AFB would remain in its current condition and there would not be construction of the Vandenberg Gate Complex. The no-action alternative would result in not meeting current standards and would not address current traffic congestion.

2.2.2. Dormitory Construction and Demolition

Hanscom AFB is evaluating two alternatives for the Airmen Dormitory project; 1) Construct a new Airmen Dormitory and demolish the old dormitories (Buildings 1510 and 1511); and 2) take no action and thereby Airmen would continue to use Buildings 1510 and 1511 in their current condition.

Alternatives analyzed in detail in this EA include:

Alternative 1 is the Preferred Alternative, and thus the Proposed Action evaluated in this EA.

Alternative 2 is the No-Action Alternative, and is described in more detail below.

No-Action Alternative - As stated in Section 2.2.1., the No-Action Alternative serves as a baseline against which the Proposed Action and alternatives can be evaluated and is required by CEQ regulations for implementing NEPA. Under the no-action alternative, the Airmen would continue to use the existing dormitories (Buildings 1510 and 1511) in their current condition and a new dormitory would not be constructed. Adequate living quarters which provide a level of privacy required for today's airmen will not be available, resulting in the degradation of morale, productively, and career satisfaction for unaccompanied enlisted personnel. The airmen will be living in unsightly conditions without adequate security and life and safety issues will arise as the buildings continues to deteriorate. The no-action alternative would result in the existing dormitories in a deteriorated condition and would not meet current standards.

Figure 2 – New Search Pit

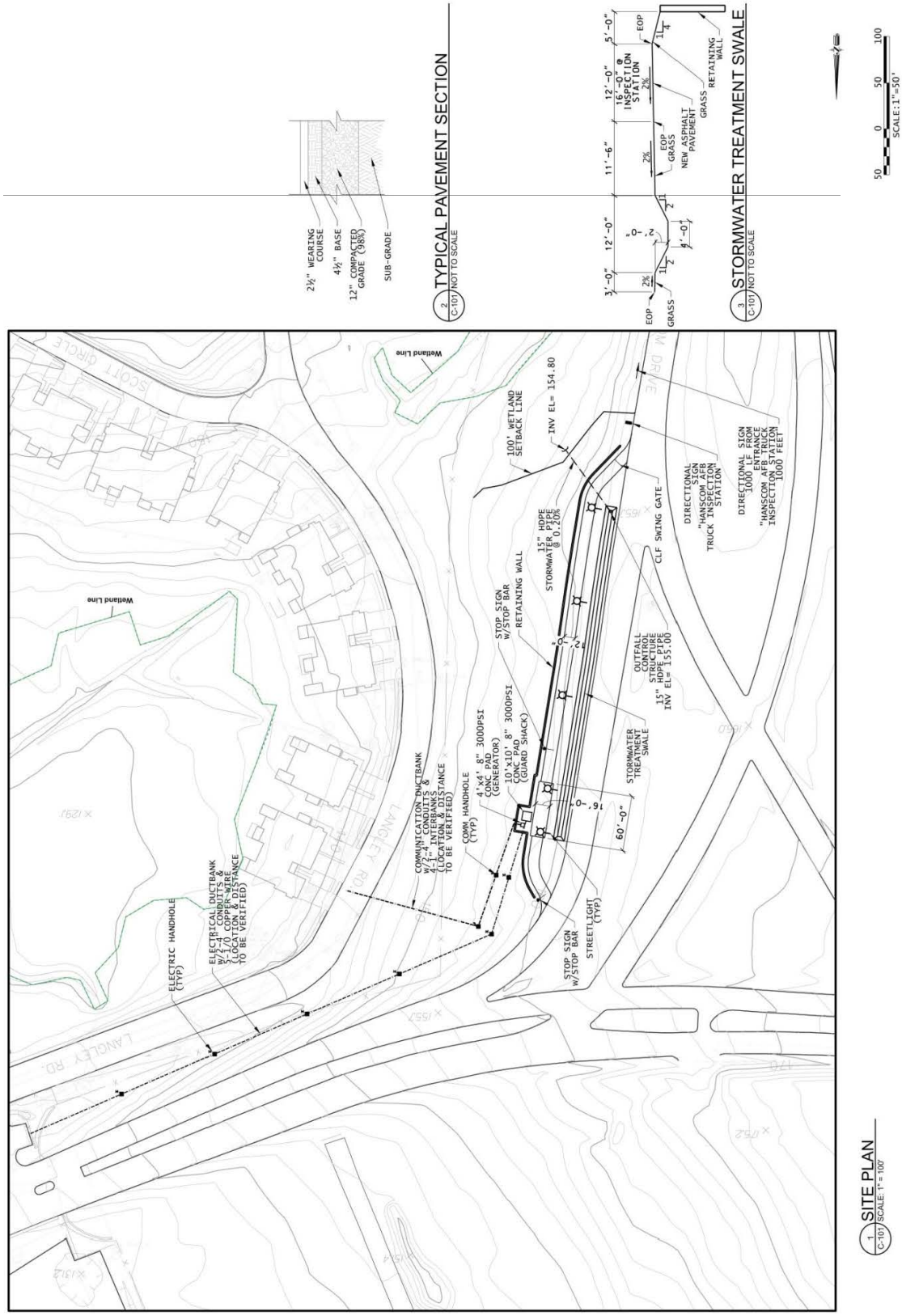


Figure 3 – Vandenberg Gate Complex

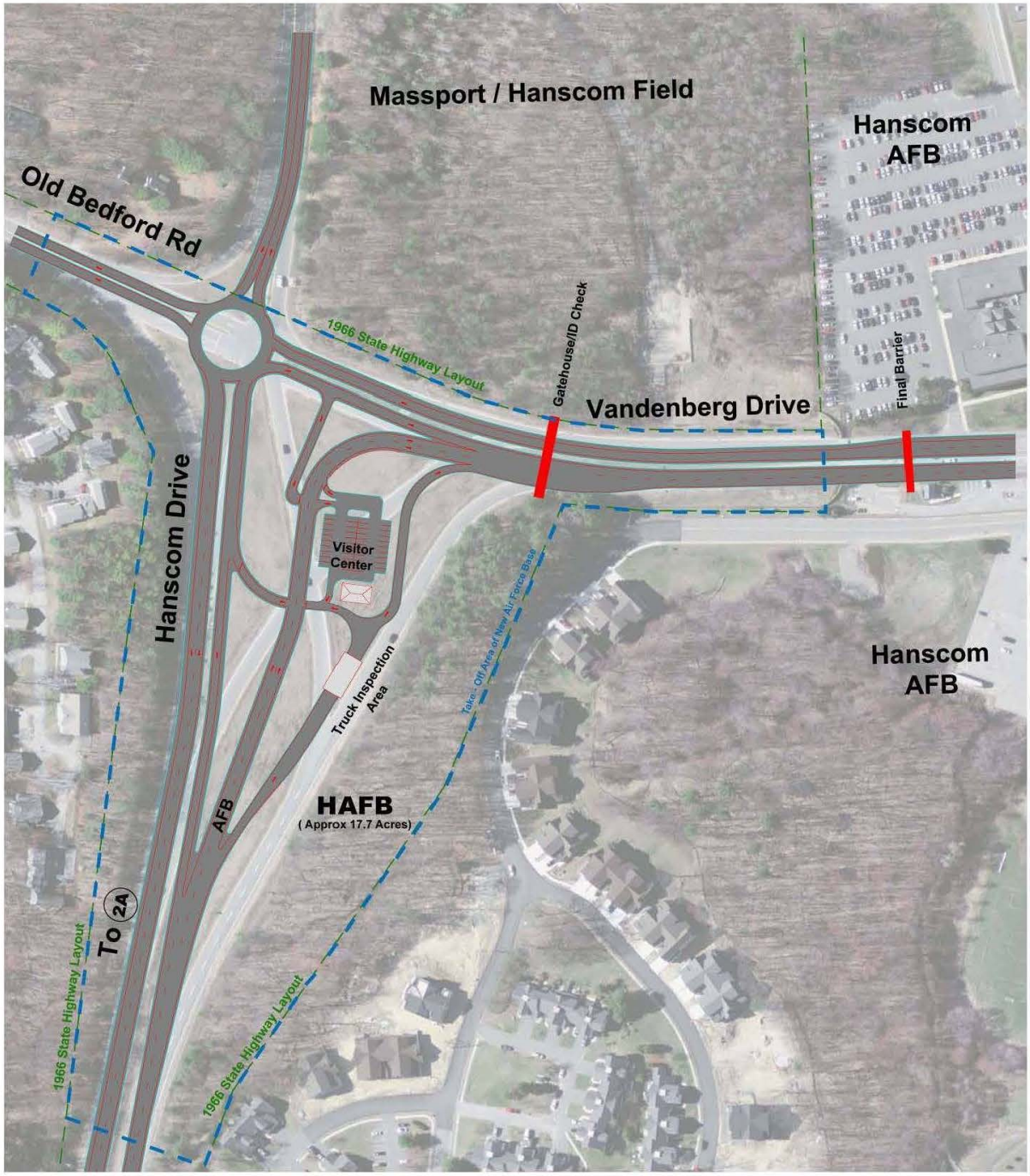
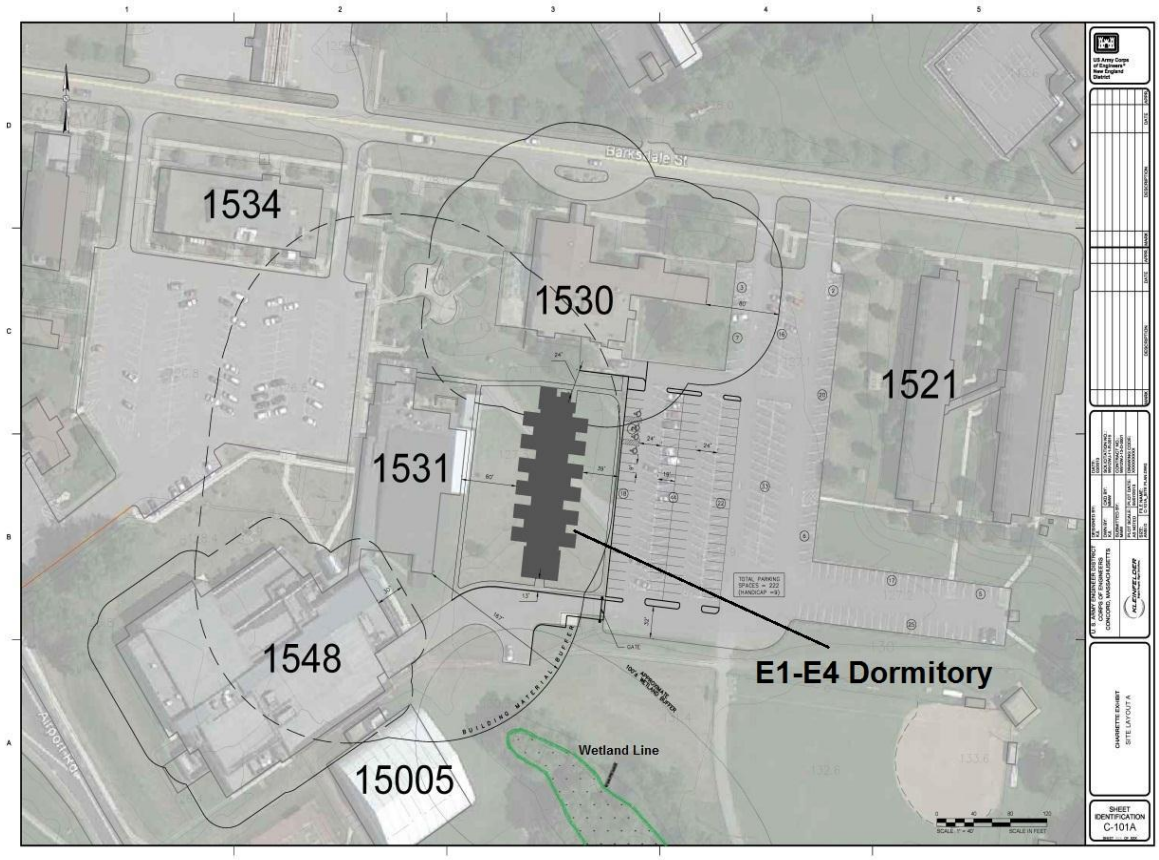


Figure 4 –Airmen Dormitory



2.3. Selection Standards

No other alternatives were determined to be reasonable. Standards for the Vandenberg Gate Complex and Dormitory Construction/Demolition were considered when determining reasonable alternatives. Alternatives that did not meet these standards were not determined to be reasonable alternatives and were eliminated from further analysis.

2.3.1. Vandenberg Gate Complex

The following standards were used to determine reasonable alternatives for the Vandenberg Gate Complex:

1) Meet Purpose and Need of the Proposed Action
2) Environmental Impact

2.3.2. Dormitory Construction and Demolition

The following standards were used to determine reasonable alternatives for the Dormitory Construction and Demolition project:

1) Meet Purpose and Need of the Proposed Action
2) Environmental Impact

2.4. Alternatives Eliminated from Detailed Analysis

2.4.1. Vandenberg Gate Complex

2.4.1.1. Phase 1 – New Search Pit

Alternative Location - Construction of the temporary search area in a location to the west of the existing Hanscom AFB was considers as an alternative location. However, it was determined that the typical queuing of commercial traffic would cause blockages and backups if sited in the left lane and therefore, was not recommended. This alternative location is not a reasonable alternative because it does not meet the purpose and need of the proposed action because it would not improve base access or reduce traffic delays. Near-term base infrastructure improvement goals would also not be met so this alternative location was eliminated from further analysis.

2.4.1.2. Phase II – Vandenberg Gate Complex

Alternative Location – Alternative locations within the confines of Hanscom AFB's existing boundary line were examined for suitability for the Vandenberg Gate Complex construction. Essentially these "on-base" alternatives looked at the possibility of re-configuring the existing Vandenberg Gate entrance to comply with Standards. After exhausting all alternatives, Hanscom AFB concluded that land acquisition was required. The inherent problem with "on-base" alternatives is insufficient space to meet Unified Facilities Criteria (UFC) Standards. The acquisition of the 22 acres of land adjacent to the Vandenberg Gate extends the land area outside the current Vandenberg Gate. An updated entry gate complex at this location would comply with standards while reducing the current traffic congestion problems surrounding the Vandenberg Gate. In short, the preferred alternative location represents Hanscom AFB's only viable alternative for the Vandenberg Gate Complex. Overall, all "on-base" alternative locations do not meet the purpose and need of the proposed action because they would not meet near-term base infrastructure goals, improve base access or reduce traffic. For these reasons alternative locations are not reasonable alternatives and were eliminated from detailed analysis.

2.4.2. Dormitory Construction and Demolition

2.4.2.1. Dormitory Construction

Alternative Location – An alternative location was considered for the construction of the new dormitory (USACE 2013). This area was located to the southeast of Building 1531 and east of a delineated wetland area. This alternative location had increased impacts to wetlands and therefore was not preferred. This location was in a less central area making it not as accessible to community facilities like outdoor recreation, the bowling center, and the theater. This alternative location is not a reasonable alternative because of its potential environmental impact and it is not an optimal location to improve Airman quality of life. Other locations on the base would not be close enough to community facilities and would not meet near-term base infrastructure improvement goals. Other locations are also not reasonable alternatives and were eliminated from further analysis.

Building Orientation – There were two East-West (E-W) building orientation options evaluated; Options 1 located the building towards the north of the site and; Option 2 located the building towards the south of the site which had the advantage of having a shorter run of pipe for the relocation of an existing underground 54" pipe. The E-W southern location option also had the advantage of not being located over peat soil and it also conflicted less with existing utilities (however, the grading for this the southern location was more challenging than the E-W northern location). However, these options were eliminated from further evaluation due to poor sun exposure on the north face of the building which would result in having less light in the bedrooms. The north-south orientation (preferred building orientation option) provided living quarters on either side of the central linear corridor to give all bedrooms and unit living areas partial access to daylighting (either morning or afternoon). These building orientation options would not optimize Airman quality of life so are not reasonable alternatives and are eliminated from further analysis. These options are at the same location as the preferred alternative so the environmental consequences would be nearly identical as the preferred alternative as described in Section 4.

Energy Options - For actions proposing new or expanded federal facilities, the EA must identify alternative energy sources pursuant to EO 13514(2)(f). Three (3) options for generating heat and cooling for the new Hanscom dorm were evaluated. The first option was to utilize gas for heating, the second option was to utilize the existing steam plant, and the third option was to utilize a geothermal system. Utilizing gas was considered to be the most practical, economical and reasonable energy option.

2.4.2.2. Dormitory Demolition

Renovation of Existing Dormitories (Buildings 1510 and 1511) – The current condition of both dormitories (Buildings 1510 and 1511) does not meet current standards. The renovation of the dormitories to meet current standards was determined to be cost prohibitive and would not meet near-term base infrastructure goals. The locations of the existing dorms are not near communities facilities. Construction of a new dormitory was determined to be the most practicable alternative. Renovation of the existing dormitories is not a reasonable alternative because it does not meet installation near-term infrastructure improvement or Airman quality of life goals, so this alternative was eliminated from further analysis.

SECTION 3. AFFECTED ENVIRONMENT

3.1. Land Use

Hanscom AFB is located approximately 22 miles northwest of Boston, MA, just outside the Route 128/I-95 circumferential limited-access highway. The base is located just west of a major light industrial and office park corridor along the limited-access highway. Hanscom AFB, which occupies approximately 846 acres, is situated in the Towns of Bedford, Lexington, and Lincoln, all of which are primarily suburban residential communities. Adjacent to the base is the Hanscom Field, an airport owned and operated by the Massachusetts Port Authority (Massport), part of which is located in the town of Concord to the west. The National Park Service Minute

Man National Historical Park is located to the south of Hanscom AFB (see Figure 1 – Location Map).

3.1.1. Vandenberg Gate Complex

3.1.1.1. – Phase 1 – New Search Pit

The Hanscom AFB's General Plan Update 2003 (PBQD 2003) characterizes land use in the location of the New Search Pit as "Open Space" and "Roads". The new search pit would be located to the east of the existing entrance road to Hanscom AFB. Construction of a 600 linear foot asphalt vehicle search lane, wall, swale and utility lines would require removal of some trees in a vegetated area between the Hanscom AFB entrance road and base housing.

3.1.1.2. – Phase 2 – Vandenberg Gate Complex

As per PBQD 2003, the land use of the Vandenberg Gate Complex property is characterized as "Open Space" and "Roads". Construction of the new gate would occur within an already disturbed area that currently serves as the entrance way to Hanscom AFB, Massport and other businesses and residential developments located to the west via Concord Road. Access roads servicing Massport, businesses and residential developments would be maintained during the construction of the new Vandenberg Gate Complex.

3.1.2. Dormitory Construction and Demolition

3.1.2.1. - Dormitory Construction

As per PBQD 2003, the land use of the proposed dormitory construction site is characterized as "Community-Commercial". The site is a grassed area in between Buildings 1530, 1531 and 1548 and a parking lot. The site is generally flat with a depression in the middle that will need to be filled. There is a wetland located approximately 100 feet to the south of the site and soil borings determined that a layer of peat soil is located in the vicinity of this wetland (USACE 2013). A large underground stormwater pipe system runs parallel and to the east of Building 1531 that carries stormwater and the Shawsheen River. This system is comprised of two 66" pipes and a 54" pipe that transition to three parallel 66" pipes in a large underground structure in this area. A new water main will need to be installed (see Section 3.4.3. for additional information). There are no anticipated changes to the adjacent building uses (Fitness Center and Bowling Alley) and that parking requirements should remain the same.

3.1.2.2. – Dormitory Demolition

As per PBQD 2003, the land use of the existing dorms is characterized as "Housing – Unaccompanied". The existing dormitories (Buildings 1510 and 1511) will be demolished with materials carted off site. Clean fill will be required to infill on the site. The demolition of one building and use of the area as a green space will provide credit towards the Leadership in Energy and Environmental Design (LEED) Silver standard for the dormitory construction project. Use of the space from the demolition of the other building has not been determined as this time.

3.2. Socioeconomic Conditions

Hanscom AFB provides worldwide support for the Air Force Life Cycle Management Center (AFLCMC) and outstanding quality-of-life opportunities for military personnel, their family members and the many workers who are part of Team Hanscom. One of five centers under Air Force Materiel Command, the AFLCMC is the single center responsible for total life cycle management of Air Force weapon systems. The AFLCMC mission is to deliver affordable and sustainable war-winning capabilities to the United States and international partners. Hanscom's host unit is the 66th Air Base Group, which is part of AFLMC. The men and women of the 66th Air Base Group provide outstanding services to more than 3,000 active duty Reserve and National Guard military personnel and DoD civilians who work and live at Hanscom AFB. Additionally, they support more than 125,000 retired military personnel, annuitants and spouses living in the six-state New England area and New York. Hanscom AFB also hosts the Massachusetts Nation Guard Joint Force Headquarters; an administrative complex to support state and federal missions required of the state's National Guard and services a myriad of others throughout the region (HAFB 2014a).

The workforce at Hanscom AFB includes military (active-duty), military (reservists), DoD civilians, non-DoD civilians, and contractors. Hanscom AFB currently maintains a 5,828-strong total workforce. Hanscom AFB's Total Estimated Economic Impact is approximately $8.44 billion with more than 5,500 primary Hanscom jobs and 14,500 secondary jobs created (HAFB 2014a).

3.3. Occupational Safety and Health

All government organizations on Hanscom AFB are provided industrial hygiene support by the Bioenvironmental Office (66 MDS/SDOJ). The Public Health office (66MDS/SGOL) provides support for occupational health training, and organizes and manages the Occupational and Environmental Health Working Group (OEHWG). The OEHWG is chaired by physicians from Flight Medicine. Flight Medicine handles occupational physicals (including audiograms) and work related injury care for government workers. Contractor operations on Hanscom AFB are not supported by the base occupational health programs (i.e., Bioenvironmental Engineering, Public Health, and Occupational Medicine). Contractors are required to comply with the Occupational Safety and Health Administration (OSHA) Regulations and manage their own occupational health programs including industrial hygiene surveillance, worker health and safety training, hazard abatement, and medical surveillance (HAFB 2014b).

All government organizations on Hanscom AFB and geographically separated units are provided occupational and non-occupational safety support by the 66 ABG Safety Office. Support includes Ground, Weapons, and Flight safety programs. Major mishap prevention programs include inspections, hazard abatement, mishap investigation, and training. Safety is also the steward for the base Environmental, Safety, and Occupational Health Council and the Commander’s OSHA Voluntary Protection Program. Contractor operations on Hanscom AFB are required to comply with OSHA Regulations and to manage their own safety programs including hazard abatement, mishap reporting and recording, and safety training (HAFB 2014b).

All contracts for major construction must follow the base civil engineering design review process, and the base Bioenvironmental and Safety offices are included in the process. While it would be the responsibility of the awarded contractor(s) to ensure the safety and health of contractor employees and others at the work site, this process ensures that applicable safety and health requirements are included in the final drawings and specifications for major construction contracts (HAFB 2014b).

3.4. Utilities

3.4.1. Water Supply

Hanscom AFB operates a consecutive community water system that serves approximately 7,400 persons at industrial, commercial, residential, tenant organizations, and MASSPORT (an off-base entity). Under contract, the Town of Lexington supplies the potable water used at the base. Personnel at the Bioenvironmental Engineering Office collect water samples throughout the base for bacteriological (BACT), lead, and copper analysis. Residual chlorine levels and pH of the base drinking water are also monitored. Samples are collected monthly at 11 locations for BACT. Analysis is conducted off-site by the Massachusetts Water Resources Authority (MWRA) laboratory. The laboratory is certified annually through the Massachusetts Department of Environmental Protection (MassDEP) lab certification program. Monthly BACT reports are prepared and sent to the MassDEP (HAFB 2014b).

There is no evidence of and no documentation that any drinking water supply wells are located at the site of the proposed Vandenberg Gate Complex (GZA 2013 in HAFB 2014b). Buildings in the new Vandenberg Gate Complex would be serviced through a new water main which would be connected to existing utilities on the Base. A new water main would also be required for the construction of the dormitory. This water main (estimated to be ten (10) inches in size and buried five (5) feet below grade) would be tapped off an existing ten (10) inch water main in Barksdale Street approximately 400-feet from the proposed building (USACE 2013).

3.4.2. Wastewater

Sanitary wastewater at Hanscom AFB is pumped by two major lift stations (Buildings 1539 and 1306) and three smaller lift sumps, finally leaving the base at Building 1306. The primary lift station at Building 1306 has a wet well storage capacity of approximately 260,000 gallons and is capable of pumping up to 1,500-gallons per minute (gpm). The sanitary waste is pumped under permit via a 10-inch force main, through the Town of Bedford and into the Massachusetts Water Resources Authority (MWRA) wastewater treatment plant. The contract limits the base to an outflow of 1,500-gpm. The base discharges approximately 800-gallons per day (gpd) (550-gpm average) of sanitary wastewater to the MWRA treatment plant (HAFB 2014b) .

No evidence of on-site wastewater generation, treatment, collection, or discharge, including septic systems, was observed at the 22 acre site acquired for the new Vandenberg Gate Complex during the EBS conducted in November 2013 (GZA 2013 in HAFB 2014b.). A new sanitary service main will need to be connected to the existing Hanscom AFB sanitary system to service facilities in the Vandenberg Gate Complex visitor center and other ancillary buildings. A

new eight (8") sanitary sewer main will also be required for the proposed new dormitory building which would be connected to an existing sanitary sewer system to the southeast of the proposed building. The sewer run would be approximately 400-feet long and the bury depth would vary from four to seven feet along the run (USCAE 2013).

3.4.3. Stormwater

There is a complex system of storm drains and catch basins at Hanscom AFB. In addition, portions of the Shawsheen River are conveyed through underground pipes. There are no existing underground stormwater drains in the area of the new Vandenberg Gate Complex. Stormwater management for the new Vandenberg Gate Complex would be accomplished through drainage swales and infiltration chambers.

At the site of the dormitory construction, there is a large stormwater pipe system parallel and to the east of Building 1531 that carries stormwater and the Shawsheen River. This system is comprised of two 66" pipes and a 54" pipe that transition to three parallel 66" pipes in a large underground structure in this area. The existing 54" storm drain must be relocated from the location of the building footprint. This work will likely include a new 54" reinforced concrete pipe (RCP) run, approximately 400-feet long with three manholes, with a depth of approximately seven (7) to nine (9) feet. The existing pipe run, which is approximately 300-feet long, will have to be removed and remodeling work may be required at the downstream pipe junction. The downstream pipe junction is likely a large underground concrete structure that includes two 66" pipes (carrying the Shawsheen River) and the 54" pipe on the inlet side and three 66" pipes on the outlet side. The current plan avoids modification to the existing stormwater vault by tying into the existing 54" pipe outside the vault structure. This work would be done carefully to avoid the two 66" pipes which carry the Shawsheen River to insure water quality is not affected by the construction (USACE 2013).

A base-wide stormwater standard requires that redevelopment projects reduce stormwater rate and volume by 10% over the existing condition for the 2, 10 and 100 year storm events. This will require that a significant volume of stormwater be stored in underground leaching chambers (clean water from the building roof). In addition to leaching chambers, the parking lot would have approximately two new deep sump catch basins and 150 feet of 18" RCP pipe. Additional analysis is being conducted to determine if modifications, such as weir structures, could be installed to reduce the peak rate of run-off in the pipe system as has been done at other sites on base. Existing roof drains from adjacent buildings may need to be relocated based on the changes described above. Some of the existing deep sump catch basins in the parking lot may be able to be retained based on final grading (USACE 2013).

