DRAFT ENVIRONMENTAL ASSESSMENT (EA)

FOR THE

NEW FIRE STATION AND AIR PASSENGER TERMINAL
HANSCOM AIR FORCE BASE, MASSACHUSETTS

U.S. AIR FORCE

PREPARED BY:

Department of the Air Force

Hanscom Air Force Base, Massachusetts, 01731

DRAFT

DRAFT 8/22/2024

Letters or other written comments provided may be published in the Final EA. As required by law, substantive comments will be addressed in the Final EA and made available to the public. Any personal information provided will be kept confidential. Private addresses will be compiled to develop a mailing list for those requesting copies of the Final EA. However, only the names of the individuals making comments and their specific comments will be disclosed. Personal home addresses and phone numbers will not be published in the Final EA.

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TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF FIGURES

LIST OF TABLES

GLOSSARY OF ABBREVIATIONS AND ACRONYMS

CO	Carbon Monoxide
CRM	Code of Massachusetts Regulations
CWA	Clean Water Act
DAF	Department of the Air Force
DEP	Department of Environmental Protection
DOD	Department of Defense
DV	Distinguished Visitor
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EJ	Environmental Justice
EO	Executive Order
EPA	Environmental Protection Agency
ERP	Environmental Restoration Program
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FY	Financial Year
GCR	General Conformity Rule
HAFB	Hanscom Air Force Base
HBM	Hazardous Building Materials
HMMP	Hazardous Materials Management Program
HVAC	Hazardous Materials Management Plan
HWMP	Hazardous Waste Management Plan
ICRMP	Integrated Cultural Resources Management Plan
IDP	Installation Development Plan
IICEP	Interagency/Intergovernmental Coordination for Environmental Planning
IRP	Installation Restoration Program
ISWMP	Integrated Solid Waste Management Plan
LBP	Lead Based Paint
LBPMP	Lead Based Paint Management Plan
LID	Low impact development
LP	Liquified Petroleum
LTM	Long-term monitoring
LUC	Long use controls
MCP	Massachusetts Contingency Plan
MESA	Massachusetts Endangered Species Act
MHC	Massachusetts Historical Commission

GLOSSARY OF ABBREVIATIONS AND ACRONYMS (CONTINUED)

MMNHP	Minute Man National Historical Park
MS4	Municipal Separate Storm Sewer System
MW	Megawatt
MWRA	Massachusetts Water Resources Authority
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
NHESP	Natural Heritage and Endangered Species Program
NHPA	National Historic Preservation Act
NLEB	Northern Long Eared Bat
NOA	Notice of Availability
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
OSHA	Occupational Safety and Health Administration
PAX	Passenger Terminal/Distinguished Visitor Lounge
PCB	Polychlorinated Biphenyls
PH	Priority Habitat
PM	Particulate Matter
POV	Privately Owned Vehicle
RAO	Remedial Action Operations
RCP	Reinforced Concrete Pipe
RCRA	Resource Conservation and Recovery Act
ROI	Region of Influence
SDDCTEA	Surface Deployment and Distribution Command Transportation Engineering Agency
SFHA	Special Flood Hazard Area
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO2	Sulfur Dioxide
SOP	Standard Operating Procedures
TDM	Traffic Demand Management
THPO	Tribal Historic Preservation Officer
TMDL	Total Maximum Daily Loads
TSS	Total Suspended Solids
UFC	Unified Facilities Criteria
US	United States
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
USC	United States Code
USDA	United States Department of Agriculture

GLOSSARY OF ABBREVIATIONS AND ACRONYMS (CONTINUED)

USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tanks

EXECUTIVE SUMMARY

Proposed Action

Hanscom Air Force Base (AFB) proposes to construct a new fire station and passenger terminal/distinguished visitor lounge and safety office facility (PAX) at Hanscom AFB in Bedford, MA.

Currently, the existing fire station facility and PAX are both housed in the existing fire station to the northwest of the main base. However, the existing fire station/PAX building is outdated and provides insufficient space for both the fire station and PAX facilities to operate efficiently and meet current and future demands.

To improve operations, a new single-story, 26,325-square foot (sf) fire station is proposed at the site of a centrally located abandoned gas station along Barksdale Street, while a new single-story, 5,150-sf PAX building is proposed north of the existing fire station/PAX building, which will be demolished after the new facilities are constructed.

Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to develop a properly sized and configured fire station and PAX facilities at Hanscom AFB. Due to insufficient and undersized spaces, this EA is needed because the fire station's mission is impacted by lost time retrieving supplies and equipment from different areas of the base, extra training sessions impacting schedules due to small training space, and dislocated administration offices due to lack of space in the administration section of the fire station. Therefore, a new fire station and PAX are needed to support the efficient operation of fire and emergency services and air passenger services.

Alternatives Considered

Three alternatives were considered for analysis based upon the following screening criteria: meet capacity requirements; meet operation and safety standards; and located centrally to be able to quickly respond to emergencies. The Department of the Air Force (DAF) narrowed the alternatives to one action alternative that meets the purpose and need for the Proposed Action: the Preferred Alternative. A No Action Alternative is considered as the baseline from which all other environmental analyses are compared.

Alternative 1 (Preferred Alternative) – Alternative 1 involves the construction of a new fire station and PAX at new locations and subsequent demolition of the existing fire station/PAX building.

Alternative 2 – Alternative 2 includes the demolition of the existing fire station/PAX building and the construction of a new fire station and PAX at its current location.

The No Action Alternative – Under the No Action Alternative, Hanscom AFB would not construct a new fire station and PAX nor renovate the existing building. Firefighting operations and air passenger terminal services would continue to operate from the existing building.

Summary of Environmental Resources Evaluated in the EA

In compliance with the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations, and the DAF Environmental Impact Analysis Process (EIAP), the affected environment focuses on only those resources with the potential to be impacted by the implementation of the Proposed Action at the Preferred Alternative sites. The discussion of the affected environment and associated environmental impacts analysis focuses on the following resource areas: air quality, land use, water resources, soils and geologic resources, cultural resources, noise, biological/natural resources, infrastructure, occupational health and safety, environmental restoration program, solid waste and hazardous materials, and socioeconomic and environmental justice. Certain potential impacts were considered to be negligible or nonexistent; therefore, the following resources were not evaluated in this EA: air installation compatible use zone.

Summary of Potential Environmental Consequences of the Action

Air Quality: The Preferred Alternative would involve the demolition of existing buildings (fire station/PAX and abandoned gas station) and the construction of a new fire station and PAX at separate locations within Hanscom AFB. EPA has listed Hanscom AFB as nonattainment of the 1997 ozone National Ambient Air Quality Standards (NAAQS), although Middlesex county is in attainment with all the most recent and stringent NAAQS. As part of the Hanscom Installation Development Plan Environmental Assessment (IDPEA), a comprehensive Air Conformity Model (ACAM) evaluation was conducted. The results show that for all planned construction activities between the years 2020 and 2028, emissions of all NAAQS would be well below the threshold, at *de minimis* levels, indicating that the General Conformity Rule does not apply. Therefore, although some increase in air pollutant emissions is expected during construction and demolition (C&D) activities, it would be temporary and insignificant. Construction Best Management Practices (BMP) would be applied during C&D activities, to the maximum extent possible. As a result, no adverse impacts on the air quality are expected from the Preferred Alternative.

Land Use: The Preferred Alternative is compatible with current land use plans. Practicable best management measures would be adopted to minimize impacts on land use, including restoring disturbed areas to existing conditions. No adverse land use impact is anticipated from the construction and operation of the Proposed Action.

Water Resources: The Preferred Alternative is not anticipated to have any adverse short- or long-term impacts on water resources. During C&D activities, appropriate measures, which could include the placement of silt fence and/or hay bales around catch basins, would be implemented to reduce potential for sediment/eroded materials.

Soils and Geologic Resources: Limited grading and topography changes are expected to be needed to accommodate construction of the new fire station and PAX. The Preferred Alternative's impact on surface

topography and geology would be minimal given the sites have been previously developed and are generally flat. Temporary impacts to soil are anticipated from C&D activities associated with the Proposed Action. Sediment control measures would be adjusted to meet field conditions during all phases of construction. These measures would be constructed prior to and immediately after grading or disturbance of surface material on the Preferred Alternative sites. No short or long-term adverse impacts on the geology of the area are anticipated with the implementation of Preferred Alternative.

Cultural Resources: None of the undertakings pursued under this EA would be located within an archaeologically sensitive area or within the Air Force Cambridge Research Laboratory (AFCRL) Historic District. All undertakings authorized under this EA would avoid impacts to sensitive areas. In addition, the existing facilities were evaluated for historic significance and determines to be not eligible for the National Register of Historic Places.

Noise: Adverse long-term noise impacts are not anticipated as a result of the Proposed Action. However, minimal and temporary noise impacts are anticipated from C&D activities. After implementation of the Preferred Alternative, noise levels are expected to be consistent with current background levels at Hanscom AFB.

Biological and Natural Resources: The Preferred Alternative sites are located in already disturbed/developed areas of the base. Impacts to biological and natural resources from C&D activities are anticipated to occur primarily in landscaped areas and will be minor and temporary. Appropriate measures will be taken to limit impact and restore work areas to existing conditions.

Infrastructure: The Preferred Alternative is not anticipated to result in adverse short- or long-term impacts to infrastructure. The Proposed Action would occur solely within the main base; therefore, any potential traffic impacts from the Proposed Action would only affect the base. Impacts are anticipated to be temporary and minor. Adverse long-term impacts on the water system on the base are not expected. No significant impacts on water distribution or consumption are anticipated as no increase in personnel is proposed.

Occupational Safety and Health: Occupational safety and health procedures would be implemented as part of the C&D activities to ensure the safety and health of individuals at the worksite. Implementation of the Preferred Alternative would not result in direct or indirect impact on the safety and health of DAF employees and others at the site. The Preferred Alternative would be completed in accordance with all applicable federal, state, local, and applicable DAF regulatory safety standards. Contractors would be trained to identify and avoid safety hazards, such as those common to working around/with heavy equipment and electrically powered hand tools.

Solid Waste and Hazardous Materials: The Preferred Alternative is not anticipated to result in adverse impacts on solid waste and hazardous materials management. Materials generated during C&D activities will be recycled at their current location to the extent practicable. Materials not recycled and hazardous materials retrieved during demolition activities would be stored, transported, and disposed of in accordance with base, military, state, and federal regulations.

Short-term, minor impacts are anticipated from fugitive dust generated during C&D activities from implementation of the Preferred Alternative. Mitigation measures such as wetting soil prior to disturbing, covering stockpiles, and careful removal of debris by covered trucks will be employed to mitigate C&D impacts.

Socioeconomic and Environmental Justice: Under the Preferred Alternative, no adverse impacts on socioeconomics and environmental justice would occur. The Preferred Alternative would result in the long-term benefit of improving the firefighting and emergency response services at Hanscom AFB, thus contributing to enhancement of public safety.

Public Involvement

A Notice of Availability (NOA) announcing the public availability of the draft EA and FONSI for review on [**DATE]** was published in the following newspapers:

- Lexington Minuteman
- Concord Journal

In addition, the DAF issued a press release on [**DATE]** announcing the availability of the draft EA and FONSI. The NOA and press release invited the public to review and comment on the draft EA. The public and agency review period ended on **[DATE].**

1.0 PURPOSE AND NEED FOR ACTION

1.1 Introduction and Background

Hanscom Air Force Base (AFB) is a controlled-access federal facility located approximately 15 miles northwest of downtown Boston in Middlesex County, Massachusetts. The facility operates as an administrative hub for various military groups with some laboratory, residential, and research and development space.

Currently, the on base firefighting services are housed in the fire station located northwest of the main base, along the airfield flight line, with a section of the fire station building used as the Passenger Terminal/Distinguished Visitor Lounge and Safety Office Facility (PAX). The existing fire station is outdated and provides insufficient space to operate efficiently and meet current and future demand. The existing fire station does not meet the current Air Force Civil Engineering Dynamic Prototype Standards for a functional, compliant fire station that is configured properly for the mission and is undersized in many areas to adequately perform their mission. The building was constructed in 1956 and has never received a major renovation besides new roofing and living quarters. Similarly, the existing PAX is outdated and has insufficient space to support existing operations.