3.4.4. Solid Waste

Approximately 83 tons of solid wastes are generated each week by Hanscom AFB. Some of this material is reused on base, but the majority is removed from Hanscom AFB by private contractors and disposed of by incineration or directly hauled to materials recovery facilities for recycling. The major sources of waste include community operations, offices, and industrial areas. The types of solid waste generated include food, various grades of office paper, newspaper, cardboard, cans, glass and plastic containers, scrap metals, as well as significant

quantities of yard waste and construction and demolition debris. On an annual basis, Hanscom AFB generates approximately 1,555 tons of municipal solid waste and 318 tons of construction and demolition wastes, both of which are incinerated off-base with heat recovery or recycled. Additional materials diverted from the waste stream on an annual basis include: 160 tons of wood waste (pallets, packaging), 1,995 tons of compost/organic materials (tree trunks), 77 tons of metals, 179 tons of general recyclables, and 15 tons of computers/electronics (HAFB 2010a in HAFB 2014b). No evidence of solid waste disposal at the 22 acre property was observed during the EBS conducted in November 2013 with the exception of minor discarded materials as would be typically seen adjacent to a roadway (GZA 2013 in HAFB 2014b).

3.4.5. Electricity

The entire base is primary metered by NStar so that all buildings are connected to a primary distribution system that is owned and maintained by the base. The primary distribution system consists of multiple 14.4 kV circuits distributed underground (USACE 2013).

There are recently installed or improved underground electric utility lines located on the 22-acre parcel proposed as the location of the Vandenberg Gate Complex (GZA 2013 in HAFB 2014b). Utility and communication lines will be installed for construction of the New Search Pit and the Vandenberg Gate Complex; tying into the existing utility lines at a convenient location on base property. The underground electric service to the dormitory building will be provided from a new primary ductbank that would be run from Marrett Street. This line will run overland past Building 15005 and the wetland to the south of the site.

3.5. Transportation

Traffic congestion in the vicinity of the base primarily occurs in the peak morning period as workers arrive from the local and regional highway system. Hanscom AFB commuters primarily use Route 2A and Route 4/225 to access Hanscom Drive and Hartwell Avenue to enter the base. Both of these state routes interchange with the Route 128/I-95 beltway that rings the Boston area and connects to other radial limited-access highways. These routes are also used by commuters from the area towns, as well as others accessing the many industrial and office parks in the area.

Vehicular traffic enters Hanscom AFB via one of three control points (a fourth gate is closed):

- Wood Street Gate - direct access to MIT Lincoln Laboratory (on-base) as well as the rest of the base; connects to Hartwell Avenue on the north and to Massachusetts Avenue on the south.

- Barksdale Gate (Hartwell Gate) – accessed via Hartwell Avenue, which provides direct access to Routes 4/225 and Route 128/I-95.

- Vandenberg Gate - the main gate for visitors, commercial vehicles, and many DoD personnel; access is from Route 2A, Hanscom Drive, and a segment of Old Bedford Road.

The Vandenberg Gate Complex is proposed to alleviate traffic congestion located at the existing Vandenberg Gate.

3.6. Noise

The primary sources of noise in the vicinity of the proposed location of the Vandenberg Gate Complex results from normal operation of Massport's Hanscom Field airport and military flight operations at Hanscom AFB. Even though military flight operations constitute approximately 1% of the total aircraft operations in the vicinity, military flight operations tend to employ noisier aircrafts and therefore, Massport calculates that military flight operations represent 11% of the aircraft-generated noise (HAFB 2003 in HAFB 2014b).

Ground-based vehicle operations at Hanscom AFB consist mainly of privately-owned vehicles and government vehicles. The privately-owned cars are used by regular daily employees and contractors. Government-owned vehicles include on-road maintenance and utility vehicles and off-road equipment, such as sweeper vacuums, cranes, lawn mowers, and forklifts (HAFB 2003 in HAFB 2014b). Noise generated independent of aircraft flight and noise on Hanscom AFB, such as maintenance and shop operations, ground traffic, and construction, is generally comparable to the noise generated in the surrounding community; therefore, noise generated during aircraft flight operations represents the most substantial noise source on the base.

3.7. Air Quality

Hanscom Air Force Base is located in the Metropolitan Boston Intrastate Air Quality Control Region (AQCR), which includes the City of Boston and its outlying suburbs. The project area is also in an area designated as nonattainment or is subject to a maintenance plan. The relevant areas for the project are the Boston-Lawrence-Worcester (Eastern Massachusetts), MA moderate eight-hour ozone nonattainment area and the Boston area carbon monoxide attainment area with an associated maintenance plan. The proposed action involves the use of trucks, heavy equipment, deliveries, construction employee traffic and expansion of existing facilities causing emissions within this air quality region. The figure below shows the air quality area of analysis.

Air Quality Area of Analysis (HAFB 2014d)

Air Quality Regulatory Background:

Ambient Air Quality Standards and Attainment Status

The Clean Air Act (Act) was passed in 1970 and was amended three times (including in 1990, 42 USC 7401 et seq.). The Act establishes the framework for modern air pollution control, and delegates primary responsibility for regulating air quality to the States, with oversight by the U.S. Environmental Protection Agency (EPA). EPA develops rules and regulations to preserve and improve air quality as minimum requirements of the Act, and delegates specific responsibilities to State and local agencies. EPA has identified seven specific pollutants (called criteria pollutants) that are of concern with respect to the health and welfare of the general public. The criteria pollutants are carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ozone (O_3), particulate matter 10 micrometers or less in aerodynamic diameter (PM_{10}), particulate matter 2.5 micrometers or less in aerodynamic diameter ($PM_{2.5}$), and lead (Pb). Recently, the EPA has promulgated several new National Ambient Air Quality Standards (NAAQS) for criteria pollutants, including an eight-hour average O_3 standard of 0.075 parts per million (ppm), a one-hour average NO_2 standard of 100 parts per billion (ppb), a one-hour average SO_2 standard of 75 ppb, and a rolling three-month average Pb standard of 0.15 micrograms per cubic meter ($\mu g/m^3$); EPA has also revoked the NAAQS for the PM_{10} annual averaging time as well as the NAAQS for the SO_2 annual and 24-hour averaging times. Both the 1997 eight-hour O_3 NAAQS and the 2008 eight-hour O_3 NAAQS are currently in effect (HAFB 2014d).

Additionally, the Massachusetts Department of Environmental Protection (MassDEP) has established Massachusetts Ambient Air Quality Standards (MAAQS), which are equal to current or former NAAQS. Currently, Massachusetts has not adopted the 1997 or 2008 eight-hour

average O_3 standards, the 24-hour and annual average $PM_{2.5}$ standards, the three-month Pb standard, the one-hour NO_2 standard, or the one-hour SO_2 standard. The National and Massachusetts standards for criteria pollutants are divided into primary and secondary standards; primary standards are set to protect the public (i.e., human) health with an adequate margin of safety, and secondary standards are intended to protect the public welfare (e.g., environmental quality, such as plant and animal life) (HAFB 2014d).

Areas that do not meet the NAAQS are called non-attainment areas. For non-attainment areas, the Act requires States to develop and adopt State Implementation Plans (SIPs). SIPs are air quality plans showing how air quality standards will be attained. SIPs, which are reviewed and approved by EPA, must demonstrate how the NAAQS will be achieved (HAFB 2014d).

Hanscom AFB is located in the Metropolitan Boston Intrastate AQCR (40 CFR 81.19). As shown in Table 1 below, the AQCR is considered to be in attainment with all NAAQS, with the exception of O_3 for which it is designated as "non-attainment" , although the area is considered "attainment/maintenance" for CO (40 CFR 81.322). Maintenance plans are required to contain measures to keep newly re-designated attainment areas from backsliding into non-attainment. Therefore, stringent emission thresholds continue to apply to Federal actions in maintenance areas (HAFB 2014d).

Pollutant	Designation
Carbon Monoxide	Attainment/Maintenance
Lead	Attainment
Nitrogen Dioxide	Attainment
Ozone (1997 8-hour)	Non-attainment
Ozone (2008 8-hour)	Attainment
Particulate Matter (<10 microns)	Attainment
Particulate Matter (< 2.5 microns)	Attainment
Sulfur Dioxide	Attainment

Attainment/Non-Attainment Designations for Metro Boston, USEPA 2012 (HAFB 2014d)

Massachusetts was designated non-attainment for the one-hour O_3 NAAQS state-wide, with a classification of "serious." Accordingly, MassDEP was required to demonstrate attainment in Eastern Massachusetts and proposed to attain the one-hour NAAQS by December 15, 2007 (MADEP, Final Eastern Massachusetts 1-Hour Ozone NAAQS Attainment

Demonstration SIP, September 2002). However, EPA revoked the one-hour NAAQS on June 15, 2005. Subsequently, Eastern Massachusetts was designated non-attainment for the 1997 eight-hour O_3 NAAQS, with a classification of "moderate." On May 29, 2012, EPA issued a final rule (77 FR 31496), with an effective date of June 28, 2012, finding that Eastern Massachusetts attained the 1997 eight-hour O_3 NAAQS by the applicable attainment date of June 15, 2010. It should be noted that as part of that rule, EPA indicated its finding did not constitute a re-designation to attainment for the 1997 eight-hour O_3 NAAQS. Therefore, the area remains a moderate non-attainment area for the 1997 eight-hour O_3 NAAQS until such time as the area is re-designated to attainment for the 1997 eight-hour O_3 NAAQS or the 1997 eight-hour O_3 NAAQS is revoked. On May 21, 2012, EPA issued a final rule (77 FR 30088), with an effective date of July 20, 2012, with the area designations for the 2008 eight-hour O_3 NAAQS. With the exception of Dukes County, Eastern Massachusetts is designated as attainment for the 2008 eight-hour O_3 NAAQS. Currently, the Project will be subject to addressing the general conformity requirements for O_3 precursors, NO_x and VOC because the area remains a non-attainment area for the 1997 eight-hour O_3 NAAQS (HAFB 2014d).

The primary stationary emission sources at Hanscom AFB are the boilers at the central heating plant. Emissions from these boilers are regulated under Title V of the Clean Air Act Amendments. Because of the ozone non-attainment status, Hanscom AFB utilizes low NOx burners and performs annual NOx Reasonably Available Control Technology (RACT) testing of these boilers. The base's Title V permit also imposes monitoring and record keeping requirements for various "emission units", such as the heat plant, but also for large emergency generators, gas-driven chillers, aboveground and underground storage tanks, and fuel dispensing equipment. Future activities that would generate additional VOC or NOx emissions will be subject to stringent permit limits and associated emission reduction strategies. The current Title V Permit for Hanscom AFB is effective from 9 October 2008 to 9 October 2013, a Title V operating permit renewal application was submitted to MassDEP in April of 2013. As of August 2013, the permit renewal has not been processed and the base has a "permit shield" with MassDEP to operate under the conditions of the Title V Permit that expired 9 October 2013.

Of the approximately 46 emergency generators located on-base, 5 are currently listed as individual emission units in the Title V permit with several others subject to recent updated regulations and planned for inclusion in the renewal permit. The remainder of the generators are considered insignificant sources and bundled together for purposes of estimating emissions (HAFB 2014d). Hanscom AFB also operates 13 small oil fired boilers ranging in size from 0.1 MMBtu/hr to 0.6 MMBtu/hr, these boilers are subject to the USEPA Area Source standards for Commercial boilers (40 CFR 63, subpart JJJJJJ), these were previously bundled together for purposes of estimating emissions but will be listed as individual emission units in the renewed permit (when received). There are no stationary emission sources at the Buildings 1510 or 1511 because they are heated by steam provided by the Central Heat Plant. The existing Visitor Center at the Vandenberg Gate has an electric heating system and the associated guard shacks are heated by portable propane heaters (HAFB 2014d).

The primary mobile sources of emissions in the vicinity include aircraft operation at Massport's Hanscom Field, along with ground vehicles on local and/or base roadways and small combustion engines (e.g. lawn mowers, leaf blowers) (HAFB 2014d).

3.8. Geology and Soils

3.8.1. Geology

Hanscom AFB is located in an area that was occupied by a Pleistocene-age lake known as Glacial Lake Concord. The series of rounded hills and valleys that exist in the area are the result of bedrock structure and glacial erosion. Exposed areas of bedrock are found in the highly elevated outlying areas. Most of Hanscom AFB is underlain by the Andover granite, with a portion of the northeast part of the Base underlain by the Assabet quartz diorite and the Shawsheen gneiss (HAFB 2011 in HAFB 2014b).

The site is located on the portion of the United States Geological Survey (USGS) 7.5 Minute Series Maynard, Massachusetts, Topographic Quadrangle, dated 1987. According to the topographic map the elevation of the site is approximately 60 feet above mean sea level. The topography of the surrounding area and the site vicinity appears to be undulating and generally sloping to the northeast (GZA 2013 in HAFB 2014b).

3.8.2. Soils

The Natural Resources Conservation Service Web Soil Survey for Middlesex County (Version 13 - December 17, 2013) identifies approximately half of the soils on the base as a combination of Udorthents (soils altered by earthmoving activities), Urban Land (soils mostly covered by impervious surfaces) and Urban Land Complexes (Urban Land mixed with other soils). The majority of the remaining soils on base (outside the housing area) are loamy sands or fine sandy loams associated with glaciofluvial deposits (NRCS 2014). Twentieth century earthmoving activities on Hanscom AFB have substantially altered naturally occurring soils on the property.

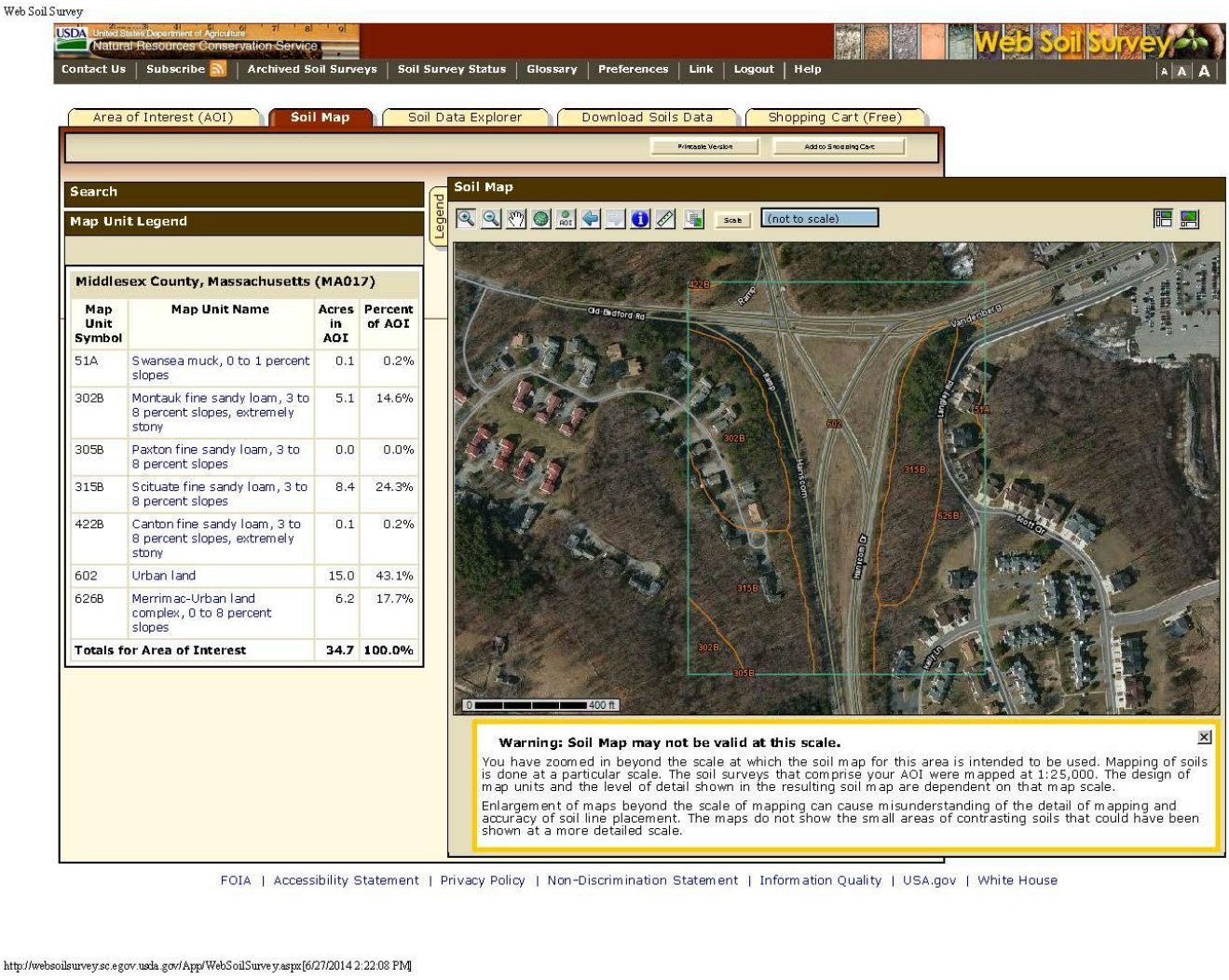
The access road (Hanscom Drive) to Hanscom AFB is identified as Urban Land. The area surrounding the access road retains some original soils classified as fine sandy loam (e.g., soils of the Montauk, Paxton, Scituate, Canton and Merrimac-Urban land Complex series). These soils are characteristically well drained, moderately well drained or excessively well drained. Paxton and Scituate soils are designated as Prime Farmland soils. An area of Swansea muck is located adjacent to the Hanscom AFB housing area. Swansea muck is very poorly drained and found in or near wetlands (NRCS 2104) (see Figure 5 –Vandenberg Gate Complex Project Site Soils).

The location of the dormitory construction and demolition projects are identified as primarily Udorthents and Urban Land. A small area to the south is designated as Windsor loamy sand which is identified as Farmland of Statewide Importance (NRCS 2014) (see Figure 6 – Dormitory Construction and Demolition Project Site Soils). Soil borings conducted as part of site planning show evidence of peat in the soil at approximately 10 feet in depth the southern portion of the project area (USACE 2013).

The Federal Farmland Protection Policy Act (FPPA) of 1981 was enacted to minimize the extent to which federal programs contribute to the irreversible conversion of farmland to nonagricultural uses. The Act applies to farmland with soil types classified as prime, unique, or

of statewide or local importance. Although there are designated prime and statewide important farmland soils located in the Vandenberg Gate Complex and dormitory construction project areas, the definition of "farmland" does not include land already in or committed to urban development or water storage [7 Code of Federal Regulations (CFR) Ch.VI (1-1-03 editions) Section 658.2 Definitions (a)]. Hanscom AFB property is considered "urban development" based upon the density of structures on the site and as such, the FPPA is not applicable.

Figure 5 –Vandenberg Gate Complex Project Site Soils



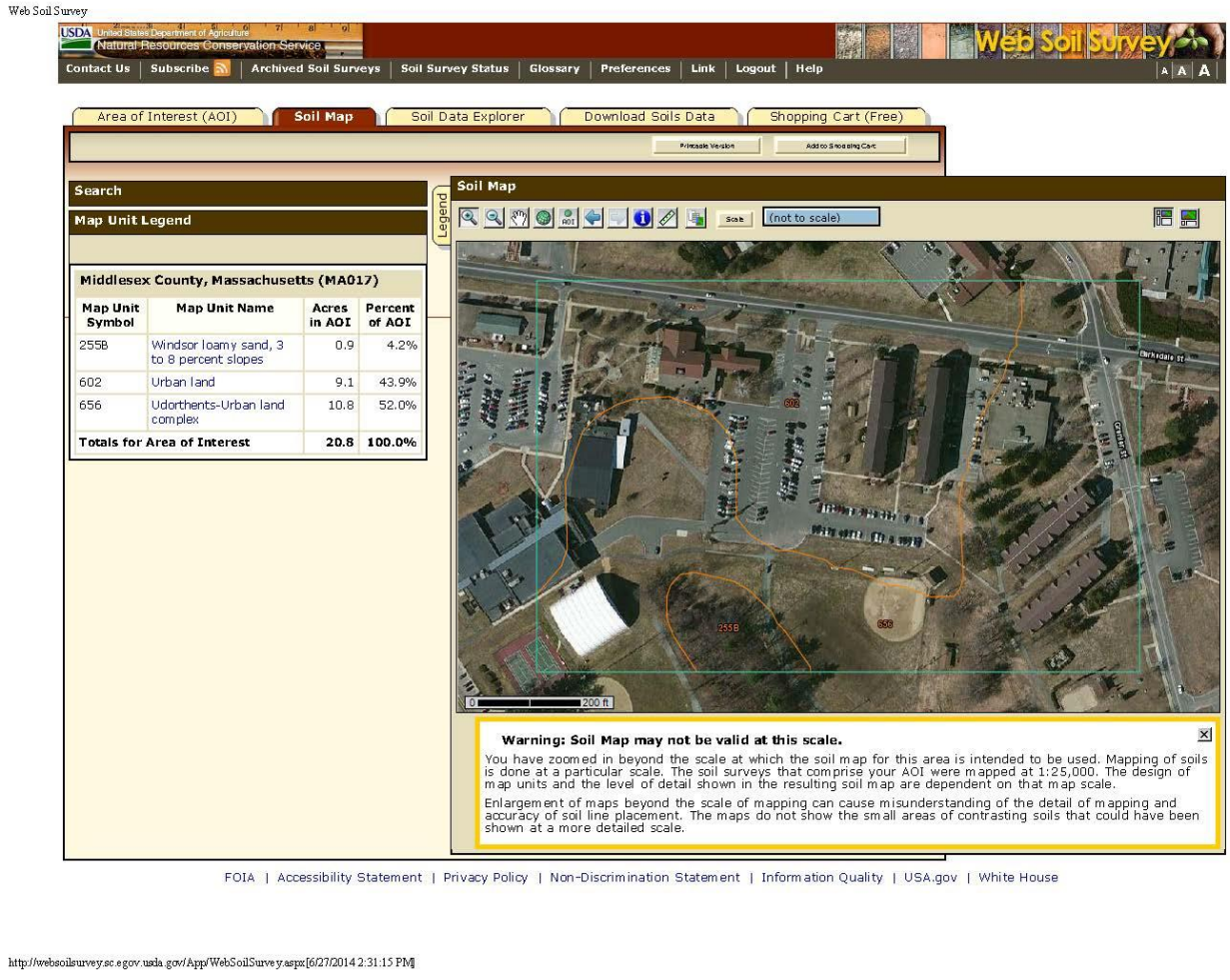
Source: National Resources Conservation Service Web soil Survey
http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

3.9. Surface Water and Groundwater

3.9.1. Surface Water

The headwaters of the Shawsheen River, a tributary to the Merrimack River, are located on Hanscom AFB. Runoff flows north through a culvert near the intersection of Marrett Street and Vandenberg Drive, and flows along the eastern edge of Massport's airfield. The river is confined by steep slopes, ranging from 7 to 15 feet high. The Shawsheen River has been designated by MassDEP as a Class B water body and, as such, is protected as habitat for fish, other aquatic life and wildlife, and for primary and secondary contact recreation. The majority of the surface runoff from Hanscom AFB enters a subterranean system of culverts and drains

Figure 6 –Dormitory Construction and Demolition Project Site Soils



Source: National Resources Conservation Service Web soil Survey http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

into the Shawsheen River. Surface runoff from the eastern portion of the base drains eastward into Kiln Brook, which also drains into the Shawsheen River.

The topography of the site proposed for the Vandenberg Gate Complex is relatively level across the central portion of the site with a slight slope downwards to the northeast. A small unnamed stream (reportedly a tributary/headwaters of the Shawsheen River) traverses the southern portion of the site, flowing west to east and through a culvert system beneath Hanscom Drive. The outlet of the stream along Hanscom Drive flows into a wetland area that has been mapped as being under the jurisdiction of federal, state and/or town laws. The nearest water body is Folly Pond, located approximately 0.4 miles to the southeast of the property (GZA 2013 in HAFB 2014b).

The dormitory building site is a grassed area with relatively flat topography, sloping slightly from west to east. Surface water in this area is discharged through an existing underground stormwater management system. Similar conditions exist at the dormitory demolition site.

3.9.2. Groundwater

Groundwater at Hanscom AFB is fairly shallow, averaging 10 to 20 feet below ground surface (bgs); and is commonly encountered from 3 to 7 feet bgs near wetlands, in the lower elevations of the base, or during periods of seasonally high groundwater elevation. Flow in the upper aquifer is mostly controlled by surface drainage features and storm drainage systems. Groundwater flow in the lower and bedrock aquifers typically follow the topography of the area. In many places, the groundwater contains naturally occurring dissolved iron and manganese that exceed limits for drinking water (HAFB 1998 in HAFB 2014b).

Based on the general topography of the Vandenberg Gate Complex proposed site location and vicinity, the presumed regional groundwater flow direction beneath the site appears to be to the northeast, where the unnamed stream traversing the site converges with the Shawsheen River. Groundwater anomalies may exist beneath the site and vicinity properties due to the influence of subsurface soil types, drainage patterns, paved areas, and/or underground utilities. Groundwater levels may also fluctuate seasonally with varying weather conditions. Shallow groundwater may be located 4 to 7 feet below the ground surface in a north-northeasterly flow direction (GZA 2013 in HAFB 2014b).

3.10. Floodplains

The proposed site of the Vandenberg Gate Complex is located in the Town of Lincoln, MA and the proposed site of the dormitory construction and demolition projects are located partially within the towns of Bedford and Lincoln, MA. These site are located on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map Number 25017C0383E (effective June 4, 2010). Both sites are classified as flood area "Zone X (unshaded)." On the FEMA website, "The areas of minimal flood hazard, which are the areas outside the [Special Flood Hazard Area] SFHA and higher than the elevation of the 0.2-percent-annual-chance flood, are labeled Zone C or Zone X (unshaded) (FEMA 2014)." Therefore, the proposed site is not within a 100-year floodplain, as defined by E.O. 11988.

3.11. Biological Resources

3.11.1. Vegetation

Most of the land area at Hanscom AFB, along with its native vegetation cover, has been altered by the development of base structures, streets, and recreational areas. For the most part, uplands are dominated by roadways, parking areas, structures, and recreational fields. Remnant grasslands occur in scattered patches and linear strips along developed areas occupying less than 5% of the uplands (HAFB 2011 in HAFB 2014b).

The developed areas of Hanscom AFB are planted with grasses, shrubs, and trees for aesthetic reasons and for erosion control. The maintenance program provides grass, shrub, and tree planting guidelines and ensures that the exposure of soils (and resulting erosion) will be minimized. Base horticultural practices (e.g., plant selection, fertilization, terracing) have been standardized to achieve optimal growth and planting success (HAFB 2011 in HAFB 2014b).

The proposed site for the Vandenberg Gate Complex is the northernmost portion of Hanscom Drive (a limited State Highway that is maintain by the Massachusetts Highway Department), portions of Old Bedford Road and Vandenberg Drive. The area is characterized by mowed grass between roadways and along the road right-of-way. These is a narrow wooded buffer area located between the road and Hanscom AFB housing. The wooded buffer is composed primarily of a mixture of white pine (*Pinus strobus*), red maple (*Acer rubrum*), and red oak (*Quercus rubra*).