Fire protection and firefighting services are critical for the safe and efficient operation of the base. The Hanscom AFB Fire Protection program exists to provide protection to life and property. Its mission is to maintain readiness in direct support of Air Force Global Operations, provide technical consultant and education programs, and maintain professional fire suppression and rescue force to protect Air Force resources and personnel from loss by fire, natural disaster, Weapons of Mass Destruction, etc. The Hanscom AFB Fire Department maintains the capability to manage a wide variety of scenarios including structural emergencies, vehicle accidents and fires, aircraft accidents, hazardous material accidents, confined space rescue, mass casualties, mutual aid responses, and medical responses.

Therefore, to better support the functions of the fire station and PAX, the base is proposing to construct a new 26,371 square foot (sf) single-story fire station and a separate new 5,150 sf single-story PAX.

The new buildings will address the following deficiencies:

- Insufficient space for separation of required functions, such as laundry areas for personnel and protective equipment and for disinfecting clothing/equipment, per Unified Facilities Criteria (UFC) 4-740-10 and National Fire Protection Association (NFPA) 1500. Lack of adequate washing and disinfection areas places fire department personnel at risk for exposure to blood borne pathogens since these areas are not separated and contained.

- Insufficient training room square footage per UFC 4-730-10 to accommodate a fully staffed shift to attend required fire, rescue, emergency medical, or practical incident management training courses. Lack of space has resulted in holding separate training classes for fire station personnel resulting in approximately 240 extra training person-hours annually and has reduced community education programs by 50%. Insufficient electrical infrastructure and designated computer testing/training space also limits the use of audiovisual equipment and computer access required for the proper training and certifications for Fire Department personnel.

- Insufficient square footage of the current administrative wing of the fire station per UFC 4-730-10 to accommodate the fire department leadership, Fire Chief, Deputy Fire Chief and Assistant Chiefs causing several to be located outside the fire station. Currently, The restroom for female firefighters is also serving as the public restroom, a situation not in accordance with UFC 4-730-10.

- Insufficient square footage of the current day room per use as a day room/dining room/recreation room per UFC 4-730-10. The communications room also has insufficient square footage per UFC 4-730-10. These spaces are utilized/manned 24/7 and due to the tight spaces, affect overall morale. Overall, the fire station needs significant upgrades to stay in compliance with UFC 4-730-10 Fire Stations (USACE and Air Force only); and the requirements of NFPA 72, 101 and 1500. The fire station has three open FSD-I/s due to deficiencies such as lack of fire detection/suppression system required by UFC 3-600-01 Fire Protection Engineering for Facilities.

1.2 Location

Hanscom AFB is located outside Route 128/I-95 highway in the towns of Bedford, Lexington, and Lincoln in Middlesex County, Massachusetts (see **Figure 1**). The base occupies approximately 846 acres. 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 Bedford to the north. To the west and south of Hanscom AFB is the National Park Service (NPS) Minute Man National Historical Park (MMNHP). To the south and east of the base is primarily residential with some conservation land.

The existing fire station and PAX are both housed in the existing fire station building to the northwest of the main base located along Robbins Street and bordering the Massport airfield (see **Figure 2**). The new fire station is proposed at the former Army and Air Force Exchange Service (AAFES) gas station, an approximately 1.2-acre site centrally located in the installation on the north side of Barksdale Street between Forbes Street and Grenier Street (see **Figure 2**). The fuel tanks and canopy of the gas station have been removed, but the main building and an adjacent baseball backstop remain. Surrounding the gas station site is a memorial field and the static display to the west, and a track and playground to the north. The new PAX building is proposed north of the existing fire station/PAX building, which is currently located between the flightline and Robbins Street.

1.3 Purpose and Need for the Proposed Action

The purpose of the Proposed Action is to construct a properly sized and configured installation fire station to provide fire protection and firefighting services for the installation. The new station will house all firefighting equipment and crews, a central fire alarm system, command and control, and 24-hour crew quarters. In addition, the purpose is to provide a properly sized and configured PAX, housing safety office, air passenger terminal, and Distinguished Visitor (DV) lounge.

A new fire station at Hanscom AFB is needed to support all Fire and Emergency Services for the base. Due to the current fire station building's insufficient and undersized spaces, the fire station's mission is impacted by lost time retrieving supplies and equipment from different areas of the base, extra training sessions impacting schedules due to small training space and dislocated administration offices due to the lack of space in the administration section of the fire station. A new PAX is needed to upgrade from the current outdated building and support air passenger services and operations more efficiently.

1.4 Scope of Environmental Analysis

Hanscom AFB seeks to improve its understanding of the potential environmental consequences associated with constructing a new fire station and PAX. An environmental impact analysis must be performed for each federal action that has the potential to impact the environment. The Department of the Air Force (DAF) implements compliance with NEPA through its EIAP. This EA has been prepared to determine potential environmental impacts from the demolition of the existing fire station/PAX and the construction of a new fire station and separate new PAX building at Hanscom AFB.

According to the regulations and guidelines for implementing NEPA, the EA 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 that the proposed action would adversely degrade the environment, threaten public health or safety, or generate significant public controversy, then an EIS would be completed.

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Data Source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services

LEGEND

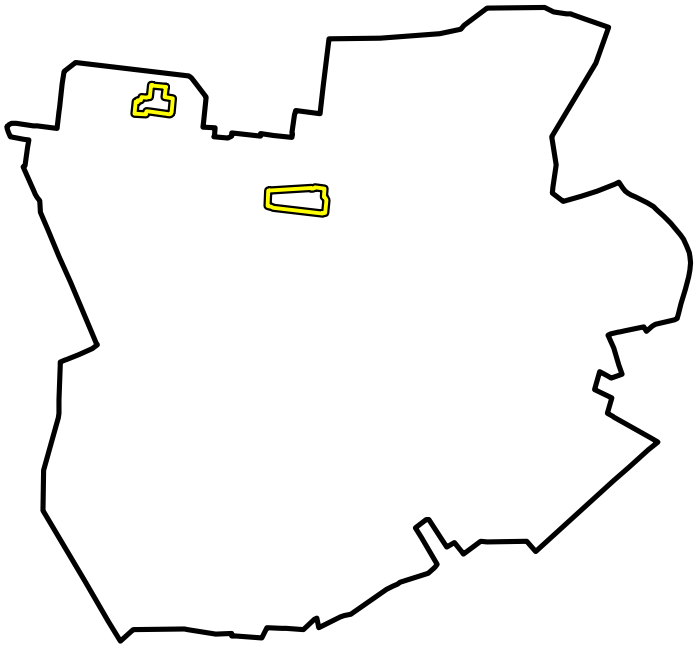
Hanscom Air Force Base

Project Site

Scale 1:24,000
1 inch = 2,000 feet

0 1,000 2,000 Feet

Basemap: USGS National Topograpic Map

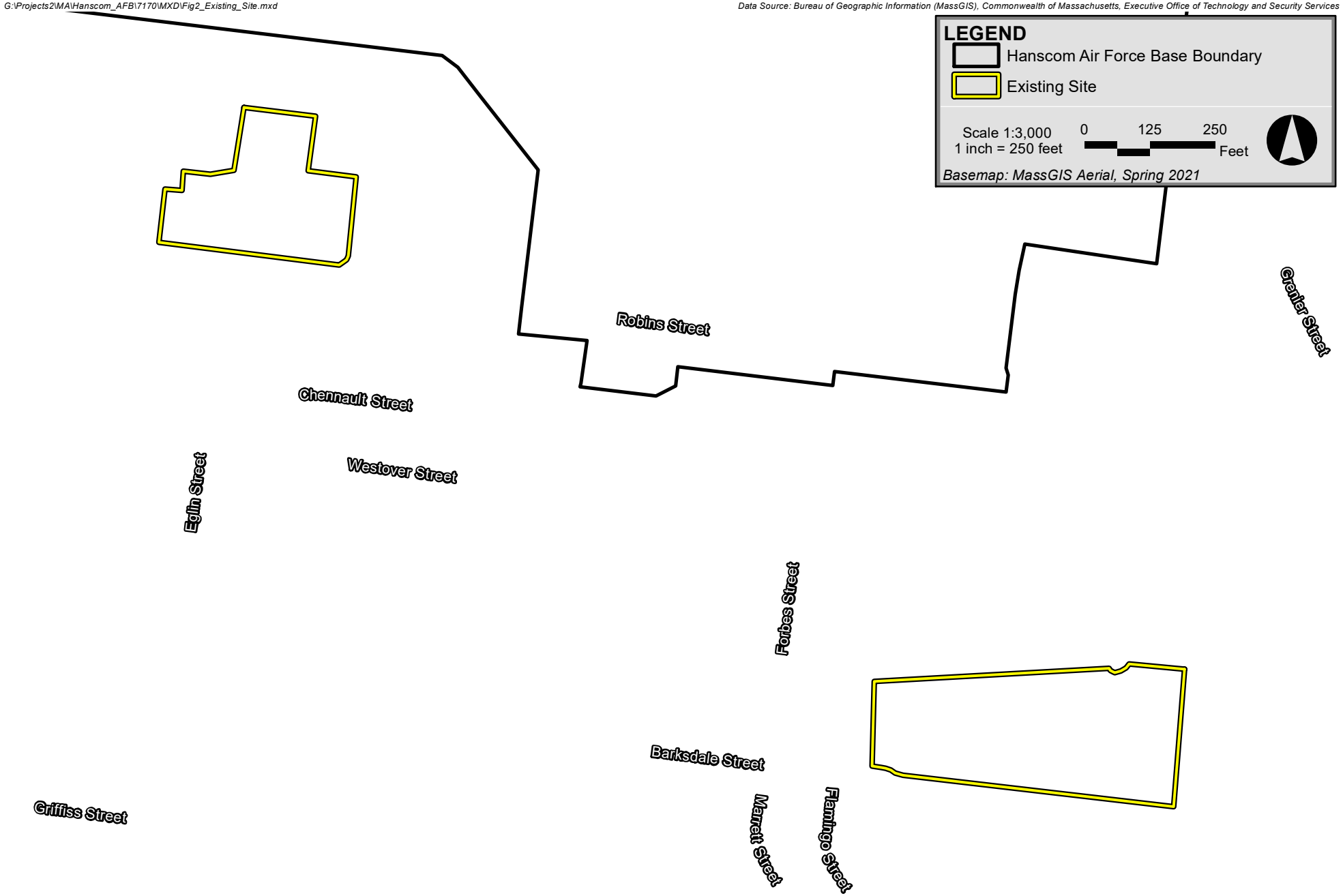


New Fire Station and Air Passenger Terminal Hanscom Air Force Base, Massachusetts

[redacted]

Figure 1

USGS Locus Map



New Fire Station and Air Passenger Terminal Hanscom Air Force Base, Massachusetts

[redacted]

Figure 2
Existing Site

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 subject to the preparation 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 the information needs of both the decision-makers and the public.

1.5 Documents Incorporated by Reference

In accordance with CEQ regulations for implementing NEPA and with the intent of reducing the size of this document, the following material is incorporated by reference. These documents are part of the administrative record and are available upon request from the 66th Air Base Group/ Civil Engineering and Infrastructure Engineering (66 ABG/CEIE).

- ***Environmental Assessment (EA) for Installation Development at Hanscom AFB, 2020 (EA IDP).*** Addresses proposed actions necessary to implement installation development as envisioned in the Hanscom AFB IDP. The IDP provides a roadmap for future development over the next five to ten year period to ensure that Hanscom AFB's facilities, infrastructure, and resources are well managed in support of Hanscom AFB's mission and people, while balancing multiple resource constraints. Facility development includes the demolition, construction, and/or upgrades to facilities deemed to be substandard or underutilized. The demolition of old or outdated facilities would minimize the area of undisturbed land required for new facilities. The proposed fire station was included in the Installation Development EA. However, the Preferred Alternative location is in an active Environmental Restoration Program (ERP) site. Nevertheless, this is an ideal location for the new fire station because of its central location in the installation enabling quick access to any part of the installation. Removal of any contamination and providing a clean site would be required prior to construction at this site. In addition to evaluating the scope of development as envisioned in the IDP, the EA serves as a baseline environmental analysis for future mission planning.

1.6 Relevant Laws and Regulations

Applicable Environmental Regulations and Requirements:

- National Environmental Policy Act (NEPA) (42 United States Code [USC] 4321-4347)
- Council on Environmental Quality (CEQ, 1978) Regulations for Implementing the Procedural Provisions 195 of NEPA (40 Code of Federal Regulations [CFR] §§ 1500-1508) (revised 2022)
- 32 CFR Part 989, *Environmental Impact Analysis Process*
- The Massachusetts Contingency Plan (310 CMR 40.00)

- Air Force Instruction (AFI) 32-7001, *Environmental Management*
- Air Force Manual 32-7002, *Environmental Compliance and Pollution Prevention*
- Air Force Manual 32-7003, *Environmental Conservation*
- Air Force Instruction 32-1015, *Integrated Installation Planning*
- Air Force Instruction 32-1001, *Civil Engineer Operations*
- Department of the Air Force Manual 32-1067, *Water and Fuel Systems*
- Air Force Instruction 32-7020, *Environmental Restoration Program*
- Department of the Air Force Instruction 90-2002, *Interactions with Federally Recognized Tribes*
- Department of the Air Force Manual 91-203, *Air Force Occupational Safety, Fire and Health Standards*
- Department of the Air Force Instruction 32-7020, *Environmental Restoration Program*
- Archaeological Resources Protection Act of 1979, 16 U.S.C. § 470aa et seq.
- Federal Clean Air Act (CAA) as amended in 1990 (42 U.S.C. § 7401 et seq.)
- Federal Clean Water Act (CWA), 33 U.S.C. §1251 et seq.
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. 9601 et seq.
- Endangered Species Conservation Act (ESA), 16 USCS § 1531, et seq.
- Executive Order (EO) 11988, *Floodplain Management*
- EO 11990, *Protection of Wetlands*
- EO 12372, *Intergovernmental Review of Federal Programs*, as amended by EO 12416
- EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*
- EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*
- EO 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*

- Hanscom AFB Contractor Environmental Guide
- Massachusetts Surface Water Quality Standards, 314 CMR 4
- Massachusetts Endangered Species Act (MESA) Regulations, 321 CMR 10.00
- Wetlands Protection, 310 CMR 10.00
- Migratory Bird Treaty Act
- National Historic Preservation Act (jointly administered with the MHC)
- Occupational Safety and Health Administration (OSHA) regulations
- Pollution Prevention Act, 42 U.S.C. §13101 et seq.
- Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §6901 et seq.
- Toxic Substances Control Act, 15 U.S.C. 2601–2692
- 2021 Installation Energy Assurance Campaign Plan, Doing the Right Things for the Right Reasons.

1.7 Intergovernmental Coordination, Public and Agency Participation

Federal, state, and local agencies with jurisdiction that could be affected by the alternative actions were notified and consulted during the development of this EA. Appendix A contains the list of agencies consulted during this analysis and copies of correspondence.

Federal

- Environmental Protection Agency (EPA) Region 1
- U.S. Fish and Wildlife Service (USFWS) – Section 7

State

- Massachusetts Historical Commission (MHC) State Historic Preservation Office (SHPO) – Section 106

Local

- Town of Bedford (Fire Department, Department of Public Works)
- Town of Lexington (Fire Department, Department of Public Works)
- Town of Lincoln (Fire Department, Department of Public Works)

- Hanscom Area Towns Committee (Bedford, Lincoln, and Lexington)

1.8 Government to Government Consultation

Executive Order (EO) 13175, *Consultation and Coordination with Indian Tribal Governments* (6 November 2000), directs federal agencies to coordinate and consult with Native American tribal governments whose interests might be directly and substantially affected by activities on federally administered lands. To comply with the National Historic Preservation Act (NHPA), 54 U.S.C. Section 306108, and its implementing regulations at 36 C.F.R. Part 800, federally recognized tribes that are affiliated historically with the Hanscom AFB geographic region will be invited to consult on all proposed undertakings that have the potential to affect properties of cultural, historical, or religious significance to the tribes. The tribal coordination process is distinct from NEPA consultation or the Interagency/Intergovernmental Coordination for Environmental Planning (IICEP) processes and requires separate notification of all relevant tribes. The timelines for tribal consultation are also distinct from those of intergovernmental consultations.

- The Hanscom AFB point-of-contact for Native American tribes is the Installation Commander or the Hanscom AFB Installation Tribal Liaison Officer.

- The Hanscom AFB point-of-contact for consultation with the Tribal Historic Preservation Officer (THPO) and the Advisory Council on Historic Preservation is the Cultural Resources Manager.

The Native American tribal governments consulted on the Proposed Action include the Wampanoag Tribe of Gay Head (Aquinnah) and the Mashpee Wampanoag Tribe. Initial consultation letters were sent on March 27, 2024. Responses received prior to the close of the public comment period will be addressed and incorporated into the final EA.

1.9 Public and Agency Review of EA

A Notice of Availability (NOA) announcing the availability of the draft EA and FONSI for review on **DATE** was published in the following newspapers:

- Lexington Minuteman
- Concord Journal

In addition, the DAF issued a press release on **DATE** announcing the availability (NOA) of the draft EA and FONSI. Copies of the press release and the NOA are provided in Appendix B. The NOA and press release invited the public to review and comment on the draft EA. The public and agency review period ended on **DATE**.

Copies of the draft EA and FONSI were posted to the Hanscom AFB public website for download and review at the following location:

https://www.hanscom.af.mil/About-Us/Fact-Sheets/Display/Article/379486/civil-engineering/

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

The Proposed Action involves the construction of a new fire station and PAX and subsequent demolition of the existing fire station/PAX building. The Proposed Action also includes the demolition of the existing abandoned gas station, which will serve as the new site for the proposed fire station. **Figure 3** shows the proposed location of the new fire station and PAX buildings. **Figures 4 and 5** show the site plans of the proposed PAX building and fire station, respectively.

The existing 21,269 square foot (sf) multi-story facility that houses the existing fire station, PAX facility and the existing 4,241 sf single-story abandoned gas station along Barksdale Street are proposed to be demolished.

A new single-story 5,150 sf PAX building will be constructed north of the existing fire station/PAX building. The PAX will include the safety offices, a DV lounge, pavement for building access and turnaround, as well as sidewalks. The existing flightline perimeter fence will be re-routed to the new PAX building location.

A new single-story 26,325 sf fire station will be constructed at the site of the existing abandoned gas station. The proposed fire station will consist of a concrete foundation, reinforced floor slabs, steel framing and masonry walls, HVAC, central fire alarm, Emergency Communications Center with Fire and Security Forces Dispatch, paving, and landscaping (see **Figure 4**).

This EA discusses the need for the proposed action, compares the proposed action to the No Action Alternative, describes the affected environment and the environmental impacts of the proposed action, and presents proposed management practices.

2.2 Selection Standards and Criteria

NEPA and CEQ regulations mandate the consideration of reasonable alternatives for the Proposed Action. “Reasonable alternatives” are those that could also effectively meet the purpose and need for the Proposed Action. Per the requirements of 32 CFR Part 989, the DAF’s EIAP regulations, selection standards are used to identify alternatives for meeting the purpose and need for the DAF action.

Alternatives for the Proposed Action for this undertaking must meet the following selection standards to fulfill the purpose and need:

1. Able to meet capacity requirements;

2. Able to meet operation and safety standards; and

3. Located centrally to be able to quickly respond to emergencies.

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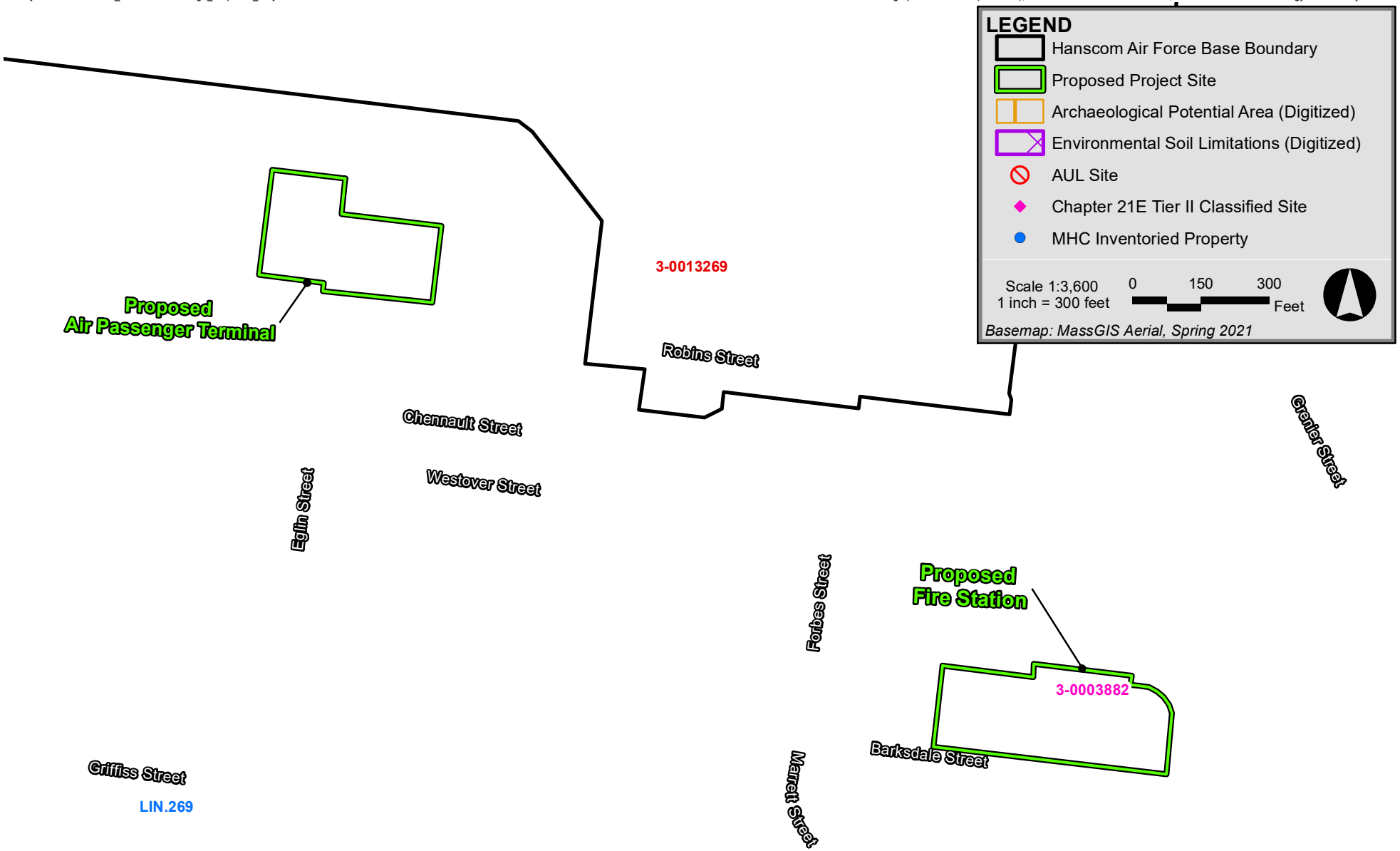
Data Source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services



The following constraints do not occur within map view:
Article 97 Land, DEP Wetlands and Open Water, DEP Hydrologic Connections, Chapter 21E Tier 1 & 1D Classified Sites, Areas of Critical Environmental Concern, Outstanding Resource Waters, Public Water Supplies, Sole Source Aquifers, Surface Water Protection Areas (Zones A, B, or C), Wellhead Protection Areas (DEP Approved Zones I and II, and IWPAs), NHESP 2022 Certified or Potential Vernal Pools, NHESP Priority Habitats for State-Protected Rare Species, and NHESP Estimated Habitats for Rare Wildlife.