The building site for the new dormitory is a grassed area in between Buildings 1530, 1531 and 1548 and a parking lot. Similarly, the site of the dormitory demolition project, located approximately 100 yards west of the dormitory construction site, is composed of paved walkways, mowed lawn and landscaping shrubs and small trees.

3.11.2. Wetlands

Three types of wetland resource areas have been identified on Hanscom AFB; wooded swamp deciduous, wooded swamp mixed trees, and shallow marsh meadow or fen according to the Massachusetts Department of Environmental Protection (MassDEP) (January 2009 MassGIS Data - MassDEP Wetlands) (see Figure 7 – MassDEP Wetland Boundaries for Hanscom AFB and Vicinity). This map provides information for planning purposes; however, a more detailed evaluation of wetland resources is necessary for construction projects that have the potential to impact wetland resources.

In the vicinity of the proposed site for the Vandenberg Gate Complex, the MassDEP datalayer identifies a deciduous forested wetland on the west side of Hanscom Drive. The MassDEP datalayer did not identify wetlands in the dormitory construction or demolition area. As part of the detailed analysis of site conditions for the Vandenberg Gate Complex, a wetland was identified on the east side of Hanscom Drive in the vicinity of the new search (see Figure 2 – New Search Pit). As well, detailed site work associated with the planning of the dormitory construction project identified a wetland located approximately 100 feet south (see Figure 8 –

Wetland Area in the Vicinity of the Dormitory Construction Site). Both of these wetland areas are within the town of Lincoln, MA and as such, are under the jurisdiction of the Lincoln, MA Conservation Commission.

Construction activities that will remove, fill, dredge, or alter ponds, wetlands or buffer zones, are prohibited without first obtaining a permit from the Lincoln Conservation Commission. Regulated activities which will likely be conducted as part of the proposed federal activities include (but are not limited to) building construction, vegetation removal, grading or excavation, septic system installation and discharging stormwater. Regulated resource areas include wetlands and ponds, and their associated buffer zone, which extends 100' beyond these protected areas. In addition, riverfront is a regulated resource area that extends 200' out from perennial streams of any size. As well, local by-laws adopted by the Town of Lincoln provide greater protection to wetland resources than state law. The inner 50' of the wetland buffer zone is a no-disturb area and isolated areas of flooding, including vernal pools, are protected and so are water bodies themselves. An outline of the typical process for filing a permit application for jurisdictional activities can be found on the Town of Lincoln Conservation Commission website (http://www.lincolntown.org/DocumentCenter/View/258) (TOL 2014).

3.11.3. Wildlife

Hanscom AFB lacks continuity of undisturbed areas. While the fragmented nature of the base habitat has created a favorable environment for avian and small mammal species well adapted to humans and development, wildlife abundance and species diversity are relatively low at Hanscom AFB, principally due to extensively developed areas and/or degraded natural habitats. Less developed portions, especially areas, located near wetlands are more suitable for wildlife. These habitat areas, however have been largely subject to reconfiguration by human activities. Due to the level of development of the land on Hanscom AFB, hunting, fishing, and trapping programs are inappropriate. Management concerns for fish and wildlife are essentially limited to wildlife population control and monitoring for the reduction/elimination of current wildlife inhabitants and the appearance of species formally not found on the base (HAFB 2011 in HAFB 2014b).

The proposed site of the Vandenberg Gate Complex (Hanscom Drive) is a wide open area devoid of structural vegetation and therefore, provides limited habit to wildlife species. Wild turkey (*Meleagris gallopavo*) is occasionally seen foraging on insects, berries, and seeds in the grassy, mowed road right-of-way. Wildlife species in the dormitory construction and demolition area are typically limited to birds and small mammals well adapted to areas with human disturbance.

Figure 7 – MassDEP Wetland Boundaries for Hanscom AFB and Vicinity

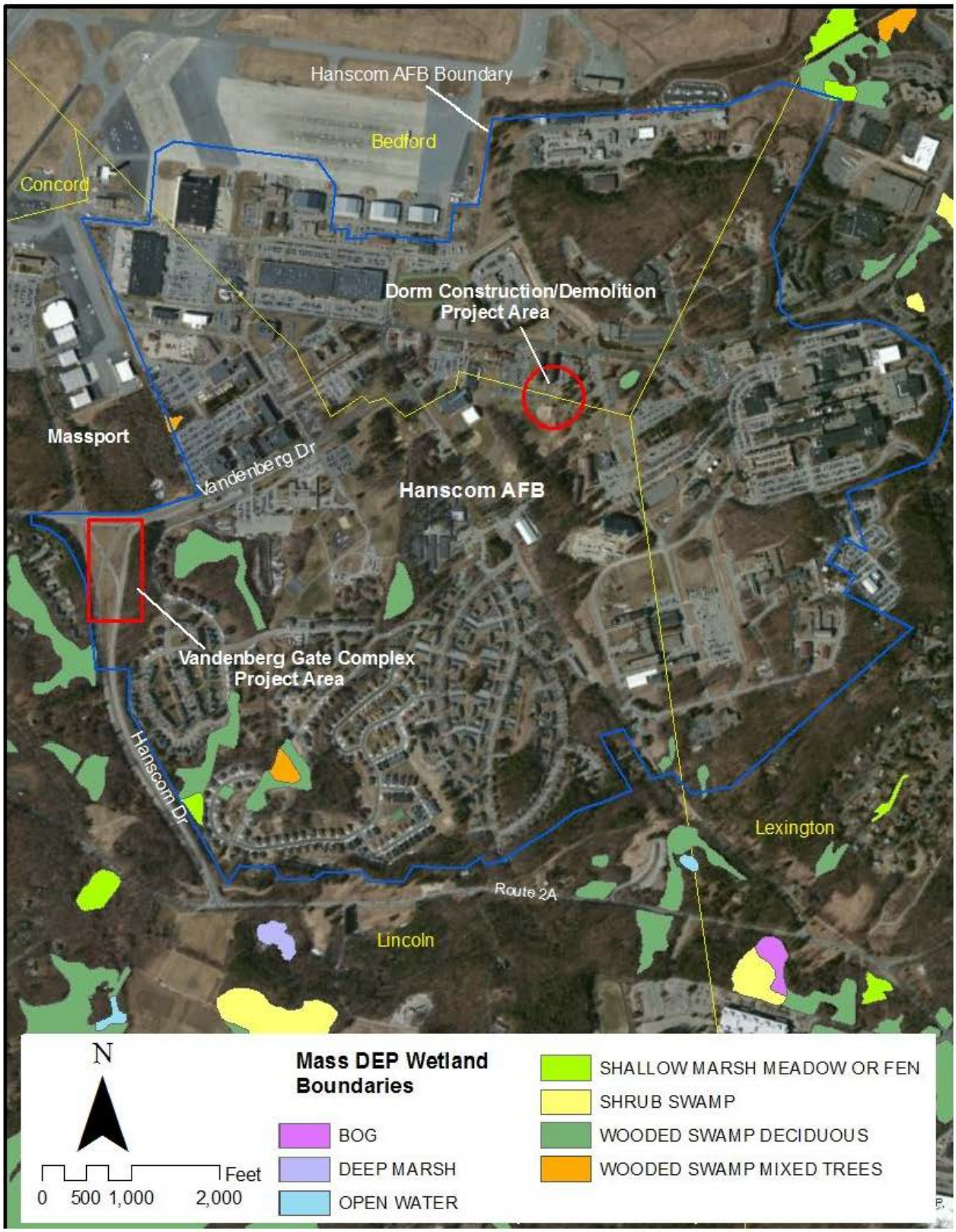
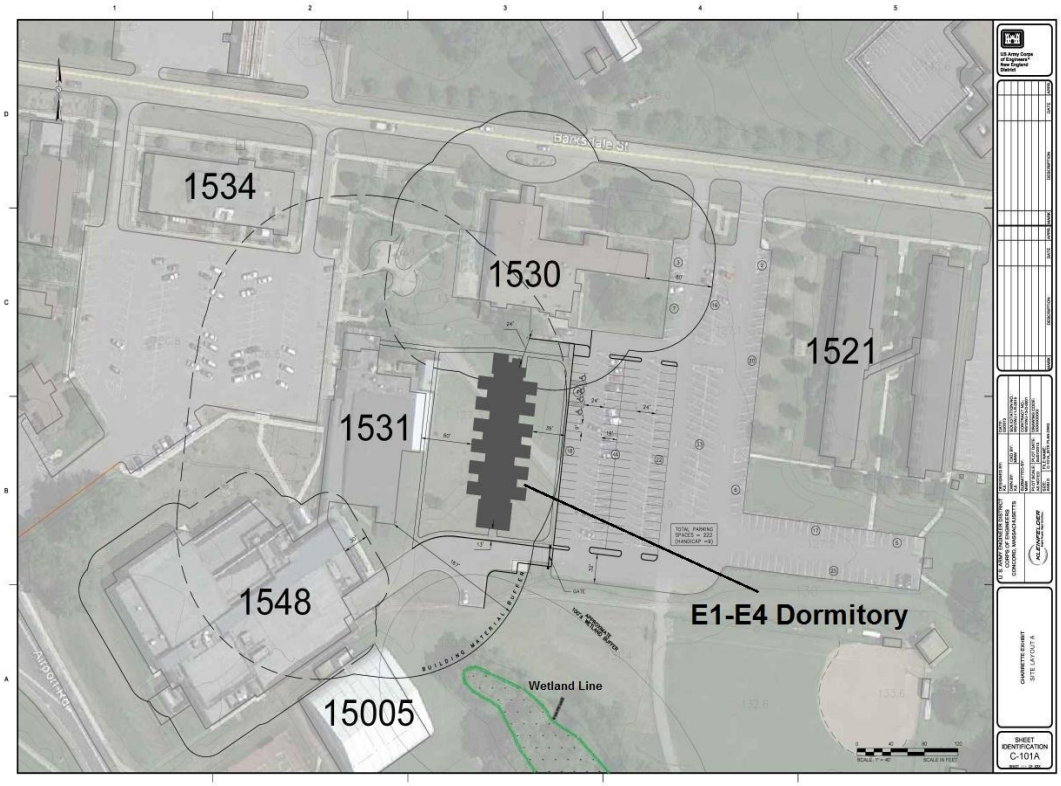


Figure 8 – Wetland Area in the Vicinity of the Dormitory Construction Site



3.11.4. Threatened or Endangered Species

There are no federally listed or proposed threatened or endangered species at Hanscom AFB (USFWS 2014). There are, however, two state listed species that have been identified at Hanscom AFB. The Natural Heritage and Endangered Species Program (NHESP) of the Massachusetts Division of Fisheries & Wildlife have identified portions of Hanscom AFB as within *Priority Habitat*, Priority Habitat 300 (PH 300), of the state-listed species, Grasshopper Sparrow, *Ammodramus svannarum*, and the Upland Sandpiper, *Bartramia longicauda* (HAFB 2011 in HAFB 2014b).

The Grasshopper Sparrow (*Ammodramus svannarum*), listed as threatened, and Upland Sandpiper (*Bartramia longicauda*), listed as endangered are known to inhabit the grasslands adjacent to the runways on Massport's Hanscom Field and a small portion of the Hanscom Family Campground (FAMCAMP) that abuts the airstrip. Neither the Vandenberg Gate Complex nor the dormitory construction project areas are located within designated Priority Habitats (NHESP 2008). The NHESP confirmed that the proposed projects are not located within Priority Habitat for state-listed species, and thus do not require a review pursuant to the Massachusetts Endangered Species Act (MESA) (NHESP 2014).

3.12. Cultural Resources

A survey of all historic and archaeological properties within the Main Base of Hanscom AFB (HAFB), including areas of archaeological sensitivity, has been documented in the December 2010 Integrated Cultural Resources Management Plan (ICRMP) prepared by John Milner and Associates (JMA) under the auspices of HAFB, 66 ABG/CEV (HAFB 2010b). Although the ICRMP also includes off-site properties that are under the jurisdiction of Hanscom, this section will focus only on the Main Base which is the location of the proposed undertakings. The Main Base consists of 846 acres within the towns of Bedford, Lexington, and Lincoln, Massachusetts (MA), and can be characterized as developed with an airfield, laboratories, offices and housing throughout the property (HAFB 2010b:17).

The Main Base is adjacent to the Minute Man National Historical Park (MMNHP), which was established in 1959 to commemorate the events of April 19, 1775 and is listed on the National Register of Historic Places (NRHP). MMNHP borders HAFB on the southeast and southwest. Battle Road, which runs along the southern boundary of the Main Base in Lincoln and Lexington, was the route the British took in both their advance on and retreat from Concord during the Battle of April 19, 1775. The place where Paul Revere was captured, as well as many sites where heavy fighting took place, is found along this route. The area of Parker's Revenge/Ambush and Nelson's Boulders, which served as naturally fortified positions from which the militia fired on the British, are located on the Main Base property (HAFB 2010b:84). A 2007 intensive archaeological survey of the HAFB's southern border adjacent to the MMNHP Nelson Road Area identified artifacts associated with Parker's Revenge/Ambush (HAFB 2010b:120-1).

Numerous historic and archaeological properties are recorded in the site files of the Massachusetts Historical Commission for the vicinity of HAFB. Although there are no recorded Native American archaeological sites within the Main Base, a total of 11 areas of moderate/high sensitivity for archaeological resources were identified (HAFB 2010b:84).

In May 2010, HAFB conducted an architectural survey and NRHP eligibility evaluation of historic properties that included the Main Base. These studies identified two areas and two individual buildings that were considered eligible for the NRHP (HAFB 2010b:9):

<u>Areas on Main Base:</u>
AFRL Phillips Lab (the Cambridge Research Center) – 12 properties, 90 acres
AFRL Katahdin Hill – 24 properties, unknown acreage

<u>Individual Historic Properties on Main Base:</u>
Experimental SAGE Direction Center, Building 1302F
Kuljian "Double Cantilever (DC)" Hangar, Building 1715.

More recently, HAFB completed an Environmental Assessment (EA) for the land acquisition portion (real estate transaction) for the new Vandenberg Gate Complex (HAFB 2014b). Cultural resource information compiled in this EA was also summarized and incorporated from the ICRMP referenced above (HAFB 2010b).

3.13. Environmental Restoration Program / Hazardous Waste

3.13.1. Environmental Restoration Program

Hanscom AFB has historically used, generated, and disposed of numerous hazardous substances, including fuel, aromatic solvents, Polychlorinated Biphenyl's (PCBs), and chlorinated solvents. In 1984, environmental studies identified 13 sites, related to past practices at Hanscom AFB, warranting further investigation and potential cleanup through the Installation Restoration Program (IRP), now called the Environmental Restoration Program (ERP). Subsequent discoveries increased the number of sites to 22. Each site was evaluated using the Air Force Hazard Assessment Rating Methodology (HARM), which evaluates potential receptors, waste characteristics, and migration pathways in order to determine the relative potential of uncontrolled hazardous waste disposal facilities to cause health or environmental damage. HARM scores ranged from 86 (high hazard potential) to 6 (small hazard potential). Of the 22 identified potentially contaminated sites, 8 are still active and are either regulated by the USEPA under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or by the Commonwealth of Massachusetts (GZA 2013 in HAFB 2014b). Sites 13 and 22 are located northeast of the proposed new dormitory site across Barksdale Street. Both sites 13 and 22 are hydraulically downgradient from the proposed new dormitory. Site 4, which is the closest ERP site, is located approximately ¾ of a mile away from the new Vandenberg Gate Complex. Both the new dormitory and gate are located hydraulically upgradient from all ERP sites (HAFB 2014c).

3.13.2. Hazardous Waste

Hazardous waste generated on the base comes from the normal operation and maintenance activities of the 66 ABG organizations, as well as from the research and development operations at the MIT Lincoln Laboratory. Hazardous wastes, including adhesives, sealants, greases, waste paint and thinners, solvents, and corrosive cleaning compounds are accumulated at initial accumulation points (IAPS), and transferred to the 90-day accumulation site, with final disposal off-base. Hanscom AFB has both a Hazardous Materials Operations Plan and a Hazardous Waste Management Plan that targets reducing the purchases of industrial toxic substances, eliminating the purchase of ozone depleting chemicals, and reducing the amount of hazardous waste disposed.

The EBS conducted in November 2013 categorized most of the property acquired for the Vandenberg Gate Complex as Category 1 with the exception of areas that include three pole-mounted transformers on the Hanscom and Vandenberg Drive right-of-ways that are assumed to contain PCBs that were categorized as Category 2. "Category 1 – No storage, release, or disposal has occurred. Property where no hazardous substances or petroleum products or their derivatives were stored, release into the environment or structures, or disposed on the subject property and where no migration from adjacent areas has occurred. Category 2 – Areas where only storage of hazardous substances or petroleum products has occurred (but no release, disposal, or migration from the site or adjoining properties has occurred (GZA 2013)." (GZA 2013 in HAFB 2014b).

The proposed dorm site is approximately 1000 feet from the Army & Air Force Exchange Service (AAFES) gas station and Motor Pool that are on the other side of Barksdale Street. No

concerns were noted by the Hanscom AFB Restoration Program Manager (Hanscom 2014c). With regard to the site of dormitory demolition, various confirmed and potential hazardous material-containing building components and items were observed within the surveyed areas (Dewberry 2013). In addition, Cardno ATC performed a representative visual hazardous materials survey within accessible areas of the Building #1510 which is currently occupied and scheduled for demolition. The objective of the hazardous materials survey was to evaluate the presence of polychlorinated biphenyl (PCB)-containing ballasts, sealants (i.e., caulk and glazing), and electrical equipment; mercury-containing electrical and building components; and other potential hazardous materials that will require disposal as part of the proposed demolition project. Based on the findings of the limited survey, PCB concentrations greater than the laboratory method detection limits were not observed in any sealant material.

Cardno ATC also performed a lead paint determination on representative interior and exterior painted surfaces that will be impacted by the proposed demolition project. Results of the lead determination indicate that lead is present on interior walls, wood, plaster and metal components. An asbestos survey was also performed. None of the suspect building materials identified and sampled by Cardno ATC were reported to contain asbestos (Dewberry 2013).

A hazardous materials survey was not conducted for Building #1511. A hazardous materials survey of Building #1511 will be conducted prior to demolition activities. However, the two buildings were constructed in a similar manner and therefore, similar results are expected.

SECTION 4. ENVIRONMENTAL CONSEQUENCES

4.1. Land Use

4.1.1. No-Action Alternative

The no-action alternative would continue operations at Hanscom AFB with no changes. Land use would not be impacted during the implementation of the no-action alternative.

4.1.2. Alternative 1 - Preferred Alternative – Vandenberg Gate Complex

The Preferred Alternative is for the Vandenberg Gate Complex to be constructed on a 22-acre parcel of land located immediately adjacent to the existing Vandenberg Gate. Phase I involves the construction of a new Search Pit and Phase II of the project involves the construction of a new entrance gate, the Vandenberg Gate Complex.

4.1.2.1. Phase 1 – New Search Pit

The Hanscom AFB General Plan Update 2003 (PBQD 2003) characterizes the land use in the location of the Search Pit as “Open Space” and “Roads”. The new Search Pit involves the construction of 600 linear feet of asphalt, a retaining wall and swale on the east side of Hanscom Drive. The Search Pit will be used to provide enhanced security while the Vandenberg Gate Complex is being constructed (see Figure 3 – Vandenberg Gate Complex). Construction will involve the removal of some trees in the vegetated buffer between Hanscom Drive and Hanscom

AFB housing; however, overall land use in the area is expected to remain similar. Therefore, no significant short or long-term impacts to land use for the construction of the new Search Pit are expected.

4.1.2.2. Phase II - Vandenberg Gate Complex

Land use in the location of the Vandenberg Gate Complex is characterized as "Open Space" and "Roads" (PBQD 2003). Phase II involves the construction of the Vandenberg Gate Complex on a 22 acre parcel which currently provides access roadways for business offices, Massport and Hanscom AFB. Following completion of the project, the Vandenberg Gate Complex visitor center could warrant the addition of a "Community Service" land use designation. However, this change in land use is not considered to be significant. However, the site will continue to provide some grassy open space and access roads to business offices, Massport and as well as Hanscom AFB. Therefore, no significant short or long-term impacts to land use for the construction of the Vandenberg Gate Complex are expected.

4.1.3. Preferred Alternative - Dormitory Construction/Demolition

The preferred alternative to provide housing to the Airmen is the construction of a new Airmen Dormitory and the demolition the old dormitories (Buildings 1510 and 1511).

4.1.3.1. Dormitory Construction

As per PBQD 2003, the land use of the proposed dormitory construction site is characterized as "Community-Commercial". The building site for the new dormitory is a grassed area in between Buildings 1530, 1531 and 1548 and a parking lot. It would be expected that the characterization of the area would change to "Housing – Unaccompanied" following the construction of the dormitory. However, there are no anticipated changes to the adjacent building uses (Fitness Center and Bowling Alley) and the parking requirements should remain the same. The area is already a structured environment and therefore, the short-term and long-term impacts to this change in land use are expected to be minimal.

4.1.3.2. Dormitory Demolition

As per PBQD 2003, the land use of the existing dormitory site is characterized as "Housing –Unaccompanied". The existing dormitories (Buildings 1510 and 1511) will be demolished as part of project activities. The demolition of one building will provide credit towards the LEED Silver standard and therefore, land use will change to a green space (providing stormwater infiltration benefits). The use of the space from the demolition of the other building has not been determined at this time. It is expected that the land use designation for the will change to "Open Field". The short-term and long-term impacts to this change in land use are expected to be minimal.

4.2. Socioeconomic Conditions

4.2.1. No-Action Alternative

The no-action alternative would continue operations at Hanscom AFB with no changes. Socioeconomic Conditions would not be impacted during the implementation of the no-action alternative.

4.2.2. Preferred Alternatives – Vandenberg Gate Complex/Dormitory Projects

The preferred alternatives include the construction of the Vandenberg Gate Complex and the construction of a new Airmen dormitory and demolition of the old dormitories. The construction of the preferred alternatives is expected to have a positive and cohesive impact on the Hanscom AFB community. These projects would also create short-term business in the local construction industry. Another benefit is that as construction employees utilize local businesses, more revenue is generated in the short term. In addition, currently, Hanscom AFB has a regional economic impact estimated to be approximately $8.44 billion and supports workforce of more than 5,500 primary Hanscom jobs and 14,500 secondary jobs. The upgrading of non-compliant and aging infrastructure will support the continued viability of Hanscom AFB as a premier military base and concentration area for regional economic activity over the long-term. Therefore, a positive impact to socioeconomic conditions is anticipated to occur with the Preferred Alternatives.

Executive Order's 12898 and 13045 mandate that federal agencies identify Environmental Justice issues where disproportionately high and adverse human health or environmental effects on minority and low-income populations, and children may occur. No minority or low-income populations were identified at Hanscom AFB or surrounding area, so the Preferred Alternatives would not disproportionately impact the types of individuals or communities resulting in environmental justice concerns.

4.3 Occupational Safety and Health

4.3.1 No-Action Alternative

The no-action alternative would continue operations at Hanscom AFB with no changes. Occupational Safety and Health would not be impacted during the implementation of the no-action alternative.

4.3.2. Alternative 1 – Preferred Alternative – Vandenberg Gate Complex

All contracts for major construction must comply with the Occupational Health and Safety Administration (OSHA) Regulations and follow the base civil engineering design review process to assure worker safety during construction at the worksite. Therefore, no short-term impacts to Occupational Safety and Health are anticipated. Over the long-term, the construction of a new entry control facility to Hanscom AFB will improve traffic flow into Hanscom AFB and enhance the operation of the installation's main entry control point. The new entry facility

will comply with current safety standards and will reduce traffic congestion thereby providing long-term benefits to the occupational safety and health of Air Force employees and others using the access road to Hanscom AFB.

4.3.3. Alternative 1 – Preferred Alternative – Dormitory Construction/Demolition

All contracts for major construction must comply with the Occupational Health and Safety Administration (OSHA) Regulations and follow the base civil engineering design review process to assure worker safety during construction at the worksite. Therefore, no short-term impacts to Occupational Safety and Health are anticipated. Over the long-term, the construction of a new Airmen dormitory will provide unaccompanied enlisted personnel with housing conducive to their proper rest, relaxation, and personal well-being. The new dormitory will comply with existing standards for security, resident access and entry and comply with the Facility Design Guide for Enlisted Dormitories. These properly designed and furnished quarters will support the leisure, entertainment and rejuvenation requirements of Airmen so crucial to the successful accomplishment of the important jobs these individuals perform. As such, the Preferred Alternative will have long-term benefits to the occupational safety and health of Air Force employees and other at the Base.

4.4 Utilities

4.4.1. Water Supply

4.4.1.1. No-Action Alternative

The no-action alternative would continue operations at Hanscom AFB with no changes. Implementation of the no-action alternative would result in no change to the usage level of existing site's water supply.

4.4.1.2. Alternative 1 – Preferred Alternative – Vandenberg Gate Complex

The installation of a water main would be required to service facilities associated with the Vandenberg Gate Complex which would tap into an existing water main in the location of the existing Vandenberg Gate. It is not anticipated that implementation of the Preferred Alternative will result in a substantial increase in water usage since the Vandenberg Gate Complex will be replacing an existing gate facility.

4.4.1.3. Alternative 1 – Preferred Alternative – Dormitory Construction/Demolition

A new water main will be required for the dormitory construction project. This would be tapped off an existing ten (10) inch water main in Barksdale Street approximately 400-feet from the proposed building. The construction of the new dormitory will replace two deteriorating dormitories and as such, it is anticipated that water usage will remain similar. The water main for the existing dorms will be decommissioned during the demolition process.

4.4.2. Wastewater

4.4.2.1. No-Action Alternative

The No-Action alternative would continue operations at Hanscom AFB with no changes. Implementation of the no-action alternative would result in no change to the wastewater discharge level of existing site utilities.

4.4.2.2. Alternative 1 – Preferred Alternative – Vandenberg Gate Complex

A new sanitary sewer system will need to be installed to service the Vandenberg Gate Complex visitor center and other ancillary buildings. A contract with the Massachusetts Water Resources Authority (MWRA) wastewater treatment plant limits the base to an outflow of 1,500-gpm. The base currently discharges approximately 800-gallons per day (gpd) (550-gpm average) of sanitary wastewater to the MWRA treatment plant (HAFB 2014b). It is not anticipated that a new sanitary wastewater system will substantially increase wastewater discharge or exceed contract thresholds since the Vandenberg Gate Complex will be replacing an existing gate facility.

4.4.2.3. Alternative 1 – Preferred Alternative – Dormitory Construction/Demolition

A new eight (8") sanitary sewer main will be required for the proposed building. This can be connected to an existing sanitary sewer system to the southeast of the proposed building. The new Airmen dormitory will replace two existing dormitories and as such, an increase in sanitary wastewater discharge is not anticipated. The sanitary wastewater main for the existing dorms will be decommissioned during the demolition process.

4.4.3. Stormwater

4.4.3.1. No-Action Alternative

The no-action alternative would continue operations at Hanscom AFB with no changes. Implementation of the no-action alternative would result in no change to the existing site solid waste generation rates.

4.4.3.2. Alternative 1 – Preferred Alternative – Vandenberg Gate Complex

There are no existing underground stormwater drains in the area of the new Vandenberg Gate Complex. The addition of a new visitor center and gate complex would create more impervious surface, even though two existing building/structures would be demolished. Stormwater management systems that utilize the pervious landscape, vegetative filtration, sediment removal, infiltration via bioswales, deep sump catch basins, and detention basins are examples of options that could be considered to offset any increase in impervious surface. Drainage design must meet Massachusetts Stormwater Management Standards, as well as comply with the Federal Clean Water Act. As a matter of general policy at Hanscom AFB, the future proposed action must be designed to result in a net decrease in runoff and an increase in

detention and/or groundwater recharge. Therefore, no short or long-term increase to the existing stormwater system is anticipated with the Vandenberg Gate Complex project.

4.4.3.3. Alternative 1 – Preferred Alternative – Dormitory Construction/Demolition

The dormitory construction project will tie into the existing stormwater system. This work would be done carefully to avoid the two 66" pipes which carry the Shawsheen River to insure water quality is not affected by the construction (USACE 2013). In addition, the construction of infiltration chambers (for roof runoff) and other stormwater best management practices will assure compliance with a base-wide stormwater standard that requires redevelopment projects to reduce stormwater rate and volume by 10% over the existing condition for the 2, 10 and 100 year storm events. As such, it is anticipated that this project will have an overall positive benefit by reducing stormwater flow rates to the existing Hanscom AFB stormwater system.

4.4.4 Solid Waste

4.4.4.1. No-Action Alternative

The no-action alternative would continue operations at Hanscom AFB with no changes. Implementation of the no-action alternative would result in no change to the existing site solid waste generation rates.

4.4.4.2. Alternative 1 – Preferred Alternative – Vandenberg Gate Complex

There would be a short-term increase in solid waste generated during the construction of the Vandenberg Gate Complex and demolition of the existing gate facility. However, solid waste management would be in compliance with Hanscom AFB recycling policies to minimize the amount of solid waste disposed without beneficial reuse during demolition, construction, and operation of the new facility. Long-term impacts are not anticipated as the major sources of waste include community operations, offices, and industrial areas and the Vandenberg Gate Complex is replacing an existing gate facility.

4.4.4.3. Alternative 1 – Preferred Alternative – Dormitory Construction/Demolition

The short and long-term impacts generated during the construction of the dormitory construction/demolition project are similar to the Vandenberg Gate Complex (see Section 4.4.4.2.).

4.4.5. Electricity

4.4.5.1. No-Action Alternative

The no-action alternative would continue operations at Hanscom AFB with no changes. Implementation of the no-action alternative would result in no change to the existing electrical distribution system.

4.4.5.2. Alternative 1 – Preferred Alternative – Vandenberg Gate Complex

There are recently installed or improved underground electric utility lines located on the 22-acre parcel proposed as the location of the Vandenberg Gate Complex (GZA 2013 in HAFB 2014b). Utility and communication lines will be installed for construction of the New Search Pit and the Vandenberg Gate Complex; tying into the existing utility lines at a convenient location on base property. A substantial increase in the use of electricity is not anticipated since the Vandenberg Gate Complex will be replacing an existing gate facility.

4.4.5.3. Alternative 1 – Preferred Alternative – Dormitory Construction/Demolition

The underground electric service to the dormitory building will be provided from a new primary ductbank that would be run from Marrett Street. Although a new electrical service will be provided for the new dormitory, a substantial increase in the use of electricity is not anticipated since the new dormitory will be replacing existing dormitories. Electrical service to the existing dormitories will be decommissioned during demolition.

4.5. Transportation

4.5.1. No-Action Alternative

The no-action alternative would continue operations at Hanscom AFB with no changes. Implementation of the no-action alternative would result in no impacts regarding transportation.

4.5.2. Alternative 1 – Preferred Alternative – Vandenberg Gate Complex

The Vandenberg Gate Complex is designed to reduce traffic congestion at the eastern-most entry (current Vandenberg Gate) which is the main gate for visitors, commercial vehicles, and many DoD personnel. There may be some increased traffic delays due to construction activities in the short-term but these should be minimized with the implementation of the a Traffic Control Plan. Access to Massport, business and local residents and to Hanscom AFB will be maintained during construction. The construction of the Vandenberg Gate Complex will have a beneficial long-term effect on transportation by alleviating traffic delays, especially during the peak morning period as workers arrive from the local and regional highway system.

4.5.3. Alternative 1 – Preferred Alternative – Dormitory Construction/Demolition

The new dormitory project provides one parking space for each resident. The dormitory parking reuses (with new striping and handicapped spaces located close to the proposed building entrance) the existing parking lot to the east while maintaining current traffic patterns. Therefore, no short or long-term transportation impacts are anticipated with the construction of the new Airmen dormitory or the demolition of the existing dormitories.

4.6. Noise

4.6.1. No-Action Alternative

The no-action alternative would continue operations at Hanscom AFB with no changes. Implementation of the no-action alternative would result in no impacts regarding noise.

4.6.2. Alternative 1 – Preferred Alternative – Vandenberg Gate Complex

The noise generated during aircraft flight operations represents the most substantial noise source on the base which will not change as a result of the construction of the Vandenberg Gate Complex. Some short-term increase in noise may be realized during the construction of the Vandenberg Gate complex and demolition of the existing gate. Over the long-term, the level of noise may be reduced to a small degree through the alleviation of traffic congestion caused primarily by privately-owned vehicles entering the base at the Vandenberg Gate, especially during the peak morning commuting hours. However, no substantial short or long term impacts to noise levels in the general vicinity are anticipated with the Preferred Alternative.

4.6.3. Alternative 1 – Preferred Alternative – Dormitory Construction/Demolition

Some short-term increase in noise may be realized during the construction and demolition of the Airmen dormitories. However, no substantial short or long term impacts to noise levels on Hanscom AFB are anticipated with the Preferred Alternative.

4.7. Air Quality

4.7.1 No-Action Alternative

The no-action alternative would continue operations at Hanscom AFB in its existing condition. Air Quality at the existing facility would remain constant as those associated with vehicular traffic and boilers at the central heating plant, the primary stationary emission source. Air quality would not be impacted during implementation of the no-action alternative.

4.7.2. Alternative 1- Preferred Alternatives - Vandenberg Gate Complex

The preferred alternative may result in short-term localized air quality impacts. All construction vehicles and some equipment would produce emissions that could temporarily affect air quality. The construction activities have the potential to generate fugitive dust. Material loading and transfer (gravel and topsoil), and grading also have the potential to generate fugitive dust. Dust would be controlled onsite by using water to wet down disturbed areas. Moreover, the number of vehicles and the duration of construction required to perform the work is limited. Emissions are therefore not anticipated to cause an adverse impact to regional air quality.

The preferred alternative would provide an emergency generator to the Vandenberg Gate Complex. Mobile air emissions sources from automobiles will be unchanged because there will

be minimal change in the number of commuters. There are no anticipated long-term air quality impacts related to the preferred alternative.

A General Conformity – Record of Non-Applicability for the preferred alternative was completed (see Section 7). General Conformity under the Clean Air Act, Section 176(c), was evaluated for the preferred alternative according to the requirements of 40 CFR 93, Subpart B. The requirements of this rule are not applicable to the preferred alternative because the total direct and indirect emissions in tons per year (tpy) for the applicable pollutants of concern (i.e., NOx and VOC) are estimated to be below the conformity threshold values established in 40 CFR 93.153(b).

In addition, the preferred alternative is not considered regionally significant under 40 CFR 93.153(i), as the estimated emissions, using reasonable and conservative assumptions, are significantly less than 10% of the regional emissions. Therefore, a conformity determination is not required.

4.7.3 Alternative 1 – Preferred Alternative – Dormitory Construction/Demolition

The preferred alternative may result in short-term localized air quality impacts. All construction vehicles and some equipment would produce emissions that could temporarily affect air quality. The construction activities have the potential to generate fugitive dust. Material loading and transfer (gravel and topsoil), and grading also have the potential to generate fugitive dust. Dust would be controlled onsite by using water to wet down disturbed areas. Moreover, the number of vehicles and the duration of construction required to perform the work is limited. Emissions are therefore not anticipated to cause an adverse impact to regional air quality.

Following the preferred alternative, the new dorm's preferred heating option is Natural gas that would be brought in from the street and routed to the building. The natural gas will be used by high efficiency gas fired boilers. Two high efficiency boilers sized at approximately 600 MBH each will be located in the mechanical room. Mobile air emissions sources from automobiles will be unchanged because there will be minimal change in the number of commuters. There are no anticipated long-term air quality impacts related to the preferred alternative.

A General Conformity – Record of Non-Applicability for the preferred alternative was completed (see Section 7). General Conformity under the Clean Air Act, Section 176(c), was evaluated for the preferred alternative according to the requirements of 40 CFR 93, Subpart B. The requirements of this rule are not applicable to the preferred alternative because the total direct and indirect emissions in tons per year (tpy) for the applicable pollutants of concern (i.e., NOx and VOC) are estimated to be below the conformity threshold values established in 40 CFR 93.153(b).

In addition, the preferred alternative is not considered regionally significant under 40 CFR 93.153(i), as the estimated emissions, using reasonable and conservative assumptions, are significantly less than 10% of the regional emissions. Therefore, a conformity determination is not required.

4.8 Geology and Soils

4.8.1. Geology

4.8.1.1. No-Action Alternative

The no-action alternative would continue operations at Hanscom AFB with no changes. Geology would not be impacted during implementation of the no-action alternative.

4.8.1.2. Alternative 1 - Preferred Alternative - Vandenberg Gate Complex

Grading and topography changes will be necessary to construct an appropriate drainage system at the site of the Vandenberg Gate Complex. However, the preferred alternative's impact to surface topography and geology would be generally minimal because the proposed site has been previously disturbed. No short or long-term significant impacts to the geology of the area are anticipated with the construction of the Vandenberg Gate Complex.

4.8.1.3. Alternative 1 - Preferred Alternative – Dormitory Construction/Demolition

At the dormitory construction site, some slight filling, grading and topography changes will be necessary to allow for a better grade transition from parking lot and to provide adequate drainage of the site. With regard to the demolition of existing dormitories, the foundations will be filled to tie-in with the existing grade during the demolition process. Although these activities will modify existing topographic conditions, the preferred alternative's impact to surface topography and geology would be generally minimal because the proposed site has been previously disturbed. No short or long-term significant impacts to the geology of the area are anticipated with the construction of the new dormitory and demolition of the existing dormitories.

4.8.2. Soils

4.8.2.1. No-Action Alternative

The no-action alternative would continue operations at Hanscom AFB with no changes. Soils would not be impacted during implementation of the no-action alternative.

4.8.2.2. Alternative 1 - Preferred Alternative - Vandenberg Gate Complex

The access road to Hanscom AFB is identified as Urban Land which is designated by the Natural Resources Conservation Service as "soils mostly covered by impervious surfaces". The Vandenberg Gate Complex will be built primarily within this access road (Hanscom Drive) with the exception of a portion of the temporary search pit which will be located on original Scituate soils. This area of Scituate soil is located between Hanscom Drive and a base housing development. In addition, although Scituate soils are designated as Prime Farmland soils, Hanscom AFB is considered "urban development" based upon the density of structures on the site and as such, the Farmland Policy Protection Act (FPPA) is not applicable. Although there

will be short and long-term impacts to this remnant of original soil during construction of the Vandenberg Gate Complex, the impacts are in an isolated area and of limited scope. This area will be restored upon completion of the Vandenberg Gate Complex. The impact to soil in this area was not considered to be significant.

4.8.2.3. Alternative 1 - Preferred Alternative – Dormitory Construction/Demolition

The locations of the dormitory construction and demolition projects are identified as primarily Udorthents (soils altered by earthmoving activities) and Urban Land (soils mostly covered by impervious surfaces). Soil borings conducted as part of site planning in the location of the new dormitory show evidence of peat in the soil at approximately 10 feet in depth the southern portion of the project area. Due to this layer of organics, the dormitory will require a deep foundation system for stability using Pressure Injected Footings (PIFs) roughly 15 feet deep or unsuitable soil will need to be excavated and removed from the site, and replaced with an engineered fill. Excavation will also be required to install appurtenant utilities. With regard to the demolition of existing dormitories, clean fill will be required to infill the foundation during the demolition process. Although these activities will modify existing conditions, the soils in these areas have already been disturbed. These activities will not require a modification of the Urban Land or Udorthents designation. The Preferred Alternative will have no significant short or long-term impact on soils designated in the project area.

4.9 Surface Water and Groundwater

4.9.1. Surface Water

4.9.1.1. No-Action Alternative

The no-action alternative would continue operations at Hanscom AFB with no changes. Surface water would not be impacted during implementation of the no-action alternative.

4.9.1.2. Alternative 1 - Preferred Alternative - Vandenberg Gate Complex

Excavation and regrading of the existing access Hanscom AFB road (Hanscom Drive) will be necessary to accommodate the construction of the Vandenberg Gate Complex buildings, roads and ancillary structures. This project will result in an increase in impervious surface of approximately 4,600 SF (i.e., 7,500 SF of roadway reconfiguration, 5,000 SF of new buildings and 400 SF of demolition of the existing Vandenberg Gate) which will cause an increase in runoff from the site. There is a small unnamed stream which traverses the southern portion of the site, flowing west to east and through a culvert system beneath Hanscom Drive. To prevent discharge to this unnamed stream, the Vandenberg Gate Complex design will include drainage structures to capture and infiltrate all surface water runoff from the site into the ground. In addition, sediment, erosion, and pollution prevention control measures will be implemented as part of a stormwater pollution prevention plan (SWPPP) during construction. All work will be accomplished in accordance with federal, state and local laws and regulations. Although there will be an increase in runoff from impervious surfaces, no significant short or long-term impacts to surface water are anticipated as a result of the construction of the Vandenberg Gate Complex.

4.9.1.3. Alternative 1 - Preferred Alternative – Dormitory Construction/Demolition

Currently, surface water is captured and discharged through an existing underground stormwater management system at both the site of the new dormitory and the existing dormitories slated for demolition. During the construction and demolition of dormitories, sediment, erosion, and pollution prevention control measures will be implemented. As previously stated, a base-wide stormwater standard requires new development to reduce stormwater rate and volume by 10% over the existing condition for the 2, 10 and 100 year storm events. As such, at the site of dormitory construction, some surface water will be redirected into infiltration chambers reducing discharge to the existing underground stormwater pipes. In addition, there will be a net positive increase in previous surfaces with the construction of the 28,009 SF Airmen dormitory (a portion of which will be located on an existing parking lot) and the demolition of two 26,080 SF (a total of 52,160 SF) which will increase natural percolation of rainwater and groundwater recharge. Although there will be some modifications to surface water drainage as a result of the construction/demolition of dormitories, these changes plus the reduced amount of impervious surface, will benefit the quality and peak flows of the receiving surface water resources by reducing the volume of runoff into the storm drain system.

4.9.2. Groundwater

4.9.2.1. No-Action Alternative

The no-action alternative would continue operations at Hanscom AFB with no changes. Groundwater would not be impacted during implementation of the no-action alternative.

4.9.2.2. Alternative 1 - Preferred Alternative - Vandenberg Gate Complex

The volume of surface water infiltrated into groundwater is anticipated to be the same in the pre and post-construction condition at the site of the Vandenberg Gate Complex. Therefore, no short or long-term impacts to groundwater are expected for the Preferred Alternative.

4.9.2.3. Alternative 1 - Preferred Alternative – Dormitory Construction/Demolition

Some additional surface water will be infiltrated into the groundwater to comply with a base-wide stormwater standard that requires new development to reduce stormwater rate and volume by 10% over the existing condition for the 2, 10 and 100 year storm events. However, this is not expected to significantly affect groundwater in the area of dormitory construction and demolition.

4.10. Floodplains

4.10.1. No-Action Alternative

There are no floodplain issues if the no-action alternative was taken.

4.10.1.2. Alternative 1 - Preferred Alternative - Vandenberg Gate Complex

The site of the Vandenberg Gate Complex is not located within the floodplain and therefore, no floodplain issues associated with the construction of the Preferred Alternative are anticipated.

4.10.1.3. Alternative 1 - Preferred Alternative – Dormitory Construction/Demolition

The sites of the dormitory construction and demolition Vandenberg Gate Complex are not located within the floodplain and therefore, no floodplain issues associated with the construction of the Preferred Alternative are anticipated.

4.11. Biological Resources

4.11.1. Vegetation

4.11.1.1. No-Action Alternative

The no-action alternative would continue operations at Hanscom AFB with no changes. There would be no modification to the site, so vegetation would not be impacted during implementation of the no-action alternative.

4.11.1.2. Alternative 1 - Preferred Alternative - Vandenberg Gate Complex

The proposed site for the Vandenberg Gate Complex is characterized by mowed grass between and along the right-of-way for the Hanscom AFB access roadway (Hanscom Drive). There is a wooded buffer area between the road and Hanscom AFB housing. The Vandenberg Gate Complex will be constructed almost entirely within this disturbed area and as such, impacts to vegetation will be minimal. There will be some cutting of shrubs and trees in the wooded buffer between Hanscom Drive and Hanscom AFB housing to accommodate the construction of the temporary search pit. Alternatives to this location where determined to be infeasible and therefore, this impact to vegetation is unavoidable. The remaining mature trees will have protective barriers placed around them to minimize the potential for damage. Disturbed areas will be seeded and stabilized as soon as possible to reduce erosion of disturbed soil with controls left in place until vegetation is established. Some minor short and long-term impacts to vegetation are anticipated with the Preferred Alternative; however these impacts have been minimized to the maximum extent practicable.

4.11.1.3. Alternative 1 - Preferred Alternative – Dormitory Construction/Demolition

The building site for the new dormitory is a grassed area and parking lot and the site of the dormitory demolition project is composed of paved walkways, mowed lawn, landscaping shrubs and small trees. The short-term impacts to vegetation involve the removal of vegetation not compatible with construction or demolition activities. However, upon completion of construction/demolition activities, each area will be re-landscaped. In addition, the one building demolition site will be used as a green space; providing credit towards the Leadership in Energy and Environmental Design (LEED) Silver standard for the dormitory construction project. Use

of the former dormitory space as a green space is a beneficial effect of the Preferred Alternative. No significant negative long-term impacts to vegetation are anticipated.

4.11.2. Wetlands

4.11.2.1. No-Action Alternative

The no-action alternative would continue operations at Hanscom AFB without changing the existing facility and would result in no impact to wetlands.

4.11.2.2. Alternative 1 - Preferred Alternative - Vandenberg Gate Complex

According to the MassDEP wetland datalayer, a portion of the construction of the Vandenberg Gate Complex is located within the 100 foot buffer of a deciduous forested wetland. The wetland delineation for this project will need to be approved by the Lincoln, MA Conservation Commission to clearly define the boundaries of this wetland or other jurisdictional areas under the Massachusetts Wetland Protection Act or Massachusetts Riverfront Protection Act. Work proposed within the 100 foot buffer of a wetland or 200 foot Riverfront Area will require the filing of a Request for Determination and/or a Notice of Intent (NOI) with the MassDEP and the Town of Lincoln Conservation Commission pursuant to the Massachusetts Wetland Protection Act (310 CMR 10.00). There may also be filing requirements for the Town's by-law which provides greater protection than state law. The inner 50' of the wetland buffer zone is a no-disturb area and isolated land subject to flooding (ILSF), including vernal pools, are protected as are water bodies themselves. It is anticipated that the implementation of the proposed action would not impact wetlands located near the site. Work adjacent to wetland or streams will be in compliance with federal, state and local laws and regulations, including sediment erosion control measures as required. Therefore, no short or long-term impacts to wetlands or streams are anticipated as a result of the construction of the Vandenberg Gate Complex.

4.11.2.3. Alternative 1 - Preferred Alternative – Dormitory Construction/Demolition

The detailed site work associated with the planning of the dormitory construction project identified a wetland located approximately 100 feet south of the project site. Similar to the Vandenberg Gate Complex project, the wetland delineation will need to be confirmed by the Town of Lincoln Conservation Commission and any work conducted within the 100 foot wetland buffer will require the filing of a Request for Determination and/or a Notice of Intent (NOI) with the MassDEP and the Town of Lincoln Conservation Commission pursuant to the Massachusetts Wetland Protection Act (310 CMR 10.00) and local by-laws. The work proposed in the 100 foot buffer is in an area already previously disturbed and therefore, no short or long-term impacts to wetlands are anticipated as a result of the construction of the Airmen dormitory. There are no wetlands in the vicinity of the dormitory demolition projects.

4.11.3. Wildlife

4.11.3.1. No-Action Alternative

The no-action alternative would continue operations at Hanscom AFB with no changes. There would be no modification to the existing site, so wildlife would not be impacted during implementation of the no-action alternative.

4.11.3.2. Alternative 1 - Preferred Alternative - Vandenberg Gate Complex

The proposed site of the Vandenberg Gate Complex (Hanscom Drive) is a wide open area devoid of structural vegetation and therefore, provides limited habit to wildlife species. The wild turkeys foraging in this area are tolerant of human interaction and disturbance. Over the short-term, a reduction in the use of this area during construction would be expected. However, once construction is completed, the area would most likely be used again by foraging turkeys. No significant long-term impacts to wildlife are anticipated as a result of the Preferred Alternative.

4.11.3.3. Alternative 1 - Preferred Alternative – Dormitory Construction/Demolition

Wildlife species in the dormitory construction and demolition area is typically limited to birds and small mammals well adapted to areas with human interaction and disturbance. No short or long-term impacts to wildlife are anticipated as a result of the construction of the Airmen dormitory or demolition of the existing dormitories.

4.11.4. Threatened or Endangered Species

4.11.4.1. No-Action Alternative

The no-action alternative would continue operations at Hanscom AFB with no changes. The no-action alternative would not impact threatened or endangered species on Hanscom AFB.

4.11.4.2. Alternative 1 - Preferred Alternative - Vandenberg Gate Complex

There are no federally listed or proposed threatened or endangered species at Hanscom AFB. The state-listed Grasshopper Sparrow and the Upland Sandpiper have been identified in portions of Hanscom AFB. These species are not known to inhabit the property related to the proposed action, so no impact to threatened or endangered species on Hanscom AFB would occur as a result of the Preferred Alternative.

4.11.4.3. Alternative 1 - Preferred Alternative -Dormitory Construction/Demolition

No federal or state listed species are known to inhabit the property related to the proposed action. Therefore, no impact to threatened or endangered species on Hanscom AFB would occur as a result of the Preferred Alternative.

4.12. Cultural Resources

4.12.1. No-Action Alternative

The no-action alternative would continue operations at Hanscom AFB with no changes. Implementation of the no-action alternative would not impact cultural resources.

4.12.2. Alternative 1 - Preferred Alternative - Vandenberg Gate Complex

The location of the proposed Vandenberg Gate Complex has been previously disturbed by the construction of roadways that provide access to HAFB, including Old Bedford Road and Hanscom Drive which are accessed from Massachusetts Avenue (Route 2A) in Lincoln. There are no historic properties or archaeologically sensitive areas within the 22-acre parcel. Impacts to significant cultural resources are not expected.

The recent EA for the Vandenberg Gate Complex land acquisition portion of the project (HAFB 2014b) reached a similar conclusion that significant historic properties would not be impacted by the action which was essentially only a real estate transaction. Coordination was conducted with the MA State Historic Preservation Officer (MA SHPO), Minute Man National Historic Park (MMNHP), and the MA Commission on Indian Affairs; additionally, consultation was initiated with the Wampanoag Tribe of Gay Head (Aquinnah). The MA SHPO declined to respond; however, the MMNHP's reply did not anticipate any significant impacts to the National Park although they were awaiting further details on the footprint and height of any new building associated with the Gate Complex (correspondence dated March 21, 2014).

Therefore, we feel that construction of the proposed Vandenberg Gate Complex will have no effect upon any site or structure of architectural, archaeological or historic significance as determined by Section 106 of the NHPA and implementing regulations 36 CFR 800. The MA SHPO is expected to concur with this determination. A similar letter is being sent to the MMNHP, the Wampanoag Tribe of Gay Head (Aquinnah), and the MA Commission on Indian Affairs.

4.12.3. Alternative 1 - Preferred Alternative – Dormitory Construction/Demolition

The second project proposed by HAFB is the construction of a new Airmen dormitory. The new dormitory will be built in a generally flat grassy area and parking lot located adjacent to the existing Fitness Center and Bowling Alley buildings. The dormitory will be a three-story structure (28,009± square foot) and will provide for a total of 64-68 bedrooms. Existing Airmen dormitories (Buildings 1510 and 1511), located approximately 100 yards west of the construction site, are rapidly deteriorating and are in need of replacement. The dormitories (Buildings 1510 and 1511) will be demolished as part of this project (see Figure 4 – Airmen Dormitory).

The construction of the new dormitory is unlikely to impact significant historic properties as it is located within an area previously disturbed and surrounded by existing buildings and a parking lot. The location has previously been determined to have low archaeological sensitivity.

Additionally, impacts to the existing setting and views of the MMNHP are not expected as the proposed new dormitory building is set within the interior of HAFB, is surrounded by other buildings on a level parcel, and is actually about 15-20 feet lower in elevation than the existing dormitory buildings (1510 and 1511) scheduled for demolition. Although these two buildings are more than 50 years old, they do not exhibit significant historic or architectural characteristics and were refurbished as recently as 1997. As mentioned above, the existing dormitories are in poor condition and do not meet current safety and construction standards.

Therefore, we feel that construction of the new Airmen dormitory (with demolition of existing buildings 1510 and 1511) will have no effect upon any site or structure of architectural, archaeological or historic significance as determined by Section 106 of the NHPA and implementing regulations 36 CFR 800. The MA SHPO is expected to concur with this determination. A similar letter is being sent to the MMNHP, the Wampanoag Tribe of Gay Head (Aquinnah), and the MA Commission on Indian Affairs.

4.13 Environmental Restoration Program/Hazardous Waste

4.13.1. Environmental Restoration Program

4.13.1.1. No-Action Alternative

The no-action alternative would continue operations at Hanscom AFB with no changes. The no-action alternative would not directly impact nor impede monitoring of any active ERP sites.

4.13.1.2. Alternative 1 - Preferred Alternative - Vandenberg Gate Complex

The preferred alternative would continue operations at Hanscom AFB with no changes. None of the eight active Environmental Restoration Program (ERP) sites are located hydraulically upgradient relative to the site of the preferred alternative (GZA 2013 in HAFB 2104b). The Environmental Baseline Survey (EBS) conducted in November 2013 categorized the property as Category 1 and Category 2 (defined in the Section 3.13.2. Hazardous Waste). The EBS does not indicate that the 22 acre site acquired for the construction of the Vandenberg Gate Complex would impact the ERP program at Hanscom AFB.

4.13.1.3. Alternative 1 - Preferred Alternative – Dormitory Construction/Demolition

The preferred alternative would continue operations at Hanscom AFB with no changes. None of the eight active Environmental Restoration Program (ERP) sites are located hydraulically upgradient relative to the site of the preferred alternative (HAFB 2014c).

4.13.2. Hazardous Waste

4.13.2.1. No-Action Alternative

The no-action alternative would continue operations at Hanscom AFB with no changes and would not impact hazardous waste on Hanscom AFB.

4.13.2.2. Alternative 1 - Preferred Alternative - Vandenberg Gate Complex

A hazardous materials survey will need to be conducted prior to the demolition of the existing Vandenberg Gate. All hazardous materials associated with construction and demolition activities would be handled and disposed of in accordance with Hanscom AFB policies and protocols and all applicable state and federal regulations. No impacts with regard to hazardous materials use or disposal at Hanscom AFB are anticipated as a result of the construction of the Vandenberg Gate Complex.