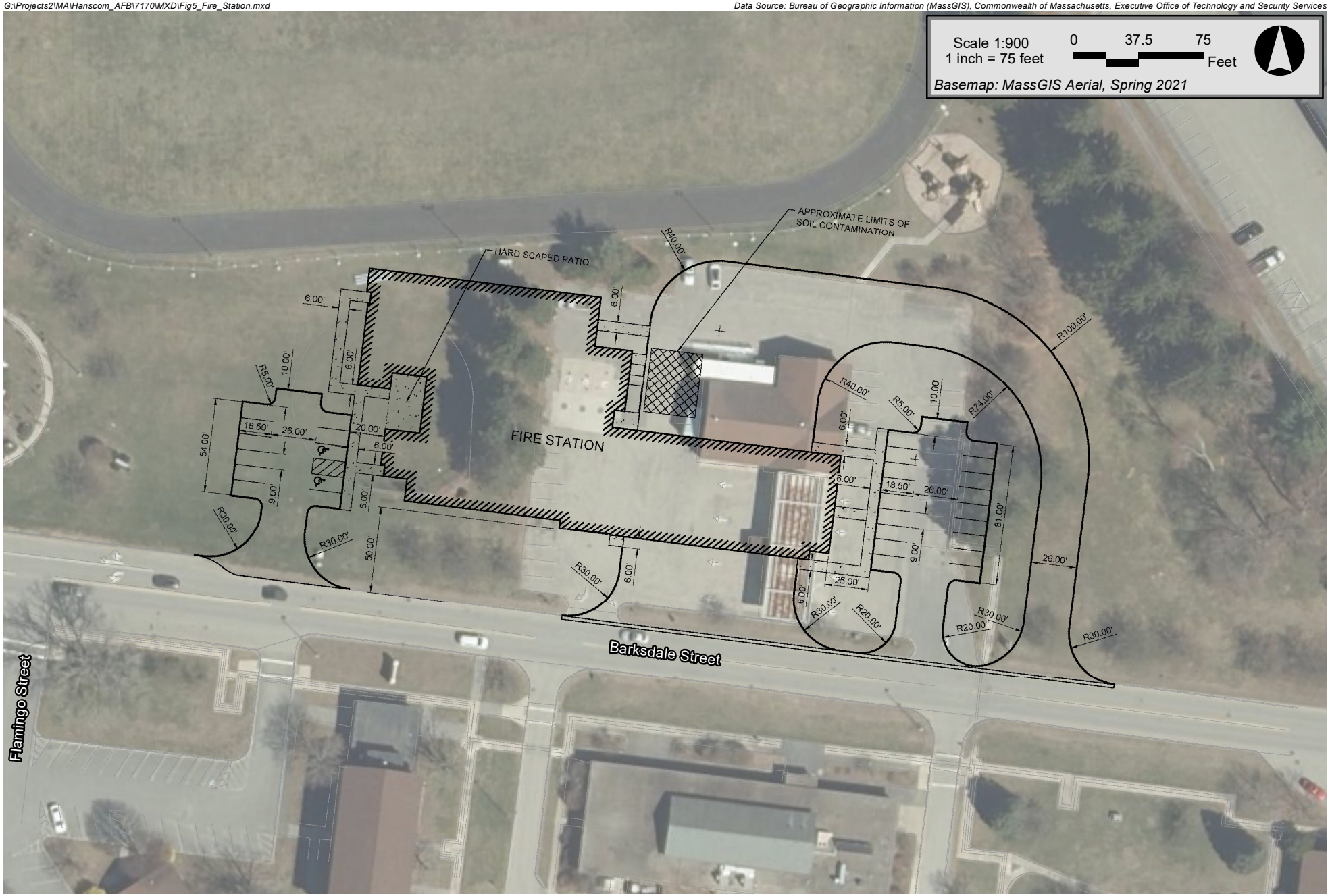
New Fire Station and Air Passenger Terminal Hanscom Air Force Base, Massachusetts

[redacted]

Figure 3
Proposed Project Sites

G:\Projects2\MA\Hanscom_AFB\7170\MXD\Fig5_Fire_Station.mxd

Data Source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services



New Fire Station and Air Passenger Terminal Hanscom Air Force Base, Massachusetts

Epsilon ASSOCIATES INC.

Figure 4

Proposed Fire Station Site Plan

All reasonable alternatives were considered during the development of this Project. Construction of a new fire station and PAX in the proposed locations is the only viable option to meet this requirement as well as provide the fire station and PAX with sufficient capacity and location to meet mission operating needs and standards. **Table 2-1** evaluates the different criteria against the alternatives considered. To be considered a reasonable alternative, the alternative must meet all four selection standard criteria.

Table 2-1 Evaluation of Reasonable Alternatives

ALTERNATIVES	Selection Standards		
	Meet capacity requirements	Meet operating and safety standards	Central Location
	(1)	(2)	(3)
Alternative 1 (Preferred Alternative) - Construct new fire station and PAX at new locations. Existing buildings would be demolished.	YES	YES	YES
Alternative 2 Renovate fire station and PAX at existing locations. Existing building would be reconstructed at current locations.	NO	YES	NO

2.3 Alternatives Carried Forward for Analysis

The evaluation of alternatives resulted in only two alternatives being carried forward for full analysis in the EA: the Alternative 1 and the No Action Alternative.

2.3.1 Preferred Alternative (Alternative 1) - Construct New Fire Station and Air Passenger Terminal at New Locations and Demolish Existing Buildings.

Alternative 1 involves the construction of a new fire station and PAX at new locations and subsequent demolition of the existing fire station/PAX building. The Proposed Action includes constructing a new 26,371 sf fire station at the former gas station site along Barksdale Street. The proposed construction consists of concrete foundation and reinforced floor slabs, steel framing and masonry walls, heating ventilating & air conditioning (HVAC), a central fire alarm system, a combined Emergency Communications Center with Fire and Security Forces Dispatch, efficient roofing, generator, utility tie-ins, site improvements, vehicular and apparatus paving, landscaping, and all other work necessary to make this a complete and usable facility. Alternative 1 also includes the construction of a new 5,150 sf PAX which houses safety offices and DV lounge near the existing location.

2.3.3 No Action Alternative

Under the No Action Alternative, Hanscom AFB would not construct a new fire station and PAX nor renovate the existing building. Firefighting operations and terminal services would continue to operate from their existing building. The No Action Alternative is considered the baseline from which the environmental impacts of the other alternatives are compared.

2.4 Alternatives Considered But Not Carried Forward for Analysis

Alternative 2, consisting of demolishing the fire station and PAX, then rebuilding them at the existing location, was excluded from full analysis because they did not meet one (or more) of the selection standards:

2.5 Project Specific Regulations and Permit Requirements

- **The DAF Environmental Impact Analysis Process (EIAP).** The EIAP is codified in 32 CFR Part 989 and provides procedures for environmental impact analysis. An EA should be prepared in order to conduct detailed investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality.

- **National Historic Preservation Act of 1966 (NHPA)**. Several laws and regulations are pertinent to the treatment of cultural resources, including, but not limited to, the NHPA, as amended, the Archaeological Resources Protection Act of 1979, and AFMAN (Air Force Manual) 32-7003, *Environmental Conservation*. To comply with Section 106 of the NHPA, the DAF consults with the State Historic Preservation Officer (SHPO) if an undertaking is proposed that could affect historic properties.

- **The Endangered Species Act (ESA).** The ESA directs all federal agencies to work to conserve endangered and threatened species and to use their authorities to further the purposes of the Act. Section 7 of the Act, called "Interagency Cooperation" is the mechanism by which federal agencies ensure the actions they take, including those they fund or authorize, do not jeopardize the existence of any listed species. To comply with Section 7 of the ESA, the DAF consults with the United States Fish and Wildlife Service (USFWS) if an undertaking is proposed that could affect listed species. Similarly, the USAF consults with the Massachusetts Division of Fisheries and Wildlife's Natural Heritage and Endangered Species Program (NHESP) to consider the impacts that an undertaking may have on state-listed species.

  In place of these consultations, a "No Effect" determination is in effect for undertakings carried out in Hanscom AFB between October 2, 2018 and March 31, 2029 unless subsequently rescinded based on newly acquired science or information (See Appendix C). Acoustical surveys conducted in 2018 and 2023 by the USAF failed to indicate the presence of the Northern Long Eared Bat (NLEB) within the areas of the main base. Based on the surveys' findings and that no known maternity roost trees, trees that provide

habitat, or hibernaculum for the species are located within the vicinity, the DAF determined that proposed undertakings within the boundaries of the main base would have "No Effect" on the NLEB. **United States Environmental Protection Agency (EPA). National Pollutant Discharge Elimination System (NPDES)**. General Permit for Stormwater Discharges from Construction Activities – This Construction General Permit (CGP) authorizes stormwater discharges from construction activities that result in a total land disturbance of one acre or more, where those discharges enter surface waters or a municipal separate storm sewer system (MS4) leading to surface water.

- **Clean Water Act Section 303(d)** – **Impaired Waters and Total Maximum Daily Loads (TMDLs).** The goal of the Clean Water Act (CWA) is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters" (33 U.S.C §1251(a)). Under section 303(d) of the CWA, states, territories, and authorized tribes, collectively referred to in the act as "states," are required to develop lists of impaired waters. These are waters for which technology-based regulations and other required controls are not stringent enough to meet the water quality standards set by states. The law requires that states establish priority rankings for waters on the lists and develop TMDLs for these waters. A TMDL includes a calculation of the maximum amount of a pollutant that can be present in a waterbody and still meets water quality standards.

- **Massachusetts Department of Environmental Protection (MassDEP) – Air Plan Approvals.** Projects may need to obtain a MassDEP air quality plan approval before starting work on a project that adds a new emissions source, or changes or replaces an existing source, unless it qualifies for an exemption or an alternative compliance pathway.

- **Massachusetts Water Resources Authority (MWRA) Sewer Use Discharge Permit.** In accordance with the MWRA's Sewer Use Regulations, 360 C.M.R. §§ 10.007, 10.052, 10.072, and 10.092, users must complete and file a Sewer Use Discharge Permit Application. The Application must be filed with the MWRA and the Municipality in which the sewer user's discharge is located**.**

- **The Massachusetts Contingency Plan (MCP).** The Massachusetts Contingency Plan (310 CMR 40) sets forth the requirements for the notification, assessment and cleanup of oil and/or hazardous material releases to the environment.

- **Migratory Bird Treaty Act.** The Migratory Bird Treaty Act prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service. Hanscom AFB will be compliant with the Migratory Bird Treaty Act.

- **USEPA Municipal Separate Storm Sewer Systems Permit.** Hanscom AFB was issued a NPDES General Permit for Stormwater Discharges from small Municipal Separate Storm Sewer Systems (MS4 General Permit) in Massachusetts in 2016. The jointly issued EPA-MassDEP permit grants authorization by EPA and MassDEP to discharge stormwater from

the base's MS4 in accordance with the applicable terms and conditions of the MS4 General Permit, including all relevant and applicable appendices.

- **Federal Aviation Administration (FAA) Navigable Airspace Notice of Proposed Construction - 49 United States Code (USC) Section 44718 and Title 14 of the Code of Federal Regulations (14 CFR), part 77**. Due to its proximity to the airfield, Hanscom AFB may be required to file notice under §77.9 to the FAA, a completed FAA Form 7460–1, Notice of Proposed Construction or Alteration. FAA Form 7460–1 must be submitted at least 45 days before the start date of the proposed construction or alteration or the date an application for a construction permit is filed, whichever is earliest.

- **Hanscom Air Force Base Contractor Environmental Guide (CEG) 2023**. The Hanscom AFB CEG addresses environmental aspects and impacts that often influence Hanscom AFB. Contractors are required to familiarize themselves with Hanscom AFB's Environmental Management System and environmental regulatory requirements and to provide evidence of compliance prior to initiating construction.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The Region of Influence (ROI) for the Proposed Action is the main base, north of the on-base housing, unless otherwise specified below for a particular resource area. The main base consists of 846 acres within the towns of Bedford, Lexington, and Lincoln, MA, and can be characterized as developed with an airfield, laboratories, offices, and housing throughout the property (Hanscom AFB 2020).

3.1 Resources Not Carried Forward for Analysis

Air Installations Compatible Use Zone (AICUZ)

The purpose of the Air Installations Compatibility Use Zone (AICUZ) program is to achieve compatibility between air installations and neighboring communities by protecting the health, safety, and welfare of civilians and military personnel by encouraging land use which is compatible with aircraft operations.

Hanscom AFB does not own or operate a military airfield, nor would the Proposed Action affect airfield usage or aircraft operations. No airspace would be reconfigured, new units created, or an increase in air operations and/or changes in mission flying activities as a result of the Proposed Action. Therefore, no potential impacts on the airspace are anticipated. The AICUZ program is not applicable and will not be analyzed in this EA.

3.2 Resources Carried Forward for Analysis

In compliance with NEPA, CEQ regulations, and the DAF EIAP, the affected environment focuses only on resources with the potential to be impacted by the implementation of the Proposed Action at the Preferred Alternative sites. The discussion of the affected environment and associated environmental impacts analysis presented here focuses on the following resource areas: air quality, land use, water resources, soils and geologic resources, cultural resources, noise, biological/natural resources, infrastructure, occupational health and safety, environmental restoration program, solid waste and hazardous materials, and socioeconomic and environmental justice.

3.2.1 Air Quality

Air quality is defined by ambient air concentrations of specific pollutants determined by the USEPA to be of concern related to the health and welfare of the general public and the environment and are widespread across the United States. An air quality assessment may be needed for any federal action to determine compliance with a number of federal regulations including NEPA, CAA, and other environment-related regulations and directives that are specific to airports and air bases. The general federal as well as specific DoD/ USAF regulations and orders are summarized below.

3.2.1.1 General Federal Requirements

National Environmental Policy Act of 1969 (NEPA) – All decisions by the Federal Government are regulated under NEPA and its amendments, which was established to protect the human environment and for the establishment of a Council on Environmental Quality (CEQ). The act specifies polices and goals for an environmental assessment of any impact on the "natural world," including on air quality.

Council on Environmental Quality (CEQ) – Implementation of NEPA provisions is regulated by CEQ. Under CEQ regulations, potential environmental effects of federal actions require notification and involvement of the public and therefore emphasize early integration of the NEPA process in the project planning, as well as consultation with the appropriate federal, state, and local agencies early in the process. These regulations also describe the appropriate environmental documentation for compliance with NEPA (e.g., Environmental Assessment, Finding of No Significant Impact, Environmental Impact Statement).

Executive Orders – The analysis of environmental impacts may also be affected by several Executive Orders related to NEPA including, for example, Executive Order 11514: Protection and Enhancement of Environmental Quality and Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, and Executive Order 11593: Protection and Enhancement of the Cultural Environment.

Clean Air Act (CAA) - The CAA of 1970, with updates in 1990, is the primary federal statute governing air quality. Under authority of the CAA, the EPA sets the maximum acceptable concentration levels for specific pollutants that may impact the health and welfare of the public. With EPA oversight, states may set concentration levels for additional pollutants not regulated by the EPA. Under the CAA, EPA has established National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The CAA identifies two types of national ambient air quality standards. Primary standards provide public health protection, including the health of "sensitive" populations such as those who are asthmatic, children, and the elderly. Secondary standards provide public health protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. The USEPA established NAAQS for six principal pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO2), ozone (O3), particle matter (PM) including particulate matter equal to or less than 2.5 microns in diameter (PM2.5), and particulate matter equal or less than 10 microns in diameter (PM10), and sulfur dioxide (SO2).

The EPA reports air pollution concentrations with respect to how the health-based NAAQS are defined. These are called design values. For example, some standards are not to be exceeded such as the annual NO2 standard, and some standards are compared to the 98th percentile of 24-hr averages or a 1-hr daily maximum, averaged over 3 years, like the short-term PM2.5 and the NO2 standards, respectively.

The NAAQS are listed in **Table 3-1**. Massachusetts recently revised their codified standards to be identical to NAAQS.

Table 3-1 National Ambient Air Quality Standards (NAAQS)

Pollutant	Averaging Period	NAAQS (µg/m^3) *Primary*	NAAQS (µg/m^3) *Secondary*
NO_2	Annual [1]	100	Same
	1-hour [2]	188	None
SO_2	3-hour [3]	None	1300
	1-hour [4]	196	None
$PM_{2.5}$	Annual [1]	12	15
	24-hour [5]	35	Same
PM_{10}	24-hour [3]	150	Same
CO	8-hour [3]	10,000	Same
	1-hour [3]	40,000	Same
Ozone	8-hour [6]	147	Same
Pb	3-month [1]	0.15	Same

Source: http://www.epa.gov/ttn/naaqs/criteria.html and 310 CMR 6.04 [EPA]
[1] Not to be exceeded.
[2] 98th percentile of one-hour daily maximum concentrations, averaged over three years.
[3] Not to be exceeded more than once per year.
[4] 99th percentile of one-hour daily maximum concentrations, averaged over three years.
[5] 98th percentile, averaged over three years.
[6] Annual fourth-highest daily maximum eight-hour concentration, averaged over three years.

NAAQS specify concentration levels for various averaging times and include both "primary" and "secondary" standards. Primary standards are intended to protect human health, whereas secondary standards are intended to protect public welfare from any known or anticipated adverse effects associated with the presence of air pollutants, such as damage to vegetation. The NAAQS also reflect various durations of exposure. The short-term periods are typically 24 hours or less. Long-term periods refer to limits that average over three months or longer.

The NAAQS are applicable to all the US and its territories. An area that is not in compliance with the NAAQS is deemed in nonattainment. If there is insufficient data to determine compliance, then an area is deemed unclassified and is treated as if in compliance. Attainment with the NAAQS is based on data that is collected from a network of air monitoring sites across the country. The primary responsibility to ensure compliance with the NAAQS is assigned in the CAA to the individual states and any nonattainment areas require states to establish a State Implementation Plan (SIP) to reach compliance. The general conformity rules only apply to areas that have been deemed to be in nonattainment or in maintenance (i.e., areas that were formally in nonattainment but have been in attainment for a period of 10 to 20 years).

General Conformity Rule. Established under CAA (section 174(c)(4)), The General Conformity Rule (40 CFR 93 Subpart B) helps states and tribes improve air quality in the areas that do not meet the NAAQS. The General Confirmatory Rule applies to federal actions that are taken in designated nonattainment or maintenance areas. The purpose of the General Conformity Rule is to ensure

that federal actions do not cause or contribute to new violations of NAAQS, do not worsen existing violations of the NAAQS, and do not delay attainment of the NAAQS. The EPA classifies the air quality in an air quality control region (ACQR) or its subareas. The areas designated for each of the six pollutants under ACQR are either "attainment," "nonattainment," or "unclassified." Attainment means that the air quality within an area is better than NAAQS, nonattainment indicates that one or more of the six principal pollutants exceed NAAQS, and unclassified means that there is not enough information for the area to be classified.

DOD/DAF-Specific Regulations

U.S. Air Force Policy Directive (AFPD) 32-70: *Environmental Considerations in Air Force Programs and Activities* – Formerly *Environmental Quality*. This directive establishes a policy to address environmental considerations in all Air Force programs and activities using a management system framework.

U.S. Air Force Instruction (AFI) 32-1015: *Integrated Installation Planning*. Supersedes 32-7061: *Environmental Impact Analysis Process (EIAP)* – provides specific procedures for implementing Air Force Policy Directive (AFPD) 32-70.

Environmental Impact Analysis Process*: Desk Reference* – This document is a guide for complying with the requirements of the NEPA developed for Air Force staff and includes reference materials to help ensure compliance with applicable environmental requirements.

3.2.1.2 Affected Environment

3.2.1.2.1 Attainment Status and Conformity

The EPA is required to publish a list of the geographic areas that are either not in compliance or in compliance with the NAAQS (Section 107 of the 1977 CAA Amendments). The attainment status for Middlesex County is shown in **Table 3-2**. As the table shows, all of Massachusetts is in attainment of all the NAAQS; therefore, the General Conformity regulations do not apply to Middlesex County.

Table 3-2 Attainment Status for Middlesex County

Pollutant	Attainment Status
NO_2 (1-hour and annual)	Unclassifiable/Attainment
SO_2 (1-hr)	Unclassifiable/Attainment
$PM_{2.5}$	Unclassifiable/Attainment (2012)
PM_{10} (24-hour)	Unclassifiable/Attainment
CO (1 and 8-hour)	Unclassifiable/Attainment
Ozone (8-hour)	Unclassifiable/Attainment (2015)/Nonattainment (1997)
Pb (rolling 3-month)	Unclassifiable/Attainment

Source: 40 CFR 81.322, EPA's Green Book, and Massachusetts 2022 Air Quality Report [Mass]

3.2.1.2.2 Background Air Quality

To estimate background pollutant levels representative of the area, the most recent US EPA design values[1] were obtained for 2020 to 2022 for the criteria pollutants. The closest and most representative monitoring station for which data are available for all air pollutants is generally selected. The monitoring station at Harrison Avenue in Boston was selected for the Proposed Action. This station is in an urban area near major roads and so would generally be considered a conservatively high estimate of background air concentrations. The Harrison Avenue monitor is located roughly 14 miles southeast of Hanscom Air Force Base.

Table 3-3 presents the background air quality concentrations for all the criteria air pollutants.

Table 3-3 Observed Ambient Air Quality Design Concentrations at the Harrison Avenue monitor relative to the NAAQS.

Pollutant	Averaging Time	Design Concentration (µg/m³)	NAAQS	Percent of NAAQS
NO_2 (1)	1-Hour	84.6	188	45%
	Annual	18.8	100	19%
SO_2(2)	1-Hour	5.2	196	3%
$PM_{2.5}$	24-Hour (3)	15	35	43%
	Annual (3)	6.2	12	52%
PM_{10}	Max 24-hr	28	150	19%
CO (4)	1-Hour	1833.6	40,000	5%
	8-Hour	1260.6	10,000	13%
Ozone(5)	8-Hour	119.7	147.0	81%
Pb	Max 24-hr	0.003	0.15	2%

Notes:
From Air Quality Design Values | US EPA. or EPA's AirData Website [EPA]
(1) NO_2 concentrations are reported in ppb. Converted to µg/m³ using factor of 1 ppb = 1.88 µg/m³.
(2) SO_2 reported ppb. Converted to µg/m³ using factor of 1 ppb = 2.62 µg/m³.
(3) Background level is the average concentration of the three years.
(4) CO is reported in ppm. 1 ppm = 1150 µg/m³.
(5) O_3 reported in ppm. Converted to µg/m³ using factor of 1 ppm = 1963 µg/m³.

As shown in **Table 3-3** background ambient air concentrations are well below their respective NAAQS standards. These background concentrations are considered conservative background concentrations as they are representative of an urban area with higher traffic volumes and generally higher density of other emission sources.

The demolition of existing buildings and construction of new structures is anticipated to only result in temporary impacts. Temporary localized air emissions are expected to have minimal

[1] Air Quality Design Values | US EPA. A design value is reported by US EPA in the correct format for comparison with the NAAQS.

impact to ambient concentrations and would be minimized using construction equipment meeting EPA standards for engines and through construction best management practices.

3.2.1.2.3 Air Conformity Applicability Model

Air emissions of criteria pollutants from construction and demolition activities were estimated using the ACAM. The description of the ACAM states the following:

The Air Force's ACAM is an air emissions estimating model that performs an analysis to assess the potential air quality impacts associated with an Air Force action (e.g., MILCON) in accordance with the Air Force Manual 32-7002, Clean Air Act (CAA Section 176(c)), 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). The ACAM model estimates air emissions for activities associated with the proposed action and performs an analysis against regulatory thresholds; standardizing/simplifying methodologies across the AF and greatly reducing cost.[3]

The ACAM provides estimates of pollutant emissions from new construction at or associated with facility projects.[2] As noted above, the Proposed Action is in Middlesex county, Massachusetts, which is an area determined to be in compliance with all the recent NAAQSs, but in nonattainment of the older 1997 ozone NAAQS. Therefore, an ACAM analysis is warranted. As part of the proposed EA, an ACAM analysis was conducted for the Proposed Action at the base during a six-month period in 2024. The results of the analysis show that emissions of all potential construction and demolition (C&D) activities would have a *de minimis* impact on the air quality, with all NAAQS emissions well below threshold limits. Overall, the analysis showed that the air conformity rules were not applicable. ACAM was run for only the Proposed Action and reports can be found in Appendix D. The Proposed Action includes demolition, construction, and paving.

3.2.1.3 Environmental Consequences

Preferred Alternative

The Preferred Alternative would involve the demolition of existing buildings and the construction of a new fire station and a new PAX within Hanscom AFB. As noted above, EPA has listed Hanscom AFB as nonattainment of the 1997 ozone NAAQS, although Middlesex county is in attainment with all the most recent and stringent NAAQS. As part of this EA, a comprehensive ACAM evaluation was conducted. The results show that for all planned construction activities between the years 2024 and 2026, emissions of all NAAQS would be well below the threshold, at *de minimis* levels, indicating that the General Conformity Rule does not apply. These results are consistent with the ACAM analysis (see Appendix D) that was done for the Preferred Alternative. Therefore, although some increase in air pollutant emissions is expected during C&D activities, they would not be significant and would be temporary. Best management practices (BMP) would be applied during

[2] Air Conformity Applicability Model (ACAM). https://aqhelp.com/acam.html

C&D activities, to the maximum extent possible. As a result, no adverse impacts on air quality are expected from the Preferred Alternative.

No Action Alternative

Under the No Action Alternative, Hanscom AFB would not construct a new fire station and PAX nor renovate the existing building; therefore, there would be no increase in emissions. As a result, no adverse impacts would occur with the implementation of the No Action Alternative.