4.13.2.3. Alternative 1 - Preferred Alternative - Dormitory Construction/Demolition

Various confirmed and potential hazardous material-containing building components and items were observed within the surveyed areas. Hazardous materials handling and disposal will be conducted in accordance with federal, state and local laws and regulations. Therefore, no impacts with regard to hazardous materials use or disposal at Hanscom AFB are anticipated as a result of the demolition of construction of the Preferred Alternative.

4.14. Cumulative Impacts

Cumulative impacts are those changes to the physical, biological, and socioeconomic environments that would result from the combination of construction, operation, and associated impacts of the preferred alternative when added to other past, present, and reasonably foreseeable actions. The development projects discussed below have occurred, are occurring, or are planned to occur on Hanscom AFB. These projects have the potential to result in additive or multiplicative impacts to resources when evaluated together with the preferred alternatives of this EA.

The past, present and reasonable foreseeable actions at Hanscom AFB are listed below:

*In 2009, an EA was prepared for the construction of the Massachusetts National Guard Joint Force Headquarters (JFHQ) Building at Hanscom AFB. A Finding of No Significant Impact (FONSI) was signed in January 2010. Construction began in 2010 and the new Massachusetts JFHQ Building, an administrative complex to support state and federal missions required of the state's National Guard, became operational on November 5, 2012. As of December 2012, 180 people work in the complex and commute to the facility during the hours of 6AM and 8PM, the amount of occupants in the JFHQ is expected to double by 2014.

* In 2010, an EA and FONSI were developed for the addition of a Mental Health Clinic to the existing base clinic, Building 1900. Construction began in January 2012 and finished in May 2013.

* In 2011, an EA and FONSI were developed for the replacement of the middle school at Hanscom AFB. The proposed action was to replace the 1950's-era Hanscom Middle School with a new 81,000 square foot middle school at the existing site. A contract for the project was awarded in December 2013 with work beginning in 2014. The school project will take approximately 27 months to complete after preliminary site work begins.

*In 2011, MIT Lincoln Laboratory (MIT LL) began developing a draft EA for a proposed action to expand the MIT LL campus. MIT LL proposes to construct approximately 250,000 to 350,000 square feet of replacement laboratory, office, administrative, and parking space. As of March 2014, a draft EA has been prepared and reviewed by Hanscom AFB Environmental, Hanscom AFB Legal Office, and Major Command. MIT LL's proposed replacement facility is anticipated to begin in Spring 2015 and finish in Spring 2017.

* Hanscom Air Force Base (HAFB) also proposes to renovate the existing HAFB Family Campground (FAMCAMP) and is currently preparing an Environmental Assessment (EA) for that action. The proposed FAMCAMP Renovation action includes constructing a new 600 square foot freestanding screened pavilion and six (6) new pull-through Recreational Vehicle (RV) campsites with a gravel loop road connecting to South Road. The six new campsites would be provided electrical service, water, and standard sewer hookups, a 10'x20' concrete pad and a 3'x6' concrete utility pad. The project would also provide level tent areas for eight tent campsites. The new sites would include campsite signs, individual nearby gravel parking spaces, and a gravel walkway within the campsite area. Brush within 20 feet of the pavilion north of the campsite area is proposed to be cleared to enhance functionality and safety of the structure.

With regard to the five (5) projects listed above, no significant impacts to socioeconomic/environmental justice, noise, climate change, geology and soils, floodplains, or the environmental restoration program/hazardous waste were identified in the project EA's. The short term increases in solid waste during construction for these projects would be minor because reusable/recycled material would be utilized, and efficient building technologies were incorporated into the building design. Traffic congestion would be minimized by the implementation of traffic demand management (TDM) strategies. Specific to the construction of the JFHQ Building, minor increases in demands on the water supply, wastewater, electrical, telecommunications, and natural gas systems as a result of a minor increase in base population was determined not to be significant. As well, the construction of the MIT LL facility may intersect the groundwater table due to seasonally high groundwater levels throughout the base. MIT LL's design of the replacement facility must comply with HAFB's stormwater runoff requirements, pursuant to the Clean Water Act and the impaired status of the Shawsheen River and therefore, this potential intersection with groundwater was determined not to be significant.

The construction, demolition and site restoration activities for these projects affected adjacent land uses due to elevated noise levels, increased dust, minor interferences with roadway access, and visual effects however, these impacts are minor. Construction activities may also displace birds and small mammals that utilize the vegetated areas for foraging or nesting. The short-term loss of some vegetation does not substantially impact the biological community on, or in the vicinity of Hanscom AFB.

With regard to impacts state-listed species, the Grasshopper Sparrow (designated as a threatened species) and the Upland Sandpiper (designated as an endangered species) are both known to inhabit the grasslands adjacent to the runways on MassPort's Hanscom Field and a small portion of the FAMCAMP that abuts the airstrip. If managed appropriately, impacts can be minimized or non-existent. Management consists of restricting mowing in those areas during

the breeding, nesting, and brooding season between the months of April through August, and the FAMCAMP Renovation action must acknowledge these restrictions. None of the other project have threatened or endangered species concerns.

Construction-related air quality short-term impacts would occur due to increased fugitive dust, equipment emissions and new building HVAC systems. These air quality impacts were determine not to be regionally significant and would not impact the area's air quality.

No significant impacts associated with regard to land use, socioeconomics, occupational safety & health, water supply, wastewater, solid waste, transportation, noise, air quality, geology/soils, surface water/groundwater, floodplains, biological resources, cultural resources, hazardous waste, or the environmental restoration program are anticipated with the Vandenberg Gate Complex and Airmen Dormitory construction/demolition projects as discussed in this EA. No cumulative impacts to Hanscom AFB resources are anticipated when the Preferred Alternatives are evaluated together with past, present and reasonably foreseeable actions.

SECTION 5. MEASURES TO REDUCE POTENTIAL FOR IMPACT

While some impacts to the natural and human environment may occur during construction of the Preferred Alternatives, these impacts are minor and are not atypical compared with other routine construction projects. Commonly applied Best Management Practices (BMPs) and other measures identified below further reduce the likelihood that these activities would have a significant impact on the environment.

Parameter:	**BMP or Other Measure to Reduce Impact:**
Land Use	A phased construction schedule will be implemented to reduce peak traffic/noise levels and thus minimize disruption to nearby land uses.
Transportation	Transportation of heavy trucks would only be allowed during normal business hours to avoid the disturbance of surrounding residential areas.
Utilities	Existing utility alignments will be identified through markings (similar to "Dig Safe") prior to any excavation to prevent damage to existing infrastructure. Implementation of LEED technologies is expected to reduce consumption of water and electricity, and the modern efficient building design is expected to reduce heating/cooling requirements. New construction must comply with Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings and Executive Order 13514.
Solid Waste	Solid waste management would be in compliance with Hanscom AFB recycling policies to minimize the amount of solid waste disposed without beneficial reuse during demolition, construction, and operation of new facility.
Air Quality	All equipment and vehicles used during construction would be maintained in good operating condition so that exhaust emissions are minimized. Dust will be controlled on-site by using water to wet down disturbed areas.

Surface Water	During construction, silt fence and/or hay bales will be placed around catch basins to reduce potential for sediment/eroded materials to be transported to the Shawsheen River via the storm sewers. The facility's stormwater management will reduce peak flow rates from the parcel to the Shawsheen River. Drainage design must meet both Massachusetts stormwater management standards and comply with Clean Water Act.
Parameter:	**BMP or Other Measure to Reduce Impact:**
Wetlands	Projects will be constructed in compliance with the MA Wetland Protection Act, the Riverfront Protection Act and local by-laws.
Groundwater	If dewatering is necessary during construction, the water will be treated for total suspended solids (TSS) removal prior to discharge to receiving water. Upon completion, the facility's stormwater management system will retain stormwater allowing for a greater rate of infiltration to groundwater.
Vegetation	The landscape plan for the Vandenberg Gate Complex and the Airman Dormitory construction/demolition would emphasize native shrub/tree species, and existing vegetation on the site would be left intact during construction.
Cultural Resources	Coordination with the Minute Man National Historical Park, Massachusetts Historical Commission (MHC), Massachusetts Commission of Indian Affairs and Wampanoag Tribe of Gay Head (Aquinnah) is being conducted. If resources are inadvertently discovered during the project construction, the site Project Manager will immediately notify the Hanscom AFB Cultural Resources Manager and cease work in the area of the discovery.
Hazardous Waste	All hazardous materials used or encountered during construction, demolition, or operation would be handled and disposed in accordance with Hanscom AFB policies and protocols and all applicable state and federal regulations.

SECTION 6. CONSULTATION AND PUBLIC NOTICE

6.1 National Park Service - Minuteman National Park

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 66TH AIR BASE GROUP
HANSCOM AIR FORCE BASE MASSACHUSETTS

Mr. Charles N. Strickland III, PE
66ABG/CEIE
120 Grenier Street
Hanscom AFB MA 01731-1910

17 NOV 2014

Mr. Lou Sideris
Chief of Planning and Communications
Minute Man National Historical Park
174 Liberty Street
Concord MA 01742

Dear Mr. Sideris,

As requested in your letter dated 21 March 2014, a copy of the Draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the proposed Vandenberg Gate Complex and Airmen Dormitory Construction/Demolition projects is enclosed for your review. Any additional comments that you may on this project will be received until 20 December 2014 (the end of the public notice period) and may be mailed to me at the address above or emailed to me at charles.strickland.4@us.af.mil.

Very Respectfully

CHARLES N. STRICKLAND III, P.E.
Installation Management Flight Chief

2 Attachments
1. Draft EA
2. Draft FONSI

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 66TH AIR BASE GROUP
HANSCOM AIR FORCE BASE MASSACHUSETTS

17 June 2014

Mr. Charles N. Strickland III, PE
66ABG/CEIE
120 Grenier Street
Hanscom AFB, MA 01731-1910

Ms. Nancy Nelson, Superintendent
Minute Man National Historical Park
174 Liberty Street
Concord, Massachusetts 01742

Dear Ms. Nelson,

Previous coordination was conducted with your office, in a letter dated 10 February 2014, with regard to the acquisition of 22 acres of land located on Hanscom Drive west of the existing Vandenberg Gate and adjacent to Minute Man National Historical Park. This 22-acre parcel of land was proposed as the site of construction for a new entry control facility to replace the existing Vandenberg Gate. In an effort to move forward on this project, Hanscom AFB is now proposing the construction of the new Vandenberg Gate Complex. In addition, another project (unrelated to the gate construction project) is also currently being proposed which involves the construction of a new E1-E4 Airmen dormitory to be located on the base proper. The purpose of this letter is to request your comments on each project. Further information is provided in the following narratives for your information (see the attached Figure 1- Location Map for the locations of the proposed actions).

The existing Vandenberg Gate, located in Lincoln, Massachusetts (MA), operates as both the commercial vehicle gate as well as a personally-owned vehicle (POV) gate; however, the existing gate does not comply with current standards. The construction of the Vandenberg Gate Complex located on Hanscom Drive would modernize the existing Vandenberg Gate and providing a new entry control facility to include a visitor center and gatehouse complex, and the demolition of the existing control facilities. The approach road to the base would be realigned to include striping, sidewalk, utilities, security bollards, drainage structures, manholes, landscaping, signage, vehicle barriers, under vehicle lighting, an emergency generator, fencing, and communications equipment (see Figure 2 – Vandenberg Gate Complex). As an interim measure to provide enhanced security while the Vandenberg Gate Complex is being constructed, Hanscom AFB is proposing the construction of a temporary search pit area which includes a separate vehicle search lane. The temporary search pit involves the construction of 600 linear feet of asphalt, a retaining wall and swale (see Figure 3 – Search Pit Area).

In our previous coordination concerning the acquisition of the 22-acre parcel, a general description of the Vandenberg Gate Complex was provided to your office in the 10 February 2014 letter. Your letter of response, dated 21 March 2014 (signed by Lou Sideris, Chief of Planning and Communications), noted a general concern about the potential height of the structures associated with the new Vandenberg Gate Complex with regard to potential visual impacts to Minute Man National Historical Park. In response to your concern, please be aware that buildings associated with the Vandenberg Gate Complex are designed to be one-story in height and as such, should not negatively affect the Minute Man National Historical Park aesthetic view.

The second project currently being proposed by Hanscom AFB is the construction of a new E1-E4 Airmen dormitory. The new dormitory will be built in a generally flat grassy area and parking lot located adjacent to the existing Fitness Center and Bowling Alley buildings. The dormitory will be a three-story structure (28,009± square foot) and will provide for a total of 72 bedrooms. Existing E1-E4 Airmen dormitories (Buildings 1510 and 1511), located approximately 100 yards west of the construction site, are rapidly deteriorating and are in need of replacement. The E1-E4 dormitories (Buildings 1510 and 1511) will be demolished as part of this project (see Figure 4 – E1-E4 Airmen Dormitory).

I respectfully request your review and comment on the proposed actions. Please provide comments within 30 days of the date of this letter. Please contact me at 781-225-2969 or by email at charles.strickland4@us.af.mil, or you may also contact Judith Johnson at the Army Corps of Engineers, Evaluation Branch, at 978-318-8138 or by email at judith.l.johnson@usace.army.mil, if you require additional information.

Very Respectfully,

Charles N. Strickland III, PE
Chief, Environmental Section

Attachments:
Figure 1 – Location Map
Figure 2 – Vandenberg Gate Complex
Figure 3 – Temporary Search Pit Area
Figure 4 – E1-D4 Airmen Dormitory

cc:
Lou Sideris
Chief of Planning and Communications
Minute Man National Historical Park
174 Liberty Street
Concord, Massachusetts 01742

Figure 1 – Location Map

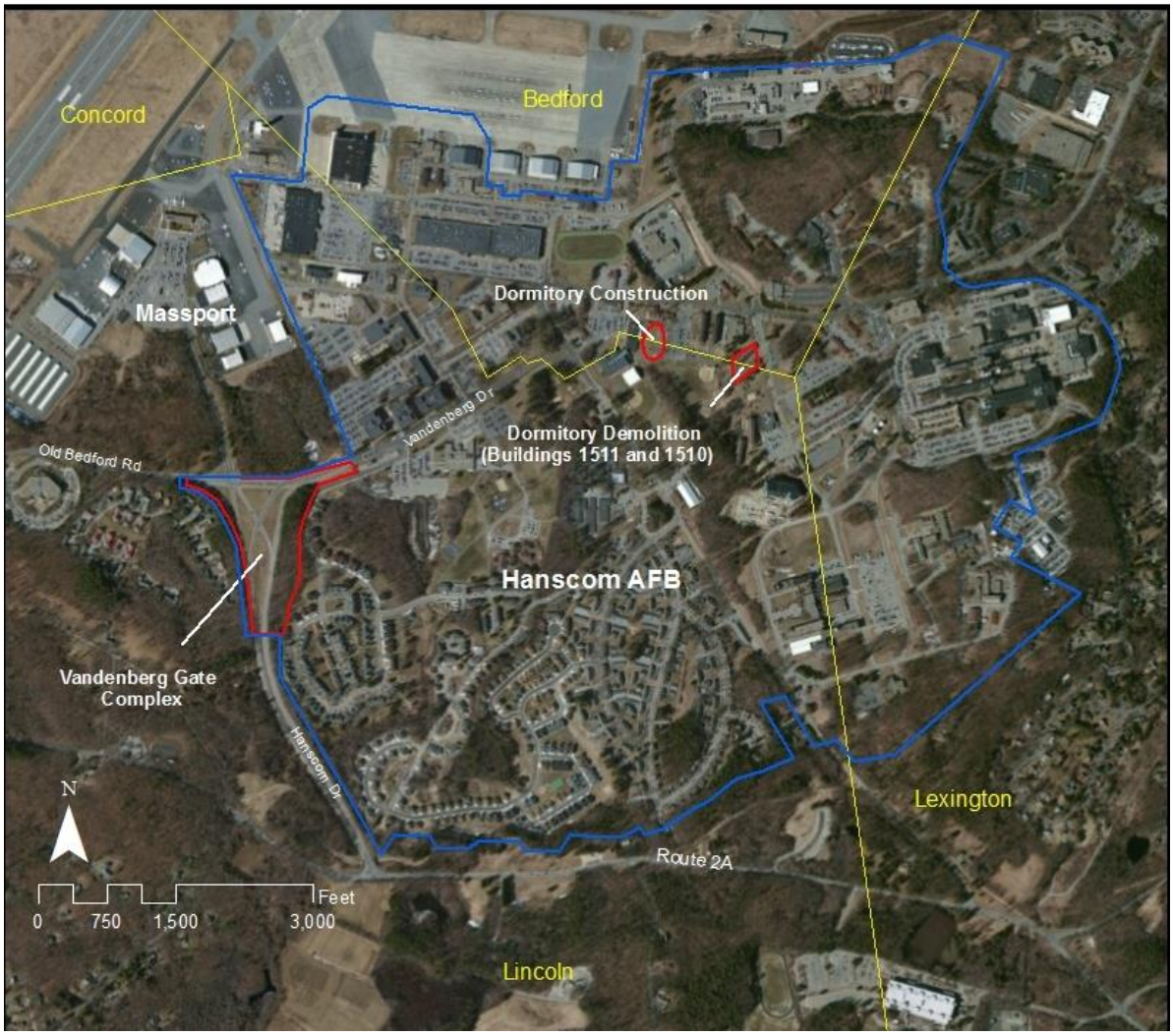


Figure 2 – Vandenberg Gate Complex

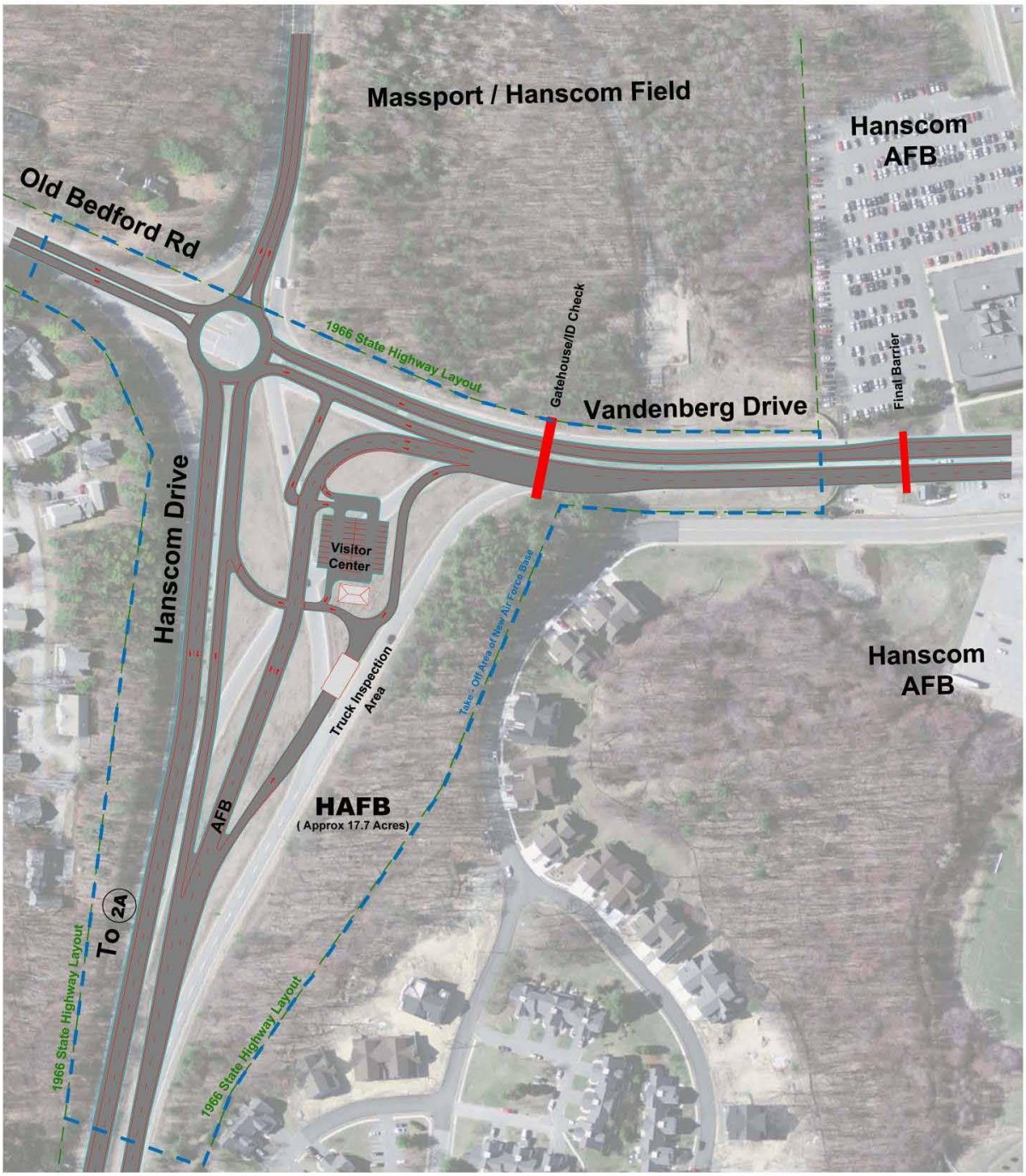


Figure 3 – Temporary Search Pit Area

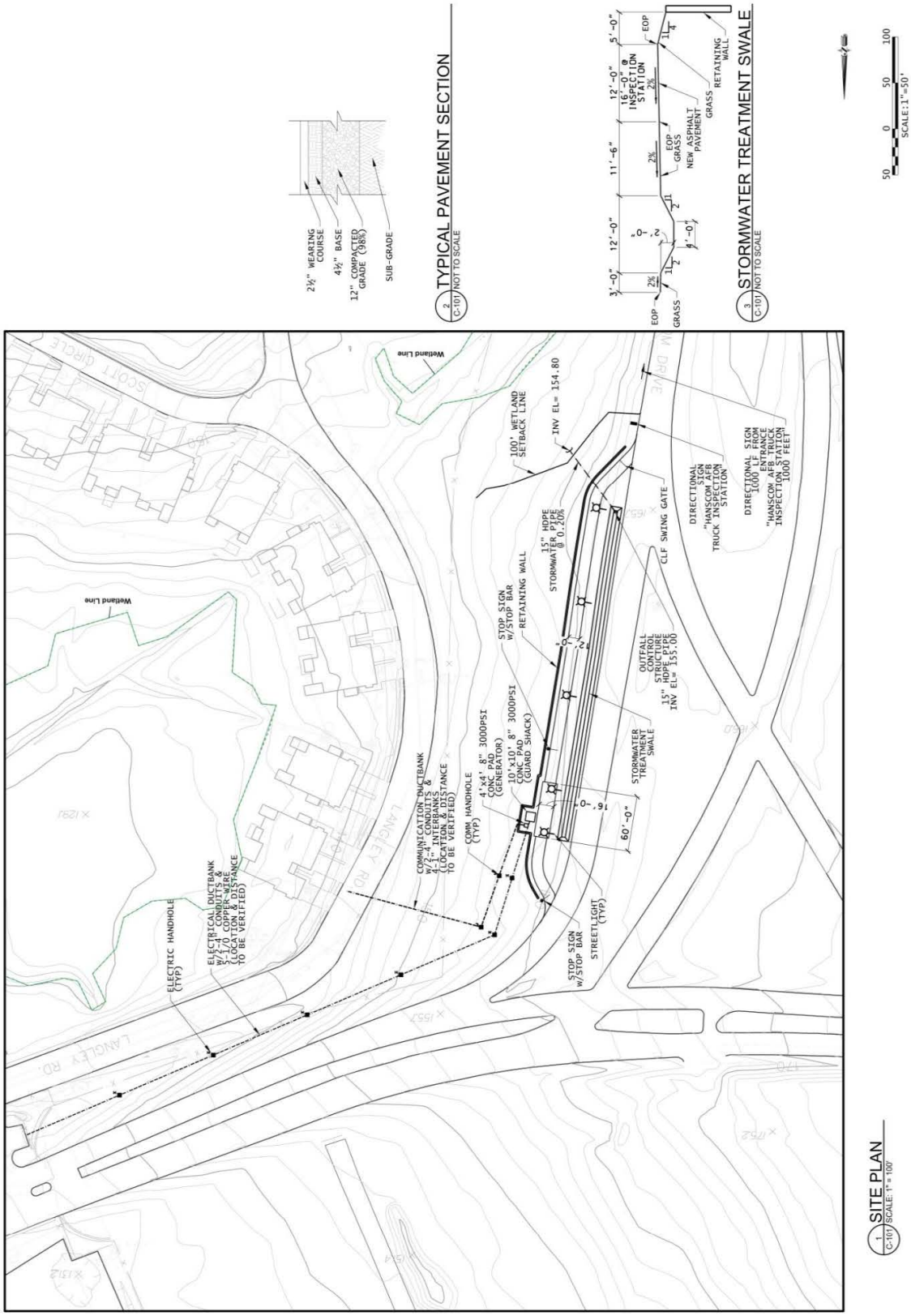
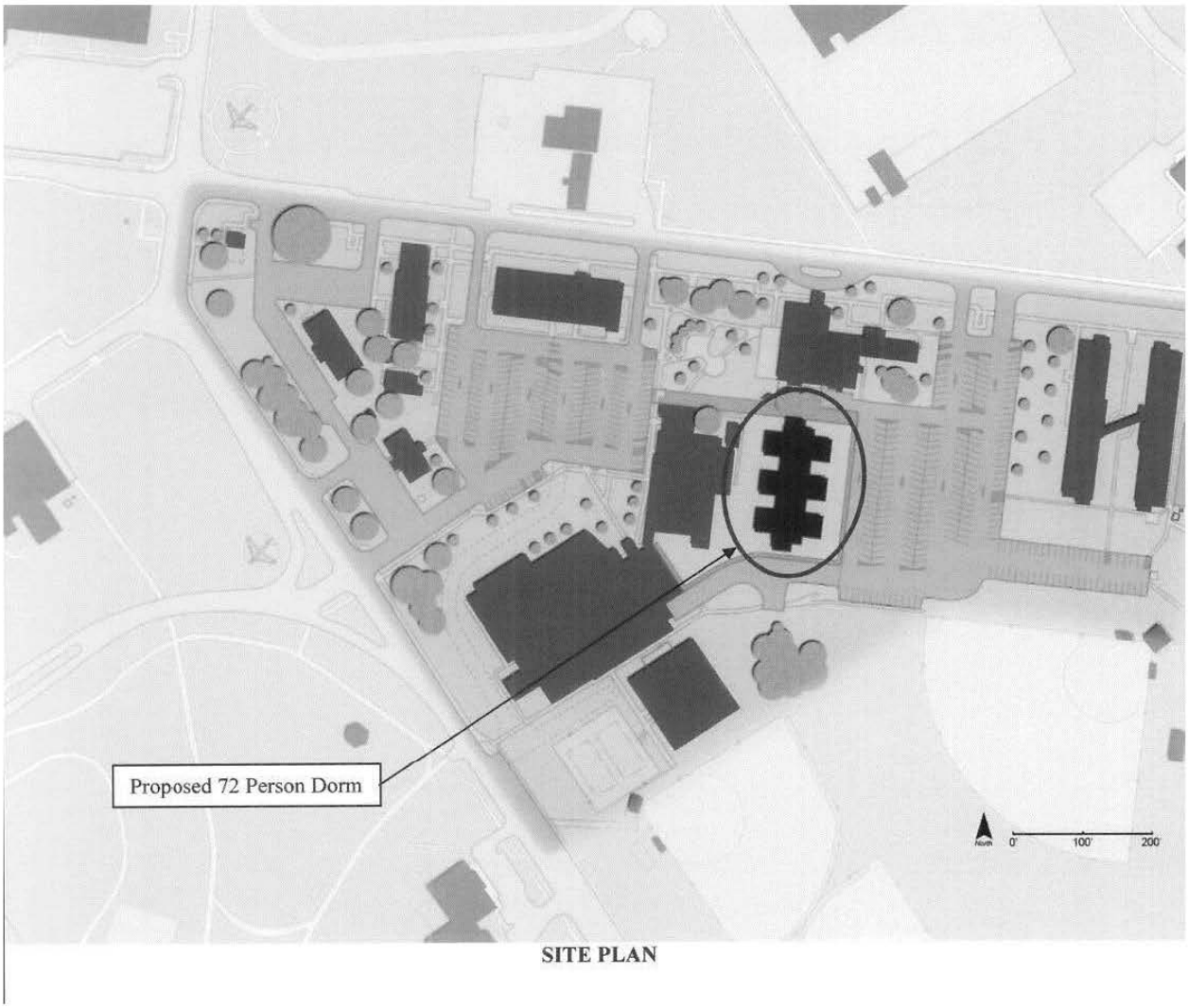


Figure 4 – E1-E4 Airmen Dormitory



SITE PLAN

United States Department of the Interior
NATIONAL PARK SERVICE
Minute Man National Historical Park
174 Liberty Street
Concord, Massachusetts 01742

March 21, 2014

Mr. Charles Strickland III, P.E., Chief, Environmental Section
66th Air Base Group/CEIE
120 Grenier Street
Hanscom AFB, MA 01731-1910

Re: Hanscom AFB New Vandenberg Gate Entry Control Facility Project

Dear Mr. Strickland,

Thank you for informing us of the planned construction of a new Vandenberg Gate complex in a new location on Hanscom Drive.