3.2.2 Land Use

Land use is defined as the classification of the way land is utilized to represent the economic and cultural activities (i.e., agricultural, residential, industrial, mining, and recreational uses) that are practiced at a given place. There are currently twelve land use categories associated with the installation at Hanscom AFB: airfield, aircraft operation and maintenance, industrial, administrative, community (commercial), community (service), medical, housing (accompanied), housing (unaccompanied), outdoor recreation, open space, and water. Changes to land use are constantly occurring at many levels. The changes can have specific and cumulative effects on air and water quality, watershed function, generation of waste, extent and quality of wildlife habitat, climate, and human health. Land use is often codified by local zoning laws and regulations.

The proposed fire station will occupy a former gas station currently occupied by a single-story building, the Lucas D. Bartlett Memorial Field, and landscaped areas.

3.2.2.1 Affected Environment

Land use at the Preferred Alternative sites will occur within areas of the base that have been previously developed, including buildings, paved areas for roadways and parking, landscape areas including grasses and plantings.

The fire station is proposed at a former gas station site on the north side of Barksdale Street between Forbes Street and Grenier Street, south of the existing track and playground and east of the static display. The fuel tanks and canopy of the gas station have been removed, but the main building and an adjacent baseball backstop remain.

The PAX facility is proposed in a turf area north of the existing fire station/PAX building that is located between the flightline and Robbins Street. The new PAX building will be north of the existing flightline fence, requiring an adjustment to the alignment of the fence line.

3.2.2.2 Environmental Consequences

Preferred Alternative

The Preferred Alternative is compatible with current land use plans. Practicable BMPs would be adopted to minimize impacts on land use, including restoring disturbed areas to existing

conditions to the extent practicable. The Lucas D. Barlett Memorial Field plaque will be relocated to a different location on the base. No adverse land use impact is anticipated from the implementation of the Preferred Alternative.

No Action Alternative

No C&D activities or operational changes are proposed under the No Action Alternative; therefore, no land use impacts would occur.

3.2.3 Water Resources

Water resources are surface waters and groundwaters that are important in providing drinking water and in supporting recreation, transportation, commerce, industry, agriculture, and aquatic ecosystems. Water resources include groundwater, surface water, stormwater/rainfall, wetlands, and floodplains (see **Figure 3**).

3.2.3.1 Affected Environment

3.2.3.1.1 Groundwater

Groundwater exists in the saturated zone beneath the earth's surface and includes underground streams and aquifers. It is an essential resource that functions to recharge surface water and is used for drinking, irrigation, and industrial processes.

Groundwater at Hanscom AFB averages between 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. Groundwater flow is mostly controlled by surface drainage features and storm drainage systems. Groundwater flow in the lower and bedrock aquifers typically follows the topography of the area.

According to the Geotechnical Engineering report, groundwater at the proposed fire station site was encountered between 6 to 8 feet below grade. Groundwater at the site has been contaminated due to its past use as a gas station.

3.2.3.1.2 Surface Waters

Surface water is defined as any water on the earth's surface such as lakes, ponds, rivers, and streams. Surface water sustains ecological systems and provides habitats for many plant and animal species.

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 typically 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 (suitable for irrigation and other agricultural uses

and for compatible industrial cooling and process uses) and as such, is protected as habitat for fish, other aquatic life, and wildlife, and for primary and secondary contact recreation.

Most of the surface runoff from Hanscom AFB enters a subterranean system of culverts and drains into the Shawsheen River. Surface runoff from the eastern portion of the base drains eastward into Kiln Brook, which also flows into the Shawsheen River.

The Shawsheen River has a total drainage area of approximately 78 square miles, and encompasses approximately 12 Massachusetts municipalities, including Bedford where its headwaters originate. Representing one of the smaller watersheds in the state, the main stem of the Shawsheen River flows 25 miles from the east side of Hanscom Field, losing 70 feet in elevation as it travels to its confluence with the Merrimack River in Lawrence.

The watershed supports a population of approximately 250,000 people. The Shawsheen River has a Draft Total Maximum Daily Load for Stormwater Pollutants (Shawsheen Headwaters 2003) published by MassDEP, inclusive of Hanscom Airfield and Hanscom AFB. There is also a Final TMDL for bacterial pathogens for the Shawsheen River for bacterial pollutants (Shawsheen River Basin 2002) [Hanscom AFB].

3.2.3.1.3 Floodplains

Floodplains are lowland areas adjacent to surface water bodies that are periodically covered by water during flooding events. Flood hazard areas identified on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) are identified as a Special Flood Hazard Area (SFHA). SFHA are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year (or 100-year flood). Moderate flood hazard areas are also shown on the FIRM and are the areas between the limits of the base flood and the 0.2-percent-annual-chance of being equaled or exceeded in any given year (or 500-year flood).

According to FEMA flood map panels 25017C0384F, effective on 07/06/2016, and 25017C0383F, effective on 07/07/2014, the Preferred Alternative sites are not located within a 100-year floodplain.

3.2.3.1.4 Wetlands

The U.S. Army Corps of Engineers (USACE) and the USEPA define wetlands as areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (USACE, 1987).

Hanscom AFB contains a diverse network of interconnected wetland systems. A Base Comprehensive Ecological Analysis report completed by LEC Environmental Consultants, Inc. in August 1997 and updated in September 2007 documents and evaluates vegetational

communities, wildlife habitat and utilization, and endangered species at Hanscom AFB. According to the report, wetlands encompass approximately 43 acres, or five percent, of the main base. There are, however, no wetlands in the vicinity of the Preferred Alternative.

3.2.3.1.5 Stormwater

Stormwater runoff, which originates from rain and/or snowmelt events, can collect pollutants by flowing over land or impervious surfaces, such as paved roadways. Stormwater is typically captured and evaporated, infiltrated into the ground water, or flows into nearby surface waters. Stormwater at Hanscom AFB drains into the stormwater inlets present on the base. There are also retention basins for stormwater runoff prior to it entering the storm drainage system.

Stormwater management features such as catch basins are generally located in the vicinity of the Preferred Alternative, along roadways and parking lots. Section 3.2.8.1.2.3 provides more detail on the stormwater infrastructure at the Project site.

3.2.3.2 Environmental Consequences

Preferred Alternative

Groundwater: The Preferred Alternative fire station site is an active Environmental Restoration Program (ERP) site 22 and is currently undergoing restoration/cleanup activities under the Massachusetts Contingency Plan (MCP). Five petroleum-related releases from former gasoline underground storage tanks (USTs) have led to the existence of groundwater contamination at this site, found and reported in 1981, 1990, 1991, 1992, and 2001. Currently, monitoring wells are sampled annually for volatile petroleum hydrocarbons.

The proposed cleanup activities for the Fire Station site are anticipated to remove approximately 1,200 CY of soil on site; however, the ultimate quantity of soil removed could be higher or lower depending on site conditions encountered. The excavation of soils is scheduled to be completed by end October 2024 and backfill of materials in December 2024 as part of an MCP Release Abatement Measure (RAM). The HAFB ERP has conducted additional drilling/soil sampling necessary to inform the excavation activities before the excavation work is conducted.

Following excavation activities, to achieve a Permanent Solution, the HAFB ERP will need to demonstrate compliance with relevant MCP Groundwater (GW)-1, GW-2, and GW-3 criteria for site-related Volatile Petroleum Hydrocarbons, combined with obtaining an MCP petroleum exemption. Groundwater monitoring may be required for some period of time into the future.

The ground disturbances from construction activities are surface disturbances and not expected to impact the groundwater. Given the status as an ERP site, all construction activities will be coordinated with the HAFB environmental office to ensure no adverse impacts to or from these sites would occur.

Surface Water: Regarding surface water, no direct adverse impacts are expected. A TMDL was established in 2002 for fecal coliform bacteria for the Shawsheen River in the vicinity of the Project (TMDL Report MA83-01-2002-24). As noted above, stormwater at Hanscom AFB drains into the stormwater inlets present on the base. There are also retention basins for stormwater runoff prior to it entering the storm drainage system.

During C&D activities, appropriate measures, which could include silt fence and/or hay bales placed around catch basins, would be implemented to reduce potential for erosion on the sites.

Wetlands: There are no wetlands located within the Preferred Alternative sites. Therefore, the Preferred Alternative is also not anticipated to impact wetland resource areas.

Stormwater: In accordance with Hanscom environmental policies, measures to prevent stormwater pollution would be implemented to ensure that there would be no changes to water quality and quantity. The Preferred Alternative is not anticipated to have adverse short- or long-term impacts on water resources.

No Action Alternative

Under the No Action Alternative, no C&D activities would be conducted at Hanscom AFB. Therefore, no water resources would be impacted.

3.2.4 Soil and Geological Resources

Geological resources consist of surface and subsurface soils, bedrock, etc. These resources can be further categorized in terms of topography and physiography, geology, and soils.

3.2.4.1 Affected Environment

Hanscom AFB is located on the portion of the United States Geological Survey 7.5 Minute Series Maynard, Massachusetts, Topographic Quadrangle, dated 1987. According to the topographic map the elevation of Hanscom AFB is approximately 220 feet above mean sea level. The topography of the surrounding area appears to be undulating and generally sloping to the northeast (GZA 2013). Topography in the Preferred Alternative sites is generally flat.

A review of the United States Department of Agriculture Natural Resources Conservation Service (USDA-NRCS) Web Soil Survey shows that the soils underlying the proposed fire station site primarily consist of Urban land and Udorthents, sandy. Soils within the proposed PAX building consist solely of Urban land. Urban land constitutes excavated and filled land, while udorthents sandy constitutes loamy alluvium and/or sandy glaciofluvial deposits and/or loamy glaciolacustrine deposits and/or loamy marine deposits and/or loamy basal till and/or loamy lodgment till.

3.2.4.2 Environmental Consequences

Preferred Alternative

No topography changes are expected from the construction of the new fire station and PAX buildings. The Preferred Alternative's impact on surface topography and geology would be minimal given the sites have been previously disturbed and are mostly flat.

Minimal and temporary impacts to soil are anticipated by C&D activities associated with the Proposed Action. Sediment control measures would be adjusted to meet field conditions during C&D activities. These measures would be implemented prior to and immediately after disturbance of surface material.

No short- or long-term adverse impacts on the geology of the area are anticipated with the implementation of the Preferred Alternative.

No Action Alternative

Under the No Action Alternative, no C&D activities would take place; therefore, no disturbance to soil and geological resources would occur.

3.2.5 Cultural Resources

Cultural resources are associated with many heritage-related resources, such as prehistoric and historic sites, buildings, structures, districts, artifacts, or any other physical evidence of human activity that is considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. Cultural resources can provide insight into cultural practices of previous civilizations or can also retain cultural religious significance to modern groups.

There are historic and archaeological properties present on Hanscom AFB and in the vicinity of the base. Analysis in this EA focuses on areas of archaeological sensitivity, eligible historic structures, and cultural districts that could be impacted due to site disturbance and/or direct modification as a result of the Proposed Action.

3.2.5.1 Affected Environment

A survey of all historic and archaeological properties within the main base of Hanscom AFB, including areas of archaeological sensitivity, has been documented in the Hanscom AFB Integrated Cultural Resources Management Plan (ICRMP), which was updated in September 2023. The ICRMP provides for effective management and protection of cultural resources. The plan summarizes the history and prehistory of the installation, and reviews past historical and archaeological survey efforts. It further outlines and assigns responsibilities for the management of cultural resources, discusses related concerns, and provides standard operating procedures

(SOPs) that will help to preserve the cultural resources of the installation within the context of the mission.

The main base is adjacent to the Minute Man National Historic 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 Hanscom AFB 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, are 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 (Hanscom AFB 2010b). A 2007 intensive archaeological survey of the Hanscom AFB's southern border adjacent to the MMNHP Nelson Road Area identified artifacts associated with Parker's Revenge/Ambush (Hanscom AFB 2017).

Numerous historic and archaeological properties are recorded in the site files of the Massachusetts Historical Commission (MHC) for the vicinity of Hanscom AFB. 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 (Hanscom AFB 2017). After additional archaeological investigations conducted in 2008, the MHC determined that none of these areas warranted further investigation. **Figure 3** shows the Environmental Constraints, which includes any inventories of historical properties, environmental soil limitations, AUL sites, and Chapter 21E sites.

3.2.5.2 Environmental Consequences

Preferred Alternative

None of the undertakings pursued under this EA would be located within an archaeologically sensitive area or the AFCRL Historic District. On August 30, 2023, in accordance with Section 106 of the NHPA (5 United States Code 306018) and its implementing regulation at 36 CFR Part 800, DAF sent a consultation letter to the MA State Historic Preservation Office (SHPO) stating that it has determined that no historic properties are present within the Proposed Action sites; therefore, no adverse effects to historic properties are anticipated.

All undertakings authorized under this EA would avoid impacts to the areas identified in **Figure 3**. In the event that any of those consultations resulted in an identified impact to cultural resources, they would not be authorized by this EA and supplemental analysis under NEPA would be required.

No Action Alternative

The No Action Alternative would continue operations at Hanscom AFB with no changes. No C&D activities would occur. Therefore, no cultural resources would be impacted.

3.2.6 Noise

Noise is defined as unwanted or disturbing sound. Sound becomes unwanted when it interferes with normal activities such as sleeping, conversation, or disrupts or diminishes one's quality of life.

3.2.6.1 Affected Environment

Currently, the ambient noise environment at most portions of the base is produced by common machinery associated with lawnmowers, leaf blowers, and shop equipment, as well as vehicular noise on nearby roadways. The site for the new fire station and PAX are located close to Base roadways as well as in proximity to Massport's Hanscom Field Airport; therefore, they also experience higher levels of noise from normal flight operation.

3.2.6.2 Environmental Consequences

Preferred Alternative

Adverse long-term noise impacts are not anticipated as a result of the Proposed Action. However, minimal and temporary noise impacts are anticipated from C&D activities. The Proposed Action would include the demolition of an abandoned gas station and the existing fire station/PAX building, and the construction of a new fire station and separate PAX building and associated sidewalks and roadways. After implementation of the Preferred Alternative, noise levels are expected to be consistent with current background levels at Hanscom AFB.

No Action Alternative

No C&D activities are proposed under the No Action Alternative; therefore, operations would continue as usual, and no noise impacts would occur.

3.2.7 Biological/Natural Resources

Biological resources include native or naturalized vegetation and wildlife and their habitats.

3.2.7.1 Affected Environment

Vegetation

Most of the land at Hanscom AFB is developed. Uplands are dominated by roadways, parking areas, structures, and recreational fields. Occupying less than five percent of the uplands are grasslands occurring in scattered patches and linear strips along developed areas. The vegetation

within the developed areas of Hanscom AFB consists of grass, shrubs, and trees, species typical within the region. The vegetation present in the mowed and landscaped areas at the base include rye, fescue, and bluegrass. The vegetation is maintained according to Hanscom AFB's planting guidelines to ensure aesthetics is maintained and that the exposure of soils (and resulting erosion) is minimized.

Wildlife

Undeveloped land at Hanscom AFB provides undisturbed habitat for local wildlife including small mammals, amphibians, fish, birds, and macroinvertebrates. However, due to the large presence of developed areas within the base, wildlife population and diversity at Hanscom AFB are relatively low. As a result, the wildlife present on the base is generally adapted to humans and development. The fish and wildlife management program at Hanscom AFB provides wildlife population control and monitoring for the reduction/elimination of nuisance wildlife inhabitants.

Threatened and Endangered Species

According to the NHESP 15th Ed. Heritage Atlas (Effective August 1, 2021), there is one area of Priority Habitat of Rare Species (PH 1512) mapped northwest of the main base. PH 1512 is located within and around the Massport airfield, 0.9 miles north of the main installation, it does not encroach onto Hanscom AFB property and is affiliated with listed grassland bird species. None of Preferred Alternative sites are located within the mapped priority habitat.

The Northern Long Eared Bat (NLEB) (*Myotis septentrionalis*) may be encountered within the Hanscom AFB boundary; however, there have been no documented sightings of the NLEB at Hanscom AFB. The closest known hibernaculum and/or maternity roost tree (trees that provide habitat or hibernaculum for the species) for the NLEB is 9.3 miles away, east of Reading, MA, near Bear Meadow Brook. In 2018 and 2023, DAF conducted acoustical surveys that failed to indicate presence of the NLEB within the areas of Hanscom AFB main base. Based on these surveys' findings and that no known maternity roost trees are located within the vicinity, DAF determined that proposed undertakings within the boundaries of the Hanscom AFB main base would have "No Effect" on the NLEB. A "No Effect" determination valid for five years was put in effect for undertakings conducted in Hanscom AFB between October 2, 2018 and October 1, 2023, unless subsequently rescinded based on newly acquired science or information. Updated bat surveys were conducted at the main base in 2023 and findings concluded that the NLEB was not present. The existing "No Effect" determination has been extended through March 2029. The determinations and extensions are provided as Appendix C.

The existing fire station/PAX building is mostly impervious surface with few landscaped areas. The Preferred Alternative sites are primarily occupied by paved and landscaped areas. The proposed PAX location occupies landscaped grassy areas along the flightline, while the proposed fire station site is occupied by an abandoned gas station and landscaped surroundings.

3.2.7.2 Environmental Consequences

Preferred Alternative

The Preferred Alternative sites are located in already disturbed areas of the base. Impacts from C&D activities are anticipated to occur primarily on paved and landscaped areas. Existing trees will be protected to the extent practical. However, several trees will be removed from both the areas east and west of the gas station and south of the existing fire station/PAX building. The removal and replacement of existing trees will be conducted in accordance with the Hanscom AFB Tree Replacement policy, which promotes the replacement of each caliper inch of tree removed with the equivalent caliper inches.

Typically, every undertaking is required to undergo a separate consultation with USFWS to ensure that any effects on protected species are considered. However, in place of these consultations, the "No Effect" determination in effect for undertakings conducted in Hanscom AFB between October 2, 2018 and March 31, 2029, recently extended through March 2024, is followed, unless subsequently rescinded based on newly acquired science or information (See Appendix C). No impacts to priority habitats or NLEB are anticipated from the implementation of the Preferred Alternative.

Appropriate measures will be taken to limit impacts including repairing areas disturbed with sod/seeding, and a temporary irrigation system for landscape establishment only. Areas around the existing fire station and PAX will be landscaped to blend in with the surrounding facilities.

No Action Alternative

The No Action Alternative would continue operations at Hanscom AFB without moving the existing facilities. Therefore, no vegetation or wildlife would be impacted.

3.2.8 Infrastructure

Infrastructure is defined as a compilation of systems and physical structures that enable a population to function in a specified area. Infrastructure encompasses the fundamental systems that provide water, sewer, electric, and heating/cooling capability, as well as roads, parking, paths, and land and is mostly manmade. The economic growth of specific areas is generally dependent on the availability of infrastructure and their capacity for expansion.

Hanscom AFB has partnered with local private utility systems for provision of services such as water and electricity; however, most infrastructure at Hanscom AFB is maintained by the base. The infrastructure components discussed in this section include transportation and utilities.

3.2.8.1 Affected Environment

Infrastructure surrounding the Preferred Alternative sites were analyzed and anticipated impacts are discussed below.

3.2.8.1.1 Transportation

Hanscom AFB is located within the greater Boston metropolitan area, just outside the Route 128/I-95 circumferential expressway. Hanscom AFB commuters primarily use Route 2A and Route 4 to access Hanscom Drive and Route 4/225 to access Hartwell Avenue to enter the base. Although Hanscom AFB is relatively compact, the most used source of transportation is vehicular. Most vehicular travel within the base occurs along Vandenberg Drive, Barksdale Street, Grenier Street, and Marrett Street. The installation's transportation network consists of approximately 18 miles of surfaced roadway. For daily employees, parking areas on the installation include several large lots, primarily along either side of Barksdale Street, Vandenberg Drive, and Hartwell Avenue. When employee parking lots next to the busier buildings exceed occupancy, additional parking options are available on base within a short walking distance.

The Preferred Alternative sites are anticipated to affect the following roads: Robbins Street and Barksdale Street in Bedford.

3.2.8.1.2 Utilities

3.2.8.1.2.1 Water Distribution System

Hanscom AFB operates a community water system that serves approximately 11,300 persons at industrial, commercial, and residential tenant organizations, Massport (an off-base entity), and MIT/LL. Under contract, the Towns of Lexington and Bedford supply potable water produced by MWRA to the main base. The quantity of water that Hanscom AFB can draw from connections with Lexington to the main base is limited by contractual agreement to 2 million gallons per day (mgd). In 2023, Hanscom AFB purchased a total of 157.6 million gallons (mg), representing an average daily demand of 431,780 gallons per day (gpd) or 0.432 mgd. This average daily usage corresponds to 21.6 percent of the maximum contract capacity. The maximum single day volume pumped in 2023 was 1,431,000 gallons or 1.43 mg which occurred on August 15, 2023. This represents 71.6 percent of the maximum contract capacity.

Existing water mains at the Preferred Alternative sites include a 6-inch water main that feeds the existing fire station/PAX building and an 8-inch water main runs diagonally to the southwest of the PAX. At the proposed fire station site, an existing water main runs on the north side of Barksdale Street.

3.2.8.1.2.2 Wastewater Collection System

Sanitary wastewater at Hanscom AFB is pumped by two major lift stations and three smaller lift sumps. The primary lift station has a wet well storage capacity of approximately 260,000 gallons and can pump 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 eventually into the MWRA wastewater treatment plant at Deer Island. The permit limits the base to an outflow of 1,500 gpm and maximum daily volume of 1,270,000 gallons per day (gpd). The base currently discharges an average of approximately 650,000 gpd with a peak discharge of 970,000 gpd, this represents an average of 51.2 percent and a peak of 76.4 percent of total capacity.

At the proposed fire station site, the closest sanitary sewer main is located along the south side of Barksdale Street with multiple existing manholes. At the proposed PAX site, the closest sanitary tie-in location is in Robbins Street, southeast of the site.

3.2.8.1.2.3 Stormwater Discharge/Collection System

Most of the surface runoff from the base enters a subterranean system of eight, five-foot culverts and ultimately discharges into the Shawsheen River. This system has been in place since 1955, with subsequent facility additions tying into the basic system during construction. Portions of the Shawsheen River are conveyed through underground pipes on the base.

There is a complex system of storm drains and catch basins at Hanscom AFB. The base employs three major detention basins, in addition to numerous smaller detention basins, for the settling and infiltration of stormwater runoff including:

- A 4,900-sf basin located in the southeast quadrant of the base,
- A 1,100-sf basin located in the southeast quadrant of the base, and
- A 6,700-sf basin located in the southwest quadrant of the base.

The Hanscom AFB stormwater system is permitted by the EPA's Municipal Small Separate Sewer System General Permit. Hanscom AFB is subject to all conditions in the permit to prevent regulated contaminants from entering the storm drain system. Per the Hanscom AFB Real Property condition report, the stormwater disposal system is rated as 1, resulting in an adequate rating.

A base-wide stormwater standard requires that redevelopment projects reduce stormwater rate and volume by ten percent over the existing condition for the 2, 10 and 100-year storm events.

Pre-development conditions at the new fire station site consist of an asphalt area and building which previously functioned as a gas station. The site drains to the existing inlets to the north and east, connecting to the base stormwater system. This area is set to be demolished as part of Phase 1 of this construction to build the new fire station.

Pre-development conditions at the PAX consist of a mostly grass area to the north of the existing PAX and fire station building that will be removed as part of Phase 3 of this construction project. Stormwater at the site generally drains away from the existing building to the north and south and collects in existing inlets and flows into the base stormwater system.

3.2.8.1.2.4 Electric System

All buildings on Hanscom AFB are connected to a primary distribution system that is owned and maintained by the base. Local utility provider Eversource's distribution system has three feeds coming into a central substation located next to the central heating plant. The primary distribution system consists of multiple 14.4 kilovolt (kV) circuits distributed underground (USACE, 2013).

Hanscom AFB also recently completed the construction of a 4.6-megawatt cogeneration plant that uses a natural gas-fired turbine to produce electricity for the base (Hanscom AFB, 2021).

As analyzed in the IDP EA, the Hanscom AFB electrical system has a capacity of 17.2 megawatts (MW) or 151,000 megawatt-hours (MWh). Currently, 31.3 percent of electrical capacity is in use, resulting in approximately 11.8 MW of available capacity.

3.2.8.1.2.5 Natural Gas Supply/Distribution System

Hanscom AFB's natural gas infrastructure is owned and operated by two entities, National Grid and Hanscom AFB. Each owner is responsible for separate portions of the system. To improve overall capacity, Hanscom AFB is also tied into the Kinder Morgan transmission pipeline that runs through the base. This 24-inch steel line enters the base fence-line north of Hartwell Avenue and runs northeast to southwest across the base towards the residential area and next to Heritage Road. Pipeline distribution capacity for the installation is based on demand. Natural gas from the line also runs the 4.6-megawatt (MW) cogeneration plant.