We have reviewed the plans and do not anticipate any significant impacts affecting Minute Man National Historical Park. The only uncertainty is that we do not yet know specifics about the footprint and height of the planned structures. If the new buildings' height has a possibility of being an issue, one method to inform this would be to conduct an on-site balloon test to check the visibility of the top of the planned structure from the national park.

We look forward to receiving a copy of the EA for the project.

Sincerely,

Lou Sideris
Chief of Planning and Communications

6.2. U. S. Fish and Wildlife Service

United States Department of the Interior

FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
http://www.fws.gov/newengland

January 7, 2014

To Whom It May Concern:

This project was reviewed for the presence of federally listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website:

http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm

Based on information currently available to us, no federally listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under section 7 of the Endangered Species Act is not required. No further Endangered Species Act coordination is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact Maria Tur of this office at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman
Supervisor
New England Field Office

6.3. Massachusetts Department of Fisheries and Wildlife

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 66TH AIR BASE GROUP
HANSCOM AIR FORCE BASE MASSACHUSETTS

Mr. Charles N. Strickland III, PE
66ABG/CEI
120 Grenier Street
Hanscom AFB MA 01731-1910

Natural Heritage & Endangered Species Program
Attention: Project Reviewer
Massachusetts Division of Fisheries & Wildlife
One Rabbit Hill Road
Westborough MA 01581

RE: New Entry Gate/New Dormitory, 2014-012

To whom this may concern

Hanscom Air Force Base is currently proposing to construct a new entry gate on a 22 acre parcel of land located on Hanscom Drive west of the existing Vandenberg Gate. In addition, another project (unrelated to the gate construction project) is also currently being proposed which involves the construction of a new Airmen dormitory to be located on the base proper and the demolition of the old Airmen dormitories (two buildings). Further information is provided in the following narratives for your information (see the attached Figure 1- Location Map for the locations of the proposed actions).

The existing Vandenberg Gate, located in Lincoln, Massachusetts (MA), operates as both the commercial vehicle gate as well as a personally-owned vehicle (POV) gate; however, the existing gate does not comply with current standards. The construction of a new gate, called the Vandenberg Gate Complex, would be located on Hanscom Drive. This new gate would modernize the existing Vandenberg Gate and provide a new entry control facility to include a visitor center and gatehouse complex, and the demolition of the existing control facilities. The approach road to the base would be realigned to include striping, sidewalk, utilities, security bollards, drainage structures, manholes, landscaping, signage, vehicle barriers, under vehicle lighting, an emergency generator, fencing, and communications equipment (see Figure 2 – Vandenberg Gate Complex). As an interim measure to provide enhanced security while the Vandenberg Gate Complex is being constructed, Hanscom AFB is proposing the construction of a temporary search pit area which includes a separate vehicle search lane. The temporary search pit involves the construction of 600 linear feet of asphalt, a retaining wall and swale (see Figure 3 – Search Pit Area). This temporary search pit may be located within 100 feet of a freshwater wetland and if so, this project would be coordinated with the local Conservation Commission.

The second project currently being proposed by Hanscom AFB is the construction of a new Airmen dormitory. The new dormitory will be built in a generally flat grassy area and parking lot located adjacent to the existing Fitness Center and Bowling Alley buildings. The dormitory will be a three-story structure (28,009± square foot) and will provide for a total of 72 bedrooms. The Shawsheen River is conveyed through an underground pipe in the project area (to remain) and a small portion of the dormitory construction project is located within 100 feet of a freshwater wetland and if so, the project will be coordinated with the local Conservation Commission. Existing Airmen dormitories (Buildings 1510 and 1511), located approximately 100 yards west of the construction site, are rapidly deteriorating and are in need of replacement. The dormitories (Buildings 1510 and 1511) will be demolished as part of this project (see Figure 4 –Airmen Dormitory).

Neither the Vandenberg Gate Complex nor the Airmen dormitory construction or demolition project areas are believed to be located within designated Priority Habitats of Rare Species or Estimated Habitats of Rare Wildlife. The purpose of this letter is to request a review by the Natural Heritage and Endangered Species Program of the information provided to determine if any new state-listed species information pertinent to the project sites have become available. Please contact me at 781-225-2969 or by email at charles.strickland4@us.af.mil, or you may also contact Judith Johnson at the Army Corps of Engineers, Evaluation Branch, at 978-318-8138 or by email at judith.l.johnson@usace.army.mil, if you require additional information.

Very Respectfully

CHARLES N. STRICKLAND III, P.E.
Installation Management Flight Chief

4 Attachments:
Figure 1 – Location Map
Figure 2 – Vandenberg Gate Complex
Figure 3 – Temporary Search Pit Area
Figure 4 – Airmen Dormitory

Figure 1 – Location Map

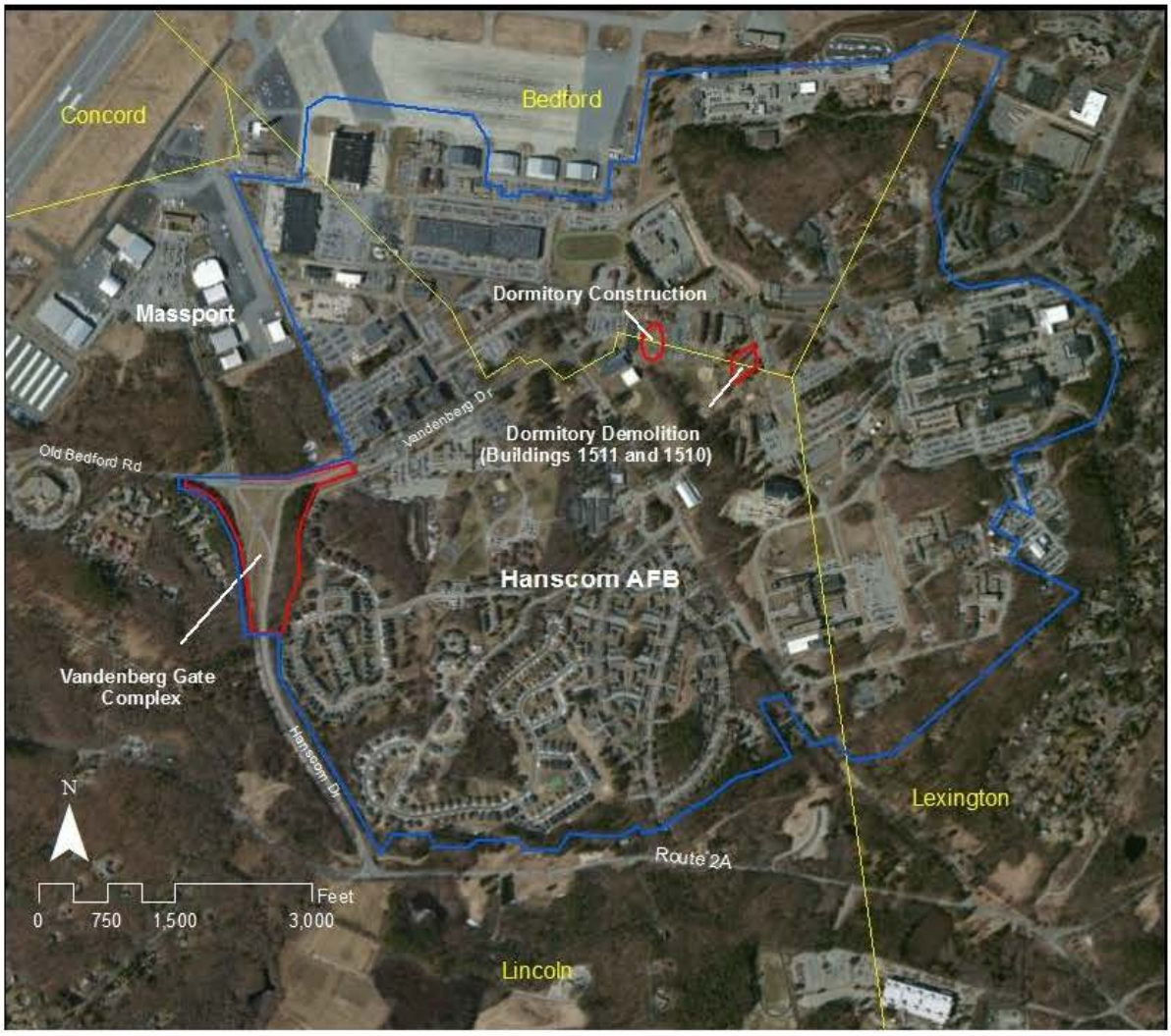


Figure 2 – Vandenberg Gate Complex

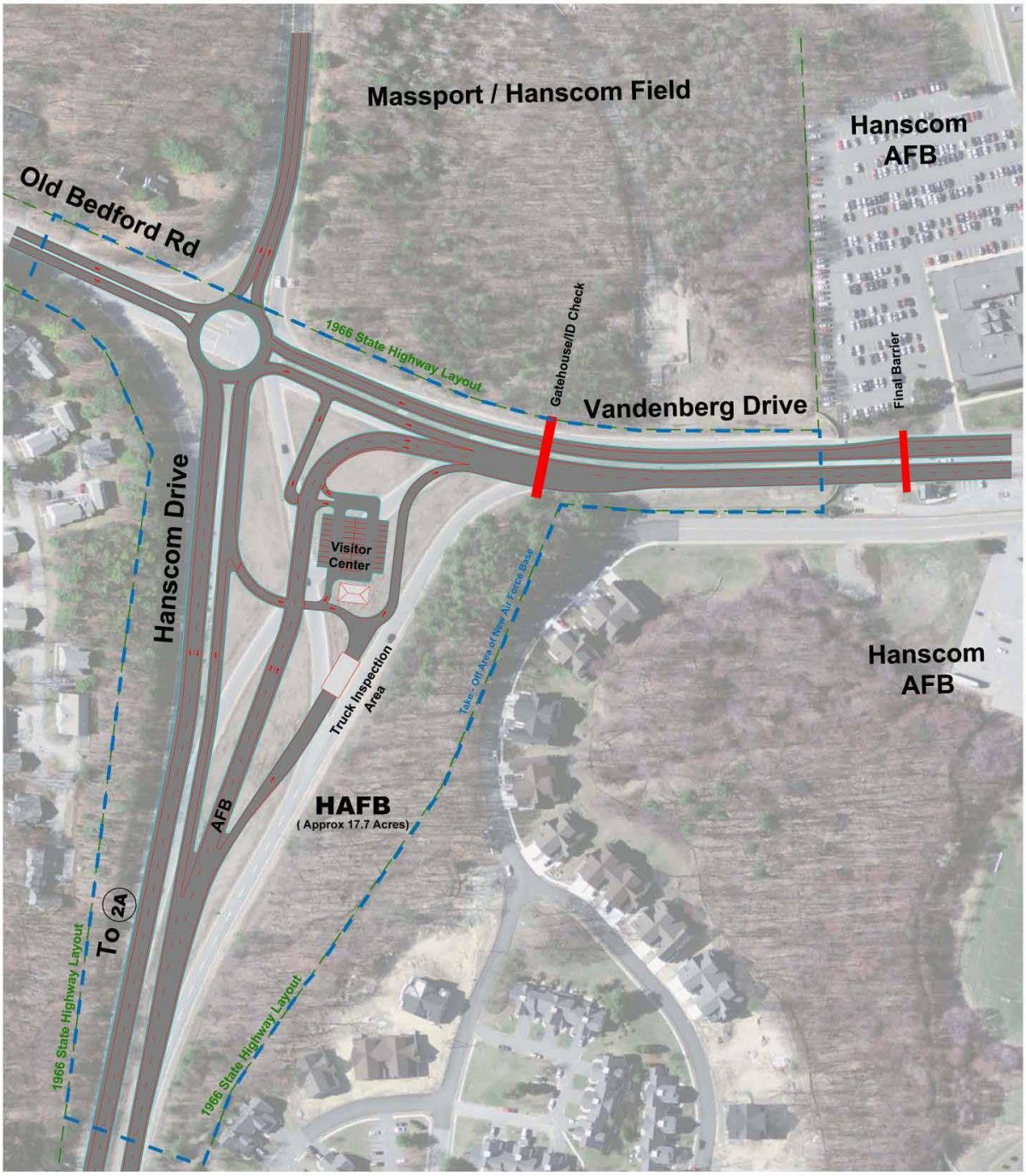


Figure 3 – Temporary Search Pit Area

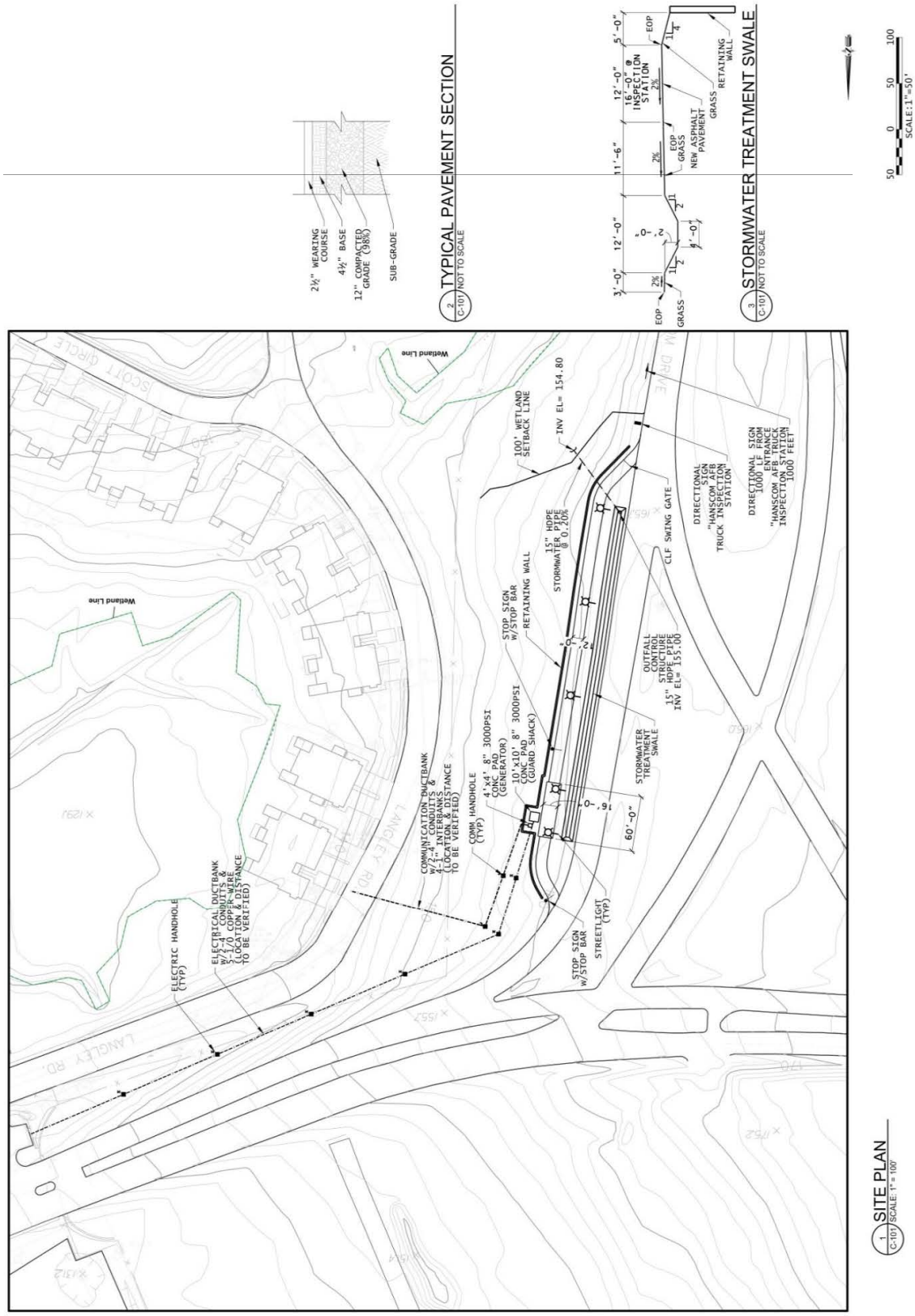
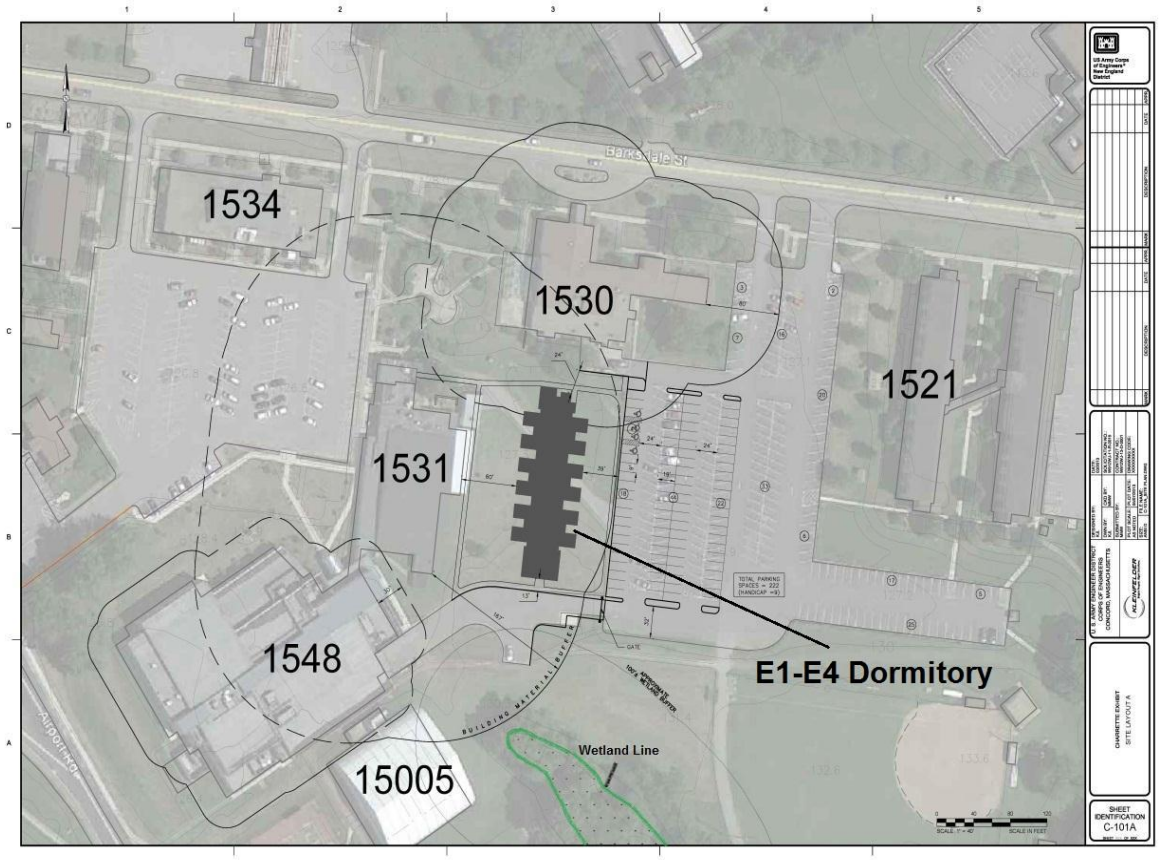


Figure 4 – Airmen Dormitory



From: Glorioso, Lauren (FWE) [lauren.glorioso@state.ma.us]
Sent: Thursday, October 16, 2014 12:04 PM
To: Johnson, Judith L NAE; charles.strickland@us.af.mil
Subject:[EXTERNAL] Hanscom AFB - New Gate & Dormitory

Mr. Strickland,

The NHESP received your letter regarding the proposed gate and dormitory on the Hanscom Air Force Base. This email confirms that the proposed Airmen dormitory and Vandenburg Gate Complex will not be within Priority Habitat for state-listed species, and thus not require a review pursuant to the MA Endangered Species Act (MESA). If you have questions, please let me know.

Sincerely,

Lauren Glorioso

Endangered Species Review Assistant
Natural Heritage & Endangered Species Program | Division of Fisheries & Wildlife || We have returned to our permanent address: 1 Rabbit Hill Road | Westborough, MA 01581 | ph: 508-389-6361 | fax: 508-389-7890 | lauren.glorioso@state.ma.us | www.mass.gov/nhesp

6.4. Massachusetts Historical Commission

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 66TH AIR BASE GROUP
HANSCOM AIR FORCE BASE MASSACHUSETTS

Mr. Charles N. Strickland III, PE
66 ABG/CEI
120 Grenier Street
Hanscom AFB MA 01731-1910

19 AUG 2014

Ms. Brona Simon, Executive Director and SHPO
Massachusetts Historical Commission
The Massachusetts State Archives Building
220 Morrissey Boulevard
Boston Massachusetts 02125

RE: New Entry Gate/New Dormitory, 2014-008

Dear Ms. Simon

Previous coordination was conducted with your office, in a letter dated February 10, 2014 with regard to the acquisition of 22 acres of land located on Hanscom Drive west of the existing Vandenberg Gate and adjacent to Minute Man National Historical Park (MMNHP). This 22-acre parcel of land was proposed as the site of construction for a new entry control facility to replace the existing Vandenberg Gate. In an effort to move forward on this project, Hanscom AFB is now proposing the construction of the new Vandenberg Gate Complex. In addition, another project (unrelated to the gate construction project) is also proposed which involves the construction of a new Airmen dormitory to be located on the base proper. We would like your formal comments in accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. Further information is provided in the following narratives and enclosed figures (see attached Figure 1- Location Map for the locations of the proposed actions).

The existing Vandenberg Gate, located in Lincoln, MA, operates as both the commercial vehicle gate as well as a personally-owned vehicle (POV) gate; however, the existing gate does not comply with current standards. The construction of the Vandenberg Gate Complex located on Hanscom Drive would modernize the existing Vandenberg Gate and provide a new entry control facility to include a visitor center and gatehouse complex, and the demolition of the existing control facilities. The existing guard shack (Building 1617) and the visitor center (Building 1620) would be demolished. Building 1617 was built in 1993 and Building 1620 was built is 1992. The approach road to the base would be realigned to include striping, sidewalk, utilities, security bollards, drainage structures, manholes, landscaping, signage, vehicle barriers, under vehicle lighting, an emergency generator, fencing, and communications equipment (Figure 2 – Vandenberg Gate Complex). As an interim measure to provide improvements until the Vandenberg Gate Complex is constructed, Hanscom AFB is proposing the construction of a temporary search pit area which includes a separate vehicle search lane. The temporary search pit involves the construction of 600 linear feet of asphalt, a retaining wall and swale (Figure 3 – Search Pit Area).

In our previous February 10, 2014 coordination concerning the acquisition of the 22-acre parcel, a general description of the Vandenberg Gate Complex was provided to your office. A response from the MMNHP, dated March 21, 2014 noted a general concern about the potential height of the structures associated with the new Vandenberg Gate Complex with regard to potential visual impacts to MMNHP. However, the buildings associated with the Vandenberg Gate Complex are designed to be one-story in height and as such, should not negatively affect the MMNHP aesthetic view.

The location of the proposed Vandenberg Gate Complex has been previously disturbed by the construction of roadways that provide access to Hanscom AFB, including Old Bedford Road and Hanscom Drive which are accessed from Massachusetts Avenue (Route 2A) in Lincoln. There are no historic properties or archaeologically sensitive areas within the 22-acre parcel. Impacts to significant cultural resources are not expected.

The second project currently being proposed by Hanscom AFB is the construction of a new Airmen dormitory. The new dormitory will be built in a generally flat grassy area and parking lot located adjacent to the existing Fitness Center and Bowling Alley. The dormitory will be a three-story structure (28,009± square foot) and will provide for a total of 64-68 bedrooms. Existing Airmen dormitories located approximately 100 yards west of the construction site, are rapidly deteriorating and are in need of replacement. The existing dormitories will be demolished as part of this project (see Figure 4 – Proposed Airmen Dormitory).

The construction of the new dormitory is unlikely to impact significant historic properties as it is located within an area previously disturbed and surrounded by existing buildings and a parking lot. The location has previously been determined to have low archaeological sensitivity. Additionally, impacts to the existing setting and views of the MMNHP are not expected as the proposed new dormitory building is set in the interior of Hanscom AFB, is surrounded by other buildings on a level parcel, and is actually about 15-20 feet lower in elevation than the existing dormitory buildings scheduled for demolition. Although these two buildings are more than 50 years old, they do not exhibit significant historic or architectural characteristics and were refurbished as recently as 1997. As mentioned above, the existing dormitories are in poor condition and do not meet current safety and construction standards.

In summary, we feel that construction of the proposed Vandenberg Gate Complex and Airmen dormitory (with demolition of existing buildings 1510 and 1511) will have no effect upon any site or structure of architectural, archaeological or historic significance as determined by Section 106 of the NHPA and implementing regulations 36 CFR 800. Buildings 1510 and 1511 were surveyed and evaluated for National Register eligibility in 2003 by PAL. This evaluation, which is on file in your office, determined that Buildings 1510 and 1511 were not eligible for listing on the National Register. Attached are pictures of Buildings 1510 and 1511 taken on 31 July 2014.We would appreciate your concurrence with this determination. A similar letter is being sent to the MMNHP, the Wampanoag Tribe of Gayhead (Aquinnah) and the Massachusetts Commission of Indian Affairs.

I respectfully request your review, comment, and concurrence on the proposed actions. Concurrence will be assumed if no response is received within thirty (30) calendar days from receipt of this letter. Please contact me at 781-225-2969 or at charles.strickland4@us.af.mil, or you may also contact Marc Paiva at the US Army Corps of Engineers, Evaluation Branch, at 978-318-8796 or by email at marcos.a.paiva@usace.army.mil if you require additional information.

Very Respectfully

CHARLES N. STRICKLAND III, P.E.
Installation Management Flight Chief

5 Attachments:
1. Figure 1 – Location Map
2. Figure 2 – Vandenberg Gate Complex
3. Figure 3 – Temporary Search Pit Area
4. Figure 4 – Proposed Airmen Dormitory
5. Photos taken on 31 July 2014 by Portage, Inc.

Cc:
Ms. Nancy Nelson, Superintendent
Minute Man National Historical Park
174 Liberty Street
Concord Massachusetts 01742

Mr. Lou Sideris
Chief of Planning and Communications
Minute Man National Historical Park
174 Liberty Street
Concord Massachusetts 01742

Figure 1 – Location Map

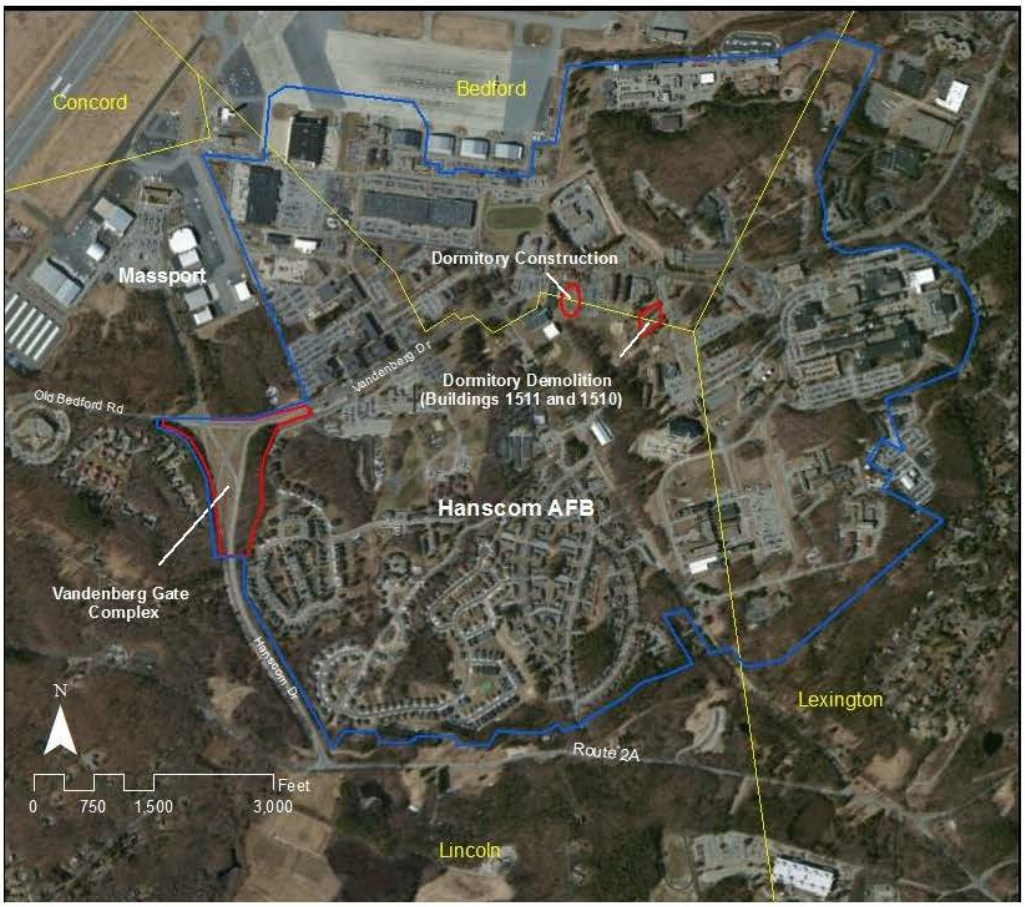


Figure 2 – Vandenberg Gate Complex

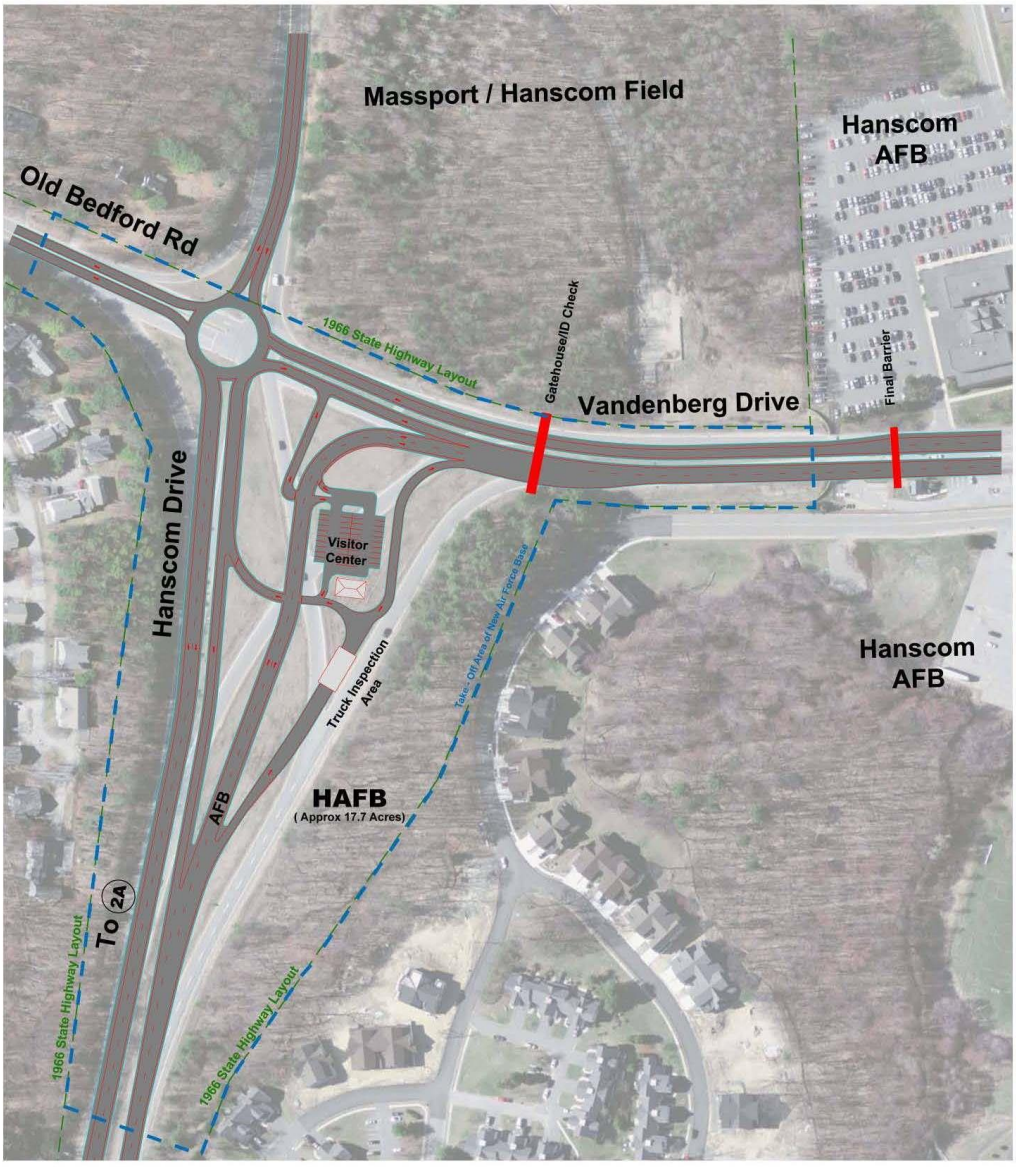


Figure 3 – Temporary Search Pit Area

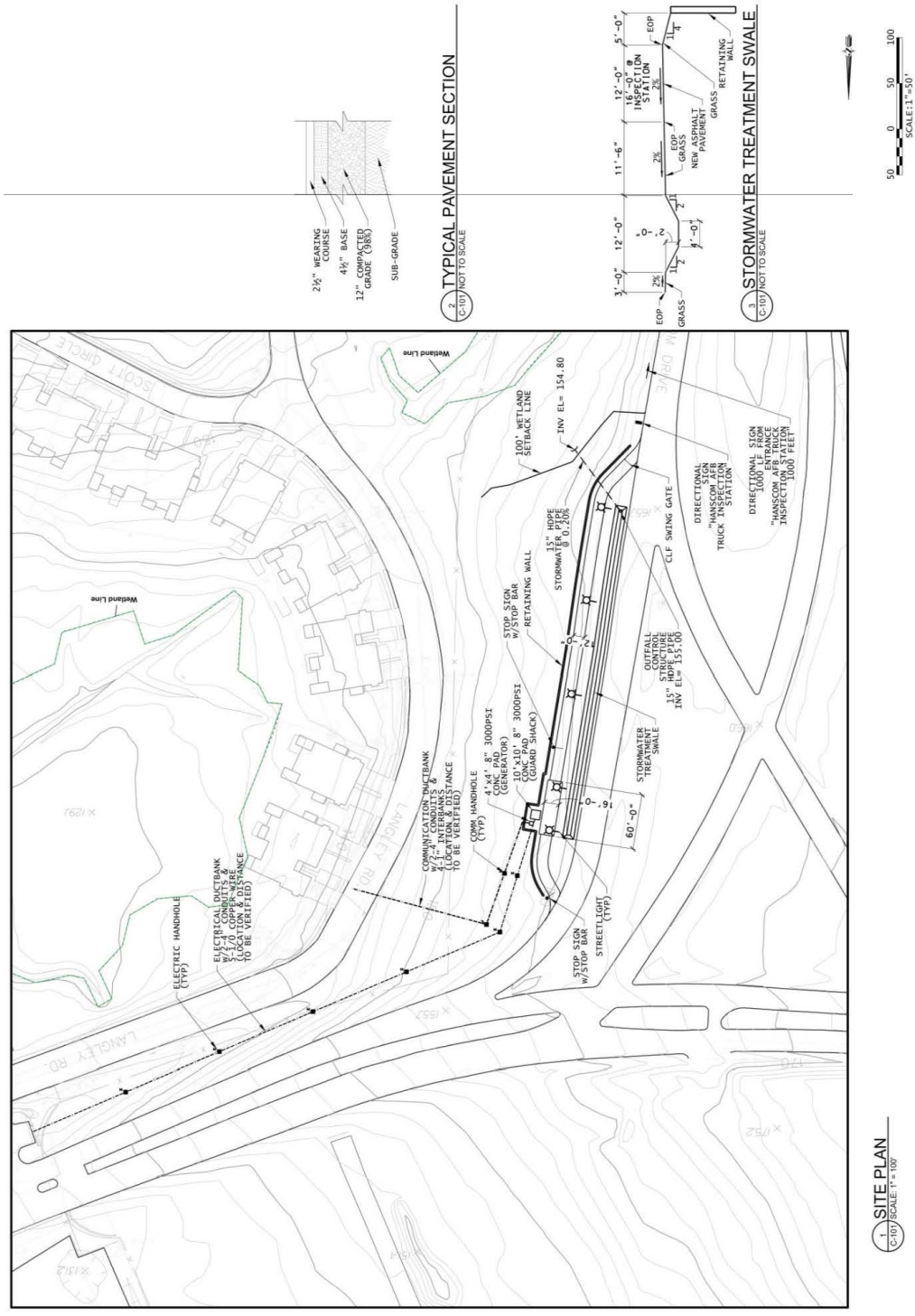
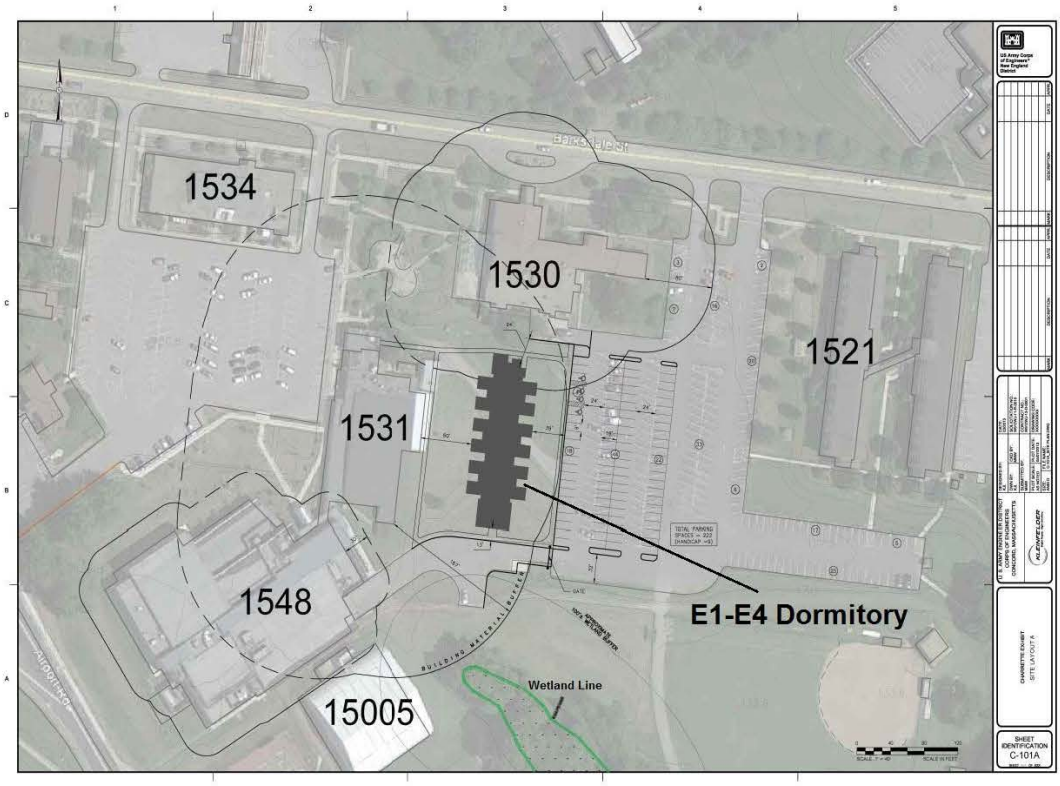


Figure 4 – Proposed Airmen Dormitory



PORTAGE **Photos taken by Jim Maravelias on 31 July 2014**

Building 1510 – View from East

Building 1510 – View from South

PORTAGE **Photos taken by Jim Maravelias on 31 July 2014**

Building 1510 – View from Northwest

Building 1510 – View from West

PORTAGE **Photos taken by Jim Maravelias on 31 July 2014**

Building 1511 – View from East

Building 1511 – View from North

PORTAGE **Photos taken by Jim Maravelias on 31 July 2014**

Building 1511 – View from West

Building 1511 – View from Southeast

6.5 Massachusetts Commission on Indian Affairs

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 66TH AIR BASE GROUP
HANSCOM AIR FORCE BASE MASSACHUSETTS

Mr. Charles N. Strickland III, PE
66 ABG/CEI
120 Grenier Street
Hanscom AFB MA 01731-1910

19 AUG 2014

Mr. James Peters, Executive Director
Massachusetts Commission on Indian Affairs
100 Cambridge Street, Suite 300
Boston MA 02114

RE: New Entry Gate/New Dormitory, 2014-009

Dear Mr. Peters

Previous coordination was conducted with your office, in a letter dated February 10, 2014 with regard to the acquisition of 22 acres of land located on Hanscom Drive west of the existing Vandenberg Gate and adjacent to Minute Man National Historical Park (MMNHP). This 22-acre parcel of land was proposed as the site of construction for a new entry control facility to replace the existing Vandenberg Gate. In an effort to move forward on this project, Hanscom AFB is now preparing an Environmental Assessment (EA) for the new Vandenberg Gate Complex project. Also included in this EA, another project (unrelated to the gate construction project) is proposed that involves the construction of a new Airmen dormitory to be located on the base proper. (see attached Figure 1- Location Map for the locations of the proposed actions).

The existing Vandenberg Gate, located in Lincoln, MA, operates as both the commercial vehicle gate as well as a personally-owned vehicle (POV) gate; however, the existing gate does not comply with current standards. The construction of the Vandenberg Gate Complex located on Hanscom Drive would modernize the existing Vandenberg Gate and provide a new entry control facility to include a visitor center and gatehouse complex, and the demolition of the existing control facilities. The approach road to the base would be realigned to include striping, sidewalk, utilities, security bollards, drainage structures, manholes, landscaping, signage, vehicle barriers, under vehicle lighting, an emergency generator, fencing, and communications equipment (Figure 2 – Vandenberg Gate Complex). As an interim measure to provide improvements until the Vandenberg Gate Complex is being constructed, Hanscom AFB is proposing the construction of a temporary commercial vehicle search pit area which includes a separate vehicle search lane. The temporary search pit involves the construction of 600 linear feet of asphalt, a retaining wall and swale (Figure 3 – Search Pit Area).

The location of the proposed Vandenberg Gate Complex has been previously disturbed by the construction of roadways that provide access to Hanscom AFB, including Old Bedford Road and Hanscom Drive which are accessed from Massachusetts Avenue (Route 2A) in Lincoln.

There are no historic properties or archaeologically sensitive areas within the 22-acre parcel. Impacts to significant cultural resources are not expected.

The second project currently being proposed by Hanscom AFB is the construction of a new Airmen dormitory. The new dormitory will be built in a generally flat grassy area and parking lot located adjacent to the existing Fitness Center and Bowling Alley. The dormitory will be a three-story structure (28,009± square foot) and will provide for a total of 64-68 bedrooms. Existing Airmen dormitories located approximately 100 yards west of the construction site, are rapidly deteriorating and are in need of replacement. The existing dormitories will be demolished as part of this project (see Figure 4 – Proposed Airmen Dormitory). The construction of the new dormitory area is also on previously disturbed land.

The proposed Vandenberg Gate Complex and new Airmen dormitory (with demolition of existing buildings 1510 and 1511) will have no effect upon any site or structure of architectural, archaeological or historic significance as determined by Section 106 of the National Historical Preservation Act (NHPA). No cultural artifacts, burial remains or funerary objects are anticipated to be discovered during the construction of the proposed Vandenberg Gate Complex and new Airmen dormitory. Like any action at Hanscom AFB, if any artifacts, burial remains or funerary objects are discovered at any time during the proposed action, the Air Force will immediately cease activity and contact you regarding disposition of any such artifacts, remains or objects. We would appreciate your concurrence with this determination.

I respectfully request your review and comment on the proposed actions. Please provide comments within 30 days from receipt of this letter. A non-response will be considered as concurrence. Please contact me at 781-225-2969 or by email at charles.strickland4@us.af.mil, or you may also contact Marc Paiva at the US Army Corps of Engineers, Evaluation Branch, at 978-318-8796 or by email at marcos.a.paiva@usace.army.mil if you require additional information.

Very Respectfully

CHARLES N. STRICKLAND III, P.E.
Installation Management Flight Chief

4 Attachments:
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Figure 1 – Location Map

Figure 2 – Vandenberg Gate Complex

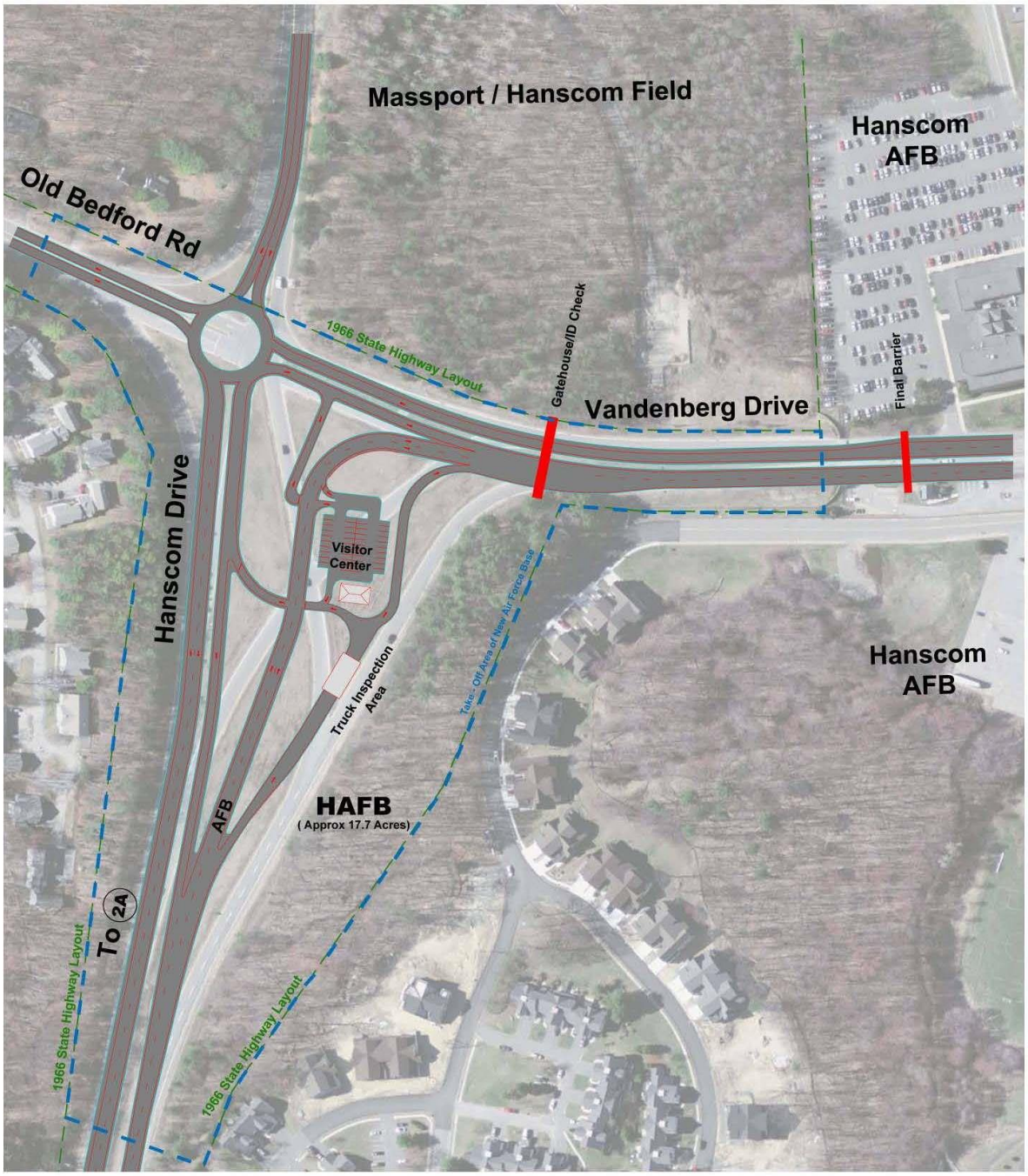


Figure 3 – Temporary Search Pit Area

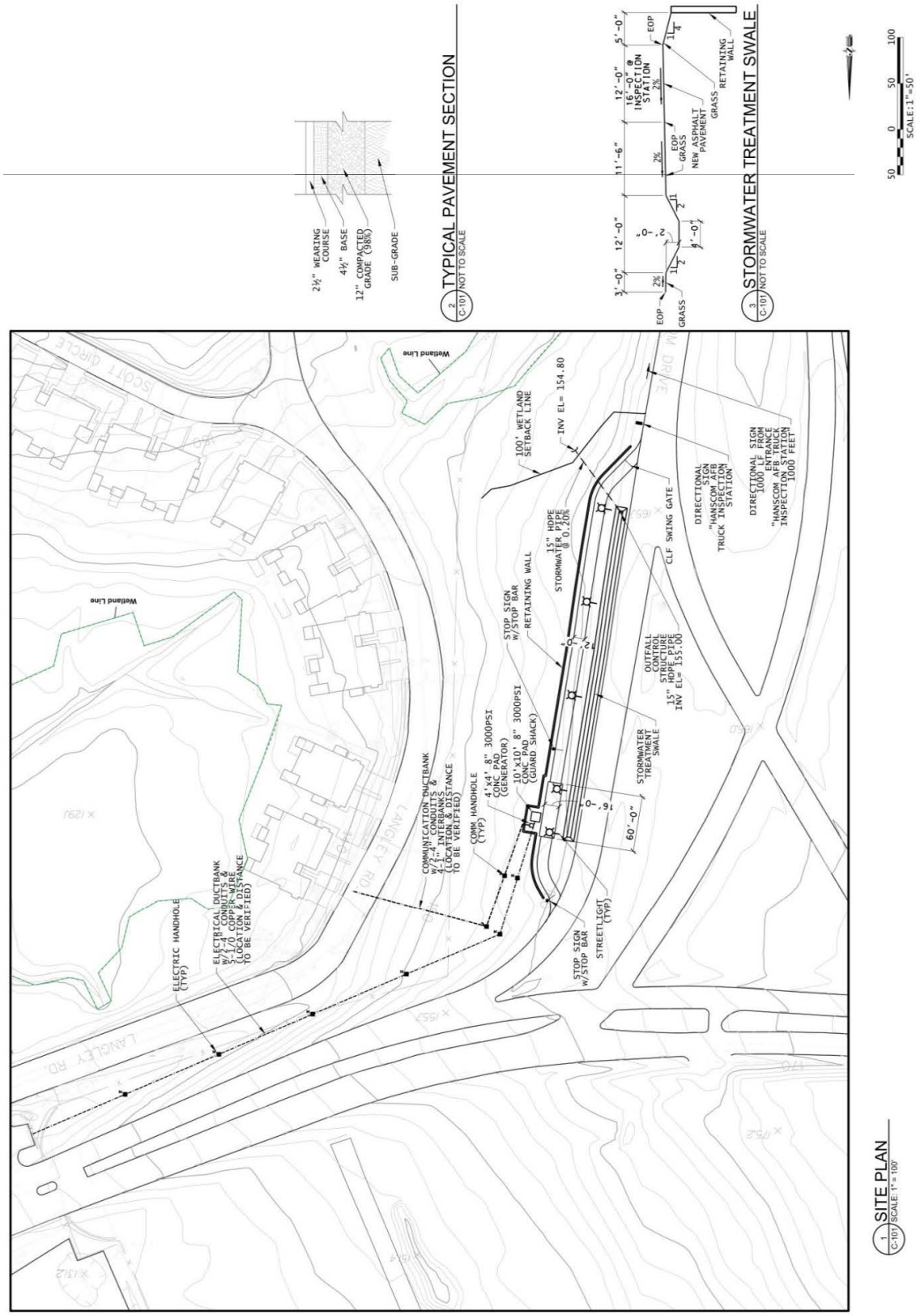
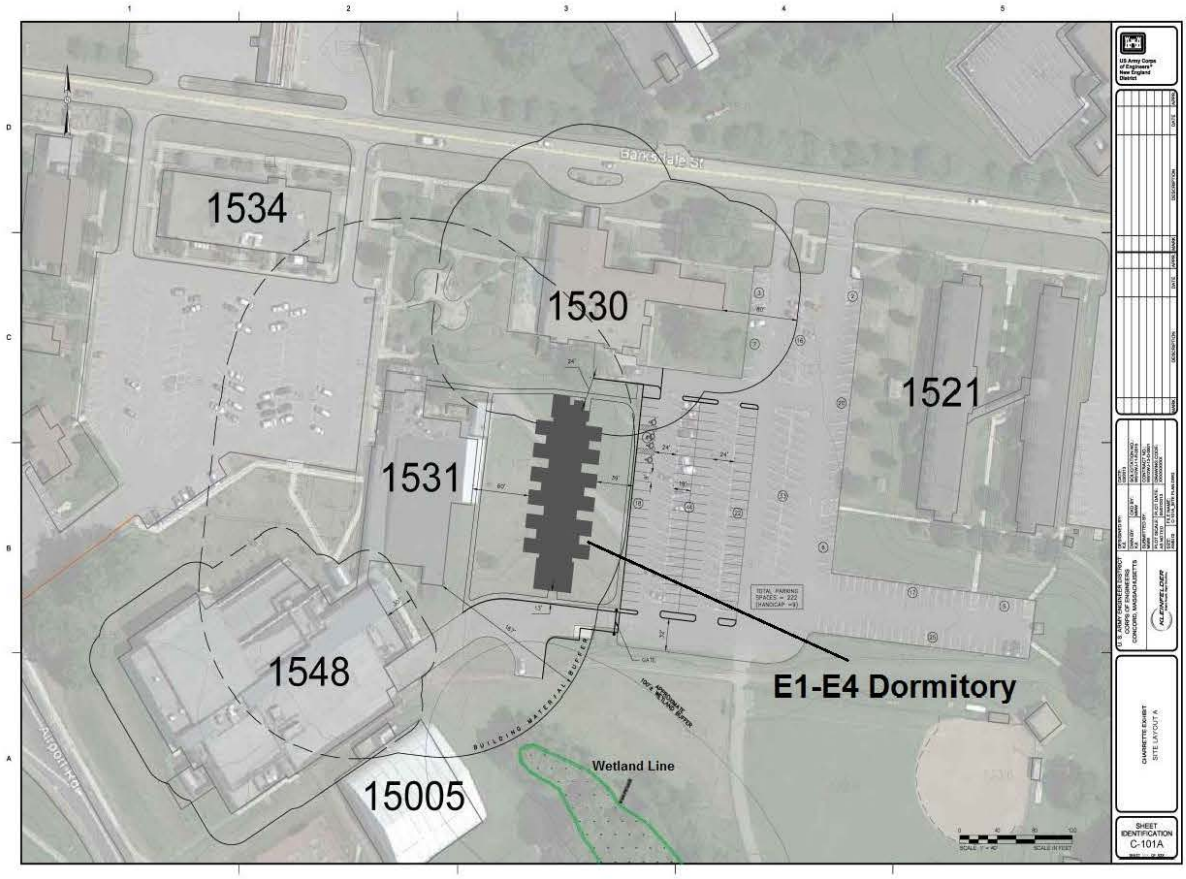


Figure 4 – Proposed Airmen Dormitory



6.6. Wampanoag Tribe of Gay Head (Aquinnah)

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 66TH AIR BASE GROUP
HANSCOM AIR FORCE BASE MASSACHUSETTS

Mr. Charles N. Strickland III, PE
66 ABG/CEI
120 Grenier Street
Hanscom AFB MA 01731-1910

22 AUG 2014

Mr. Tobias Vanderhoop
Tribal Council - Chairman
Wampanoag Tribe of Gay Head (Aquinnah)
20 Black Brook Road
Aquinnah MA 02535-9701

RE: New Entry Gate/New Dormitory, 2014-011

Dear Mr. Vanderhoop

Previous coordination was conducted with your office, in a letter dated February 10, 2014 with regard to the acquisition of 22 acres of land located on Hanscom Drive west of the existing Vandenberg Gate and adjacent to Minute Man National Historical Park (MMNHP). This 22-acre parcel of land was proposed as the site of construction for a new entry control facility to replace the existing Vandenberg Gate. In an effort to move forward on this project, Hanscom AFB is now preparing an Environmental Assessment (EA) for the new Vandenberg Gate Complex project. Also included in this EA, another project (unrelated to the gate construction project) is proposed that involves the construction of a new Airmen dormitory to be located on the base proper. (see attached Figure 1- Location Map for the locations of the proposed actions).

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The second project currently being proposed by Hanscom AFB is the construction of a new Airmen dormitory. The new dormitory will be built in a generally flat grassy area and parking lot located adjacent to the existing Fitness Center and Bowling Alley. The dormitory will be a three-story structure (28,009± square foot) and will provide for a total of 64-68 bedrooms. Existing Airmen dormitories located approximately 100 yards west of the construction site, are rapidly deteriorating and are in need of replacement. The existing dormitories will be demolished as part of this project (see Figure 4 – Proposed Airmen Dormitory). The construction of the new dormitory area is also on previously disturbed land.

The proposed Vandenberg Gate Complex and new Airmen dormitory (with demolition of existing buildings 1510 and 1511) will have no effect upon any site or structure of architectural, archaeological or historic significance as determined by Section 106 of the National Historical Preservation Act (NHPA). No cultural artifacts, burial remains or funerary objects are anticipated to be discovered during the construction of the proposed Vandenberg Gate Complex and new Airmen dormitory. Like any action at Hanscom AFB, if any artifacts, burial remains or funerary objects are discovered at any time during the proposed action, the Air Force will immediately cease activity and contact you regarding disposition of any such artifacts, remains or objects. We would appreciate your concurrence with this determination.

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Very Respectfully

CHARLES N. STRICKLAND III, P.E.
Installation Management Flight Chief

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Cc:
Ms. Bettina Washington
Tribal Historic Preservation Officer
Wampanoag Tribe of Gay Head (Aquinnah)
20 Black Brook Road
Aquinnah, MA 02535-9701

Figure 1 – Location Map

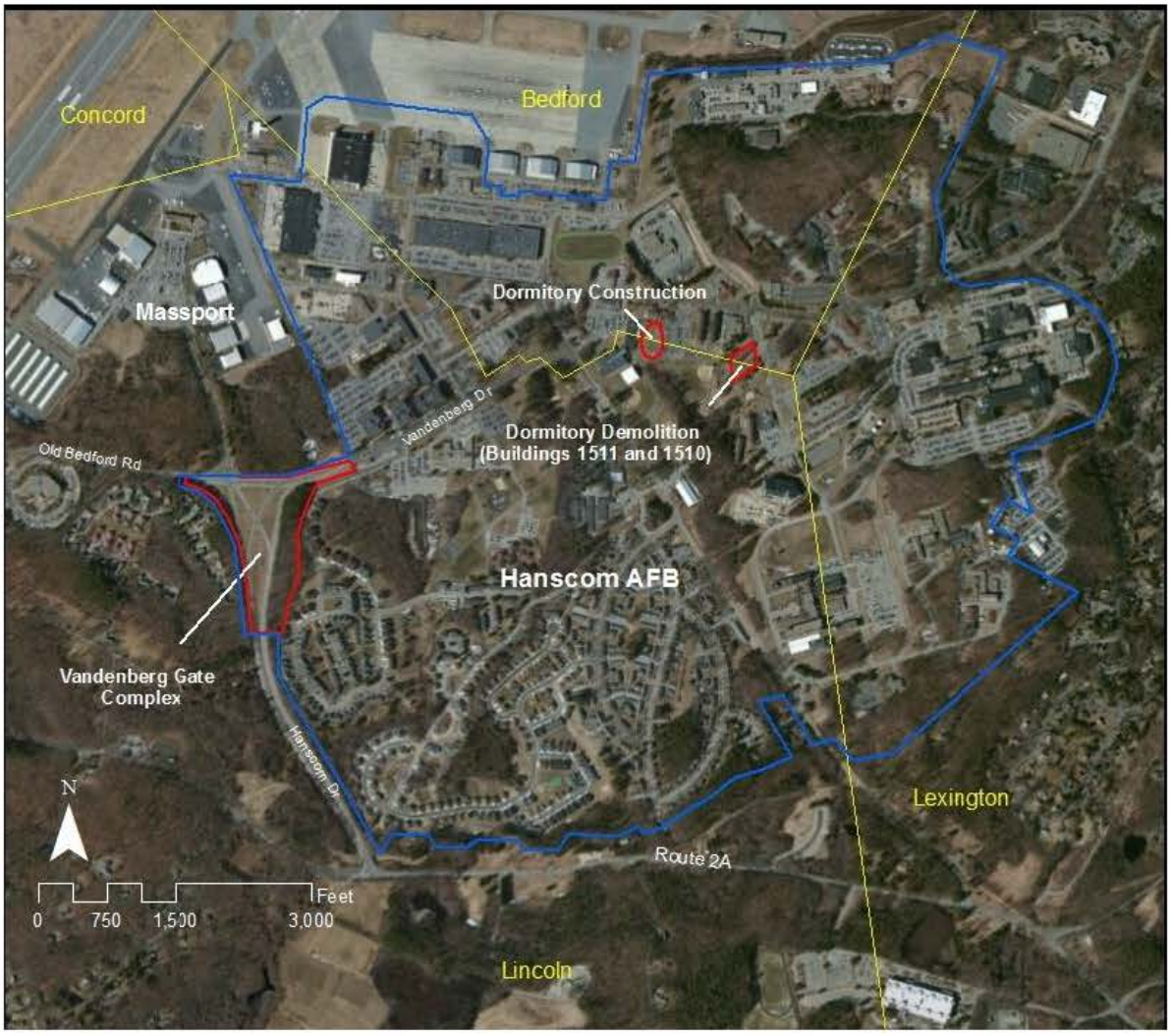


Figure 2 – Vandenberg Gate Complex

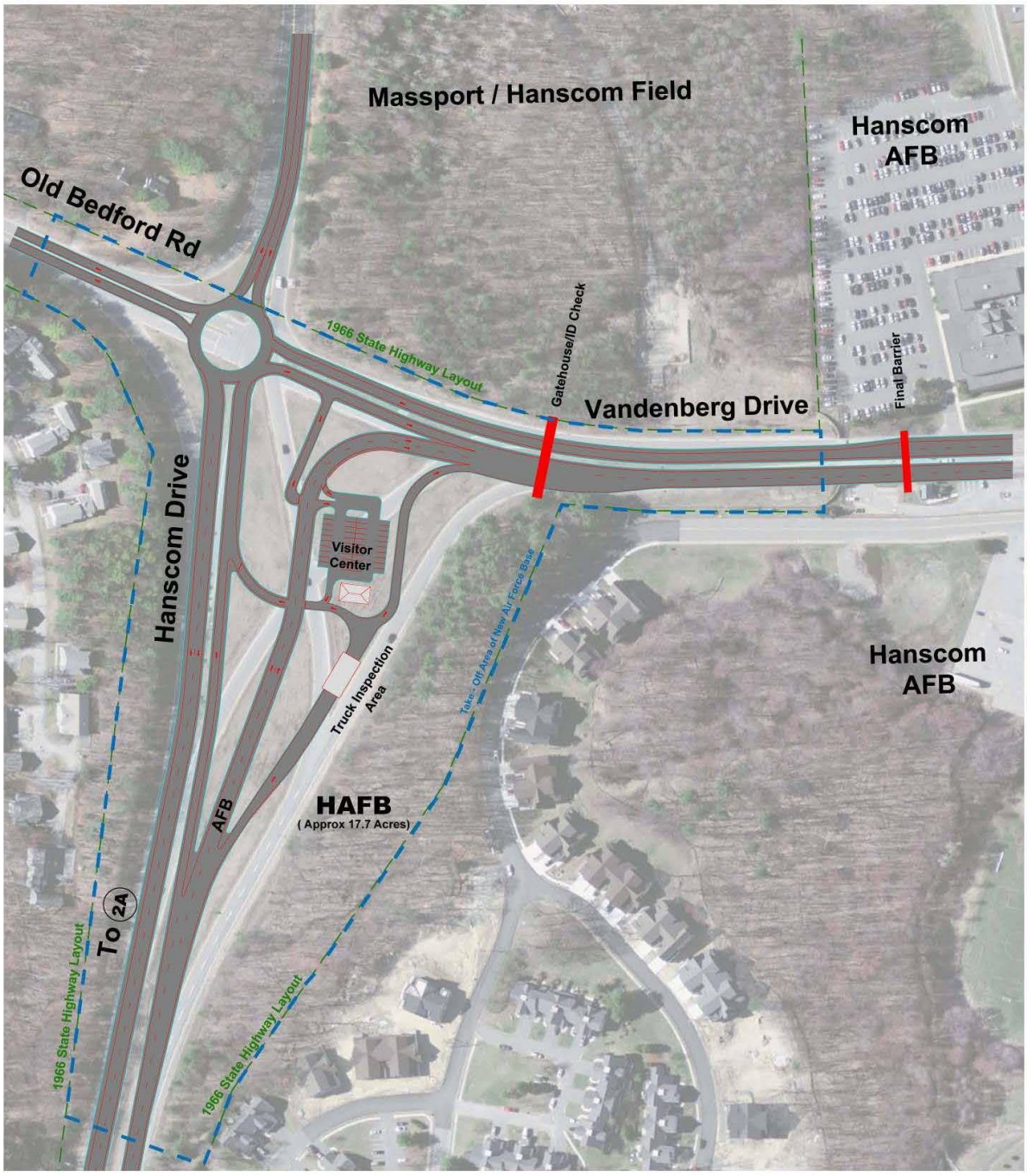


Figure 3 – Temporary Search Pit Area

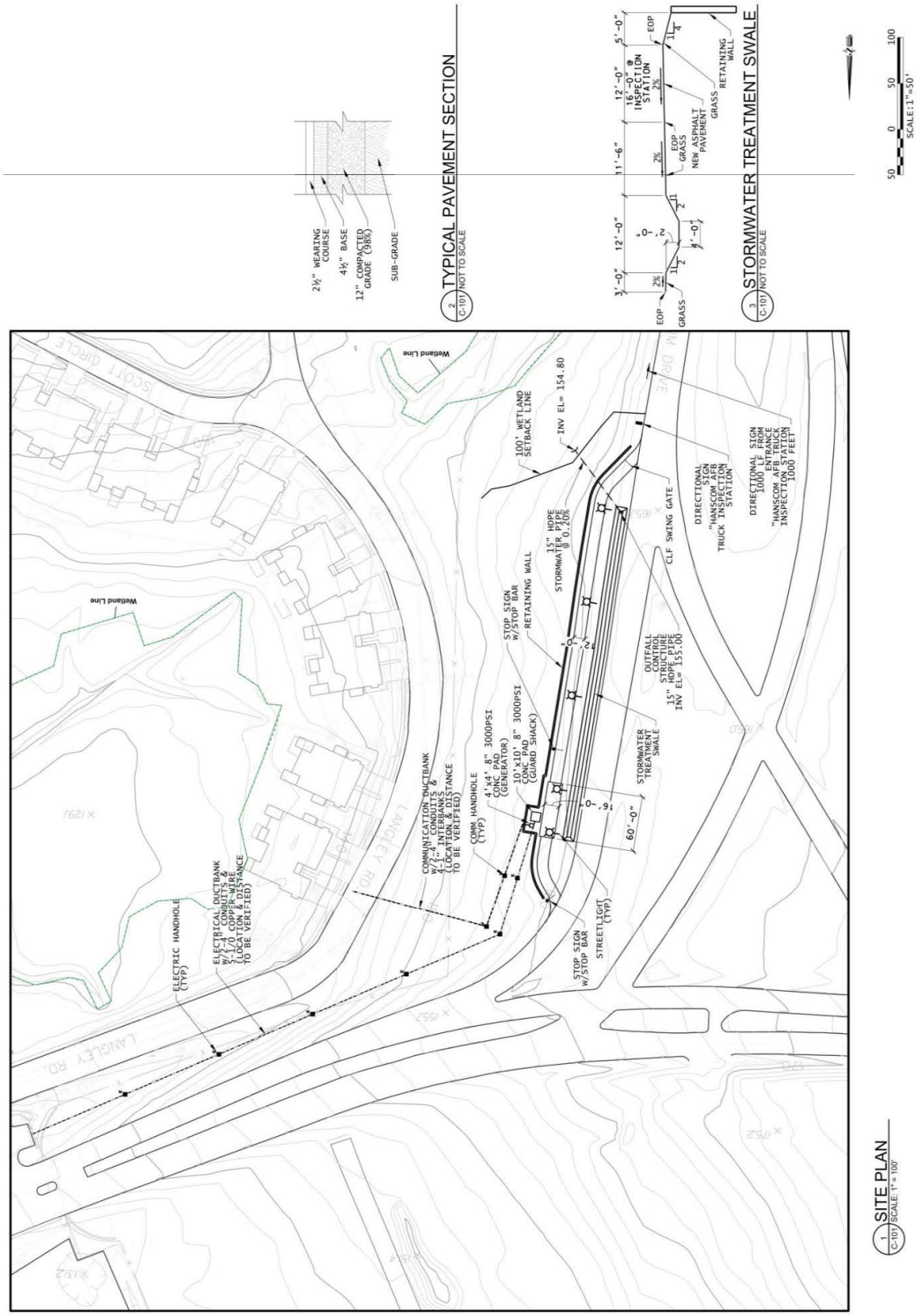
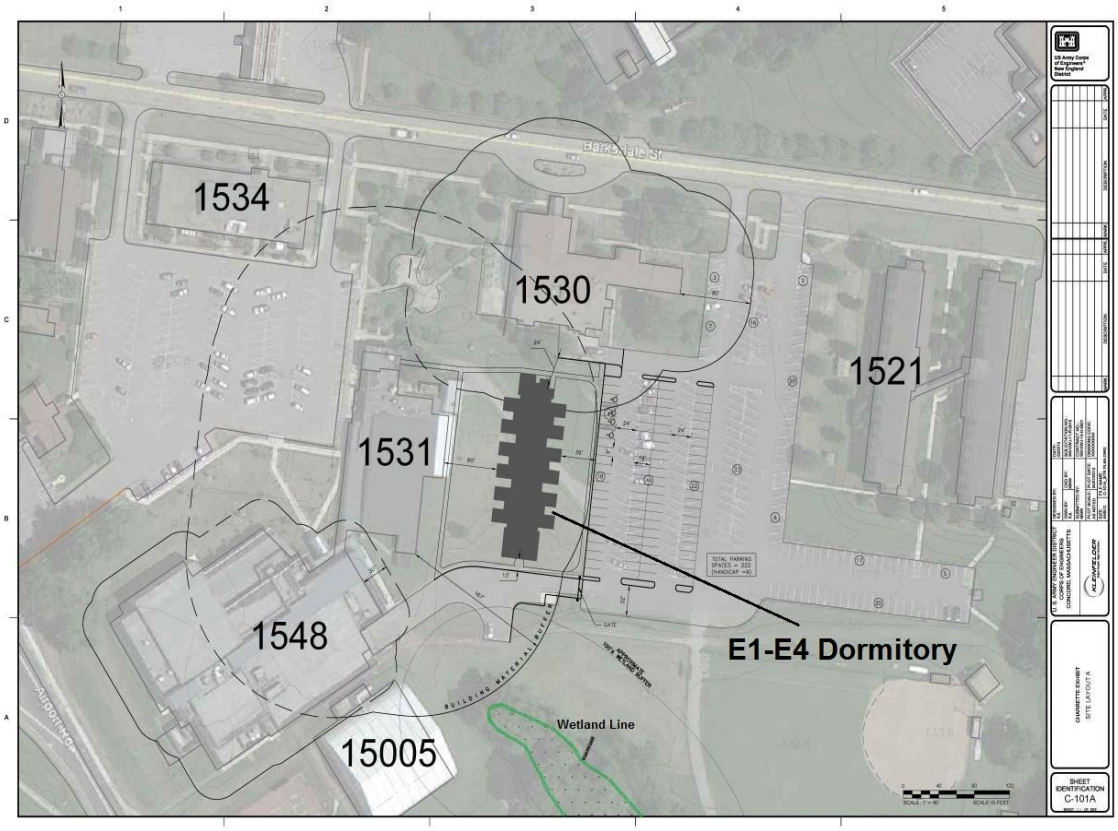


Figure 4 – Proposed Airmen Dormitory



6.7. Public Notice

6.7.1. Copy of Public Notice Printed in Local Newspapers, 20 November 2014

Public comments invited on Hanscom AFB's new Vandenberg Gate Complex and Dormitory.

HANSCOM AIR FORCE BASE, Mass. -- The United States Air Force announces the availability of a draft Environmental Assessment and Finding of No Significant Impact for the proposed Vandenberg Gate Complex and Airmen Dormitory Construction/Demolition projects.

The draft EA and draft FONSI address the site-specific impacts of two construction and demolition projects and evaluate the consequences of the proposed action and alternatives on the natural and man-made environments. Any impacts related to the proposed action are anticipated to be minor and the best management practices providing in the draft EA and FONSI would further reduce any impact.

Copies of the draft EA and FONSI are available for review at the main public libraries in Bedford, Concord, Lexington, Lincoln and at the Hanscom AFB Environmental Office, Building 1825 located at 72 Dow Street.

For further information concerning the draft EA and FONSI, please contact the Environmental Office at Hanscom AFB at 781-225-2969.

Written comments on the draft EA and FONSI will be received until 20 December 2014 and may be mailed to Chuck Strickland, 66 ABG/CEI, 72 Dow Street, Hanscom AFB, MA 01731 or emailed to Charles.Strickland.4@us.af.mil.

The Department of the Air Force Invites Public Comments
On Its Vandenberg Gate Complex and Airmen Dormitory Construction/Demolition
Environmental Assessment at Hanscom AFB

6.7.2. Receipt of Public Notice and Environmental Assessment Distribution

Public comments invited on Hanscom AFB's new Vandenberg Gate Complex and Dormitory

HANSCOM AIR FORCE BASE, Mass. -- The United States Air Force announces the availability of a draft Environmental Assessment and Finding of No Significant Impact for the proposed Vandenberg Gate Complex and Airmen Dormitory Construction/Demolition projects.

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The Department of the Air Force Invites Public Comments
On Its Vandenberg Gate Complex and Airmen Dormitory Construction/Demolition
Environmental Assessment at Hanscom AFB

received at Bedford Free Public Library
by me, [illegible] Hall, 11/19/14

Received @ Lexington Memorial Library
Jennifer Welch 11/19/2014

received Concord Free Public Library
Gay Liben, Librarian 11/19/14

11/19/14
LOU SIOERIS
MINUTE MAN NATIONAL HISTORICAL PARK

Received by Lincoln Public Library
Jane Flanders. 11/19/14.

6.7.3. Extension of Public Notice Comment Period

The comment period was extended to 10 January 2015 as per personal communication between J. Johnson, US Army Corps of Engineers, New England Division and J. Maravelias, Portage, Inc. (HAFB 2014e). No comments were received during the Public Notice period.

SECTION 7. GENERAL CONFORMITY-RECORD OF NON-APPLICABILITY

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

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

a. Action Location:
Base: HANSCOM AFB
County(s): Middlesex
Regulatory Area(s): Boston-Lawrence-Worcester (E. MA), MA-NH; Boston-Lawrence-Worcester (E. MA), MA

b. Action Title: Hanscom AFB Vandenberg Gate and Dorm Construction

c. Project Number/s (if applicable):

d. Projected Action Start Date: 3 / 2015

e. Action Description:

Hanscom Air Force Base (AFB) is proposing the construction of a new west-side entrance gate (Vandenberg Gate Complex) to replace the existing Vandenberg Gate main entrance to the base and construction of a multi-story dormitory and the demlition of two existing dormitories (Buildings 1510 and 1511).

f. Point of Contact:
Name: Charles N. Strickland III, P.E.
Title: Installation Management Flight Chief
Organization: 66 ABG/CEI
Email: Charles.strickland.4@us.af.mil
Phone Number: 781-225-2969

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

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

Conformity Analysis Summary:

2015

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Boston-Lawrence-Worcester (E. MA), MA-NH			
VOC	0.256		
NOx	1.777		
CO	1.362		
SOx	0.003		
PM 10	1.046		
PM 2.5	0.095		
Pb	0.000		
NH3	0.003		

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

Boston-Lawrence-Worcester (E. MA), MA			
VOC	0.256	50	No
NOx	1.777	100	No
CO	1.362		
SOx	0.003		
PM 10	1.046		
PM 2.5	0.095		
Pb	0.000		
NH3	0.003		

2016

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Boston-Lawrence-Worcester (E. MA), MA-NH			
VOC	0.530		
NOx	3.105		
CO	3.021		
SOx	0.005		
PM 10	0.183		
PM 2.5	0.182		
Pb	0.000		
NH3	0.007		
Boston-Lawrence-Worcester (E. MA), MA			
VOC	0.530	50	No
NOx	3.105	100	No
CO	3.021		
SOx	0.005		
PM 10	0.183		
PM 2.5	0.182		
Pb	0.000		
NH3	0.007		

2017

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Boston-Lawrence-Worcester (E. MA), MA-NH			
VOC	0.301		
NOx	1.716		
CO	1.595		
SOx	0.007		
PM 10	0.101		
PM 2.5	0.101		
Pb	0.000		
NH3	0.004		
Boston-Lawrence-Worcester (E. MA), MA			
VOC	0.301	50	No
NOx	1.716	100	No
CO	1.595		
SOx	0.007		
PM 10	0.101		
PM 2.5	0.101		
Pb	0.000		
NH3	0.004		

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

2018

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Boston-Lawrence-Worcester (E. MA), MA-NH			
VOC	0.294		
NOx	1.926		
CO	1.785		
SOx	0.008		
PM 10	0.207		
PM 2.5	0.093		
Pb	0.000		
NH3	0.003		
Boston-Lawrence-Worcester (E. MA), MA			
VOC	0.294	50	No
NOx	1.926	100	No
CO	1.785		
SOx	0.008		
PM 10	0.207		
PM 2.5	0.093		
Pb	0.000		
NH3	0.003		

2019

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Boston-Lawrence-Worcester (E. MA), MA-NH			
VOC	0.406		
NOx	2.175		
CO	2.571		
SOx	0.009		
PM 10	0.119		
PM 2.5	0.118		
Pb	0.000		
NH3	0.007		
Boston-Lawrence-Worcester (E. MA), MA			
VOC	0.406	50	No
NOx	2.175	100	No
CO	2.571		
SOx	0.009		
PM 10	0.119		
PM 2.5	0.118		
Pb	0.000		
NH3	0.007		

2020

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Boston-Lawrence-Worcester (E. MA), MA-NH			
VOC	0.006		
NOx	0.058		
CO	0.035		
SOx	0.004		

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RECORD OF CONFORMITY ANALYSIS (ROCA)

PM 10	0.006		
PM 2.5	0.006		
Pb	0.000		
NH3	0.000		
Boston-Lawrence-Worcester (E. MA), MA			
VOC	0.006	50	No
NOx	0.058	100	No
CO	0.035		
SOx	0.004		
PM 10	0.006		
PM 2.5	0.006		
Pb	0.000		
NH3	0.000		

2021 - (Steady State)

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Boston-Lawrence-Worcester (E. MA), MA-NH			
VOC	0.006		
NOx	0.058		
CO	0.035		
SOx	0.004		
PM 10	0.006		
PM 2.5	0.006		
Pb	0.000		
NH3	0.000		
Boston-Lawrence-Worcester (E. MA), MA			
VOC	0.006	50	No
NOx	0.058	100	No
CO	0.035		
SOx	0.004		
PM 10	0.006		
PM 2.5	0.006		
Pb	0.000		
NH3	0.000		

All estimated emissions associated with this action are below the conformity threshold values established at 40 CFR 93.153 (b); Therefore, the requirements of the General Conformity Rule are not applicable.

27 AUG 14
DATE

SECTION 8. LIST OF PREPARERS

The Environmental Office (66ABG/CEIE) prepared this document to fulfill the requirements of the National Environmental Policy Act (NEPA) for the Hanscom AFB Vandenberg Gate Complex construction and the A1-A4 Airmen dormitory construction and demolition of the existing dormitories. The following persons authored and provided direct oversight for the preparation of this environmental assessment:

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