3.2.8.1.2.6 Heating and Cooling System

Heating and cooling systems at Hanscom AFB consist of a central steam plant and a central chilled water system. The steam plant provides steam heat to approximately 70 percent of the base facilities (excluding housing) delivered through 39,000 feet of steam lines, most of which run underground. Hanscom AFB maintains above and below ground tanks for the storage of #6 fuel oil, #2 fuel oil, diesel fuel, gasoline, waste oil, kerosene, and propane. All tanks are currently in compliance with federal, state, and local regulations. On-base bulk aboveground storage tanks (ASTs) are located at the Heat Plant and store #6 fuel oil. The base has no underground petroleum or aviation fuel pipelines. All underground storage tanks (USTs) and ASTs are permitted with the local fire department dependent upon which area of the base the tank is located. ASTs are steel with secondary containment and the associated piping network meets or exceeds state and EPA requirements. The base has 20 Resource Conservation and Recovery Act (RCRA)-regulated tanks, which store diesel fuel or heating oil.

3.2.8.2 Environmental Consequences

Preferred Alternative

Transportation

- ***Fire Station:*** The Preferred Alternative proposes three new access drives entering the proposed fire station site from Barksdale Street with an additional exit drive for the apparatus from the fire station bays. Also proposed to the west of the fire station building near the main entrance is a main parking lot for visitors and daily workers with a capacity of 11 vehicles, including two Architectural Barriers Act (ABA) compliant spaces. East of the fire station building will be parking for the firefighters with a capacity of 18 vehicles. The two parking lots will provide a total of 29 parking spaces. Parking spaces and parking drive lanes will be in accordance with Military Surface Deployment and Distribution

Command Transportation Engineering Agency SDDCTEA Pamphlet 55-17, Chapter titled "Parking" for 90-degree parking spaces.

The access to and from the drive-through apparatus bays has been sized to accommodate one bay with a future ladder truck similar to the one employed by the Lexington Fire Department. The other bays will house the existing medium sized fire apparatus.

A traffic signal will be added along Barksdale Street for the emergency response vehicles exiting the fire station. The emergency-vehicle traffic signal layout will provide two signal heads for each direction of Barksdale Street with a minimum of one signal head mounted on a mast arm over each lane of traffic.

In addition to the sidewalks at the Privately Owned Vehicle (POV) parking lots and building doors, a sidewalk will be added along the north side of Barksdale Street to tie into the existing sidewalk and crosswalk at the static display near Barksdale Street and Forbes Street. The sidewalk will end at a new crosswalk in front of the fire station and will not extend to the exit drive for the apparatus bays for safety reasons. The new crosswalk will connect to the existing sidewalk on the south side of Barksdale Street.

- ***PAX:*** There are less staff working at the PAX than at the existing fire station/PAX. As a result, no additional parking is required at the proposed PAX site. An asphalt access drive leading to a drop off area and two ABA parking spaces near the entrance to the DV lounge will be provided. The drop off area will be sized for a small transit bus. Proposed sidewalks will provide pedestrian access and movement around the facility, from the parking lot, and gathering points.

Overall, no adverse traffic impacts on and off-base are expected. The Preferred Alternative would not result in a change in the number of personnel working on the base or utilizing its facilities; therefore, no additional trips on the base's roadway network are anticipated.

The Proposed Action would occur solely within the main base; therefore, any potential traffic impacts from the Preferred Alternative would be limited to the base. Any impacts are anticipated to be temporary and minor. Temporary partial road closures of sections of frequently travelled roadways, Barksdale Street, may be required during C&D activities. Any work requiring road or lane closures will require a Traffic Management Plan submitted to Hanscom AFB CE Office for review and approval. Hanscom AFB CE Office will provide notification to all Hanscom occupants 14 days prior to any road or lane closure.

Appropriate methodologies that ensure public safety and protect nearby tenants will be employed. Techniques such as barricades, flaggers, and signage will be used as necessary to isolate excavation areas from pedestrian traffic adjacent to the work sites. Sidewalk areas and walkways near C&D activities will be well marked and lit to protect pedestrians and ensure their safety. C&D activities will be designed to meet all OSHA safety standards for specific site construction activities.

Utilities

Water, firewater systems, sanitary sewer, electrical, communications, and storm drainage will be required for the fire station and PAX sites. All piping and utilities associated with the fuel tanks and island at the gas station site have been removed.

Water: Adverse long-term impacts to the water system on the base are not expected. No increase in employees or passengers is proposed as part of the Proposed Action; therefore, water consumption capacity will be similar to current levels. Utilities to be removed will not be abandoned in place. New water service lines are proposed as part of the construction of the new fire station and PAX.

- **Fire Station:** Two new connection points and a new hydrant on the north side of Barksdale Street are proposed. One connection point is for the facility domestic water and the other is for the fire water and incorporates a post-indicator valve. The domestic water supply will also provide for a new fire hydrant near the northeast corner of the proposed fire station.

- **PAX:** During construction, utilities at the PAX will be routed around the west side of the existing fire station/PAX due to the requirement to leave the existing facility in operation until the new facilities are complete. The existing 6-inch water main that feeds the existing fire station/PAX will be used to supply a new fire hydrant south of the PAX on the Hanscom side of the flightline fence. The existing 8-inch water main that runs diagonally to the southwest of the PAX will provide a connection point for the new domestic water service. An 8-inch water main west of the PAX will supply a new fire hydrant on the Massport side of the flightline fence.

Wastewater. The Preferred Alternative is not anticipated to result in additional wastewater generation. No adverse short- or long-term impacts on the wastewater system are anticipated during and after the implementation of the Preferred Alternative.

- **Fire Station**: New sanitary building service lines and manholes will be designed to connect to the existing system from the south side of the fire station.

- **PAX:** A new sanitary line and manholes are anticipated to be installed to connect the PAX plumbing connection to the existing sanitary system.

The daily sanitary sewer flow will be collected inside the facility by multiple sewer service connections, then leave the facility at a single point (PAX) or multiple points (fire station) connecting to the existing sanitary sewer main at either new or existing manholes. The overall sanitary sewer will be designed based on peak flow rates, flowing at 80 percent of discharge capacity. No industrial waste is anticipated to be produced at the PAX and fire station.

Appropriate steps would be taken to minimize and prevent impacts on sewer lines during the C&D activities.

Stormwater. No adverse short or long-term impacts to stormwater are anticipated as a result of implementing the Preferred Alternative.

The areas around the facility will be graded to provide positive drainage away from the building in accordance with UFC requirements. The surface runoff will be directed to the proposed/existing drainage infrastructure. The stormwater system/network will be developed to meet federal and state stormwater management regulations. Stormwater design will meet EISA 438, Commonwealth of Massachusetts and Hanscom AFB requirements.

- **Fire Station**: Storm drainage will be routed away from the building and away from the track north of the site. The existing underground infrastructure will be used as much as practicable, with the water eventually being routed to the existing 60-inch culverts under the east side of the site. Subsurface detention is the most likely means of reducing runoff from the site.

  The grading for the site will generally slope down to all sides of the building, with the stormwater collecting on the east and west sides. Stormwater on the east side will be collected in an underground detention system with an outlet control structure that will connect into the existing system. Stormwater on the west side will be collected in an above ground infiltration basin. An outlet control structure will connect to an existing 72-inch reinforced concrete pipe (RCP) with a new manhole.

- **PAX**: The existing drainage patterns will be maintained to the maximum extent practicable. Runoff from the new PAX building roof will be transported to the existing stormwater system through new piping. Grading around the remaining site will direct stormwater into existing structures.

  Storm drainage will be routed away from the building and away from the airfield north of the site. The existing underground infrastructure will be used as much as practicable, with the water eventually being routed to the stormwater collection system near Robbins Street. It is anticipated the PAX site will have a reduced impervious area, but subsurface detention is the most likely means of reducing runoff from the site if a further reduction is necessary.

In accordance with the Massachusetts Stormwater Handbook, the Preferred Alternative will comply with Standards 2, 3, 4 and 7. Because the Project is categorized as a "Redevelopment Project" not all standards are applicable.

Standard 2 requires proposed stormwater runoff to be less than or equal to existing runoff quantities for the 2-year and 10-year storm events.

Post-development conditions at the fire station include a new 26,325 sf (0.6 acres) building, a concrete apron and access road to the apparatus bays, and parking lots on both the east and west sides of the building. The drainage area associated with the fire station site is approximately

6.78 acres. The new site will be graded to drain primarily to the east and west sides. On the east side, a new subsurface detention basin will be installed to meet Standard 2 and on the west side, a new surface infiltration basin will be installed to meet Standard 2.

Standard 3 requires, at a minimum, the annual recharge from the post-development site to approximate the annual recharge from pre-development conditions.

Standard 7 addresses redevelopment projects stating new impervious surface must be treated for water quality in accordance with Standard 3, existing impervious surface may be treated to the maximum extent practicable.

Standard 4 requires 80% removal of total suspended solids (TSS) during a specific storm volume, which is 0.5 inch of runoff multiplied by the total impervious area of the post-development Proposed Action site.

From each stormwater management area, outlet control structures will be installed and connect to the base stormwater system. Water quality devices will also be used in the collection of the stormwater to meet Standard 4.

Standard 7 addresses redevelopment projects stating new impervious surface must be treated for water quality in accordance with Standard 3, existing impervious surface may be treated to the maximum extent practicable.

Post-development conditions at the Preferred PAX site include a new 5,150 sf (0.12 acres) building and the removal of the existing PAX and fire station buildings along with some associated pavement. The drainage area associated with the PAX site is approximately 3.92 acres. New sidewalks will be installed to connect the building to the nearby existing parking lot, but no new pavement will be installed at this site. As a result of this, the PAX site will comply with the Redevelopment requirements of the Massachusetts Stormwater Handbook. The new site will be graded to drain away from the new building with new structures added to any isolated areas that will connect into the base stormwater system. Water quality treatment will be provided through manufactured devices where required.

Storm drain designs will conform to the UFC and Hanscom Base CE requirements for both sites. Hanscom Base CE requires a 10% reduction in runoff from the existing conditions and requires that catch basins not be connected without a manhole in between. Catch basins are required to be deep sump style basins.

Low impact development (LID) will also be included to the maximum extent feasible.

The Preferred Alternative would maintain existing site drainage features to the maximum extent feasible during and after C&D activities.

Natural Gas. The Preferred Alternative is not anticipated to impact gas systems, production, and consumption at Hanscom AFB. Natural Gas will not be utilized at the new facilities. A tank for

liquified petroleum (LP) gas will be located west of the fire station with underground piping to the building to provide fuel for the outdoor gas grill and indoor cooking appliances.

All the necessary steps will be taken to avoid, minimize, and prevent impacts to utilities during C&D activities.

Heating and Cooling. The Preferred Alternative is not anticipated to impact heating and cooling systems, production, and consumption at Hanscom AFB. Steam will be provided to both facilities from the existing base steam system. It is anticipated that both facilities will have mechanical equipment on the roof, so the steam supply and return piping will be routed from new steam vaults on the existing steam distribution system to the mechanical rooms at both facilities.

- **Fire Station:** The nearest steam lines are south of Barksdale Street. A new steam vault will be added to the existing steam system to provide space for the necessary valves to be added, and the supply and return lines will be directly buried across Barksdale Street to the mechanical room on the north side of the facility.

- **PAX:** The nearest steam lines are north of Robbins Street. A new steam vault will be added to the existing steam system to provide space for the necessary valves to be added, and the supply and return lines will be directly buried from the vault to the mechanical room on the south side of the facility.

All the necessary steps would be taken to avoid, minimize, and prevent any impact on utilities during C&D activities.

No Action Alternative

The No Action Alternative would result in no C&D activities and no changes in operation. Therefore, no impacts on infrastructure would occur. This alternative does not fulfil the purpose and need of the project to provide sufficient space to efficiently operate the fire station and PAX facilities.

3.2.9 Occupational Health and Safety

Occupational Health and Safety is defined as any issue with the potential to increase health risks to military or DoD civilian personnel, developer personnel, or the public. These health risks may include the potential for death, serious bodily injury or illness, and property damage. Some potential safety concerns associated with Hanscom AFB include fire, security force response, and anti-terrorism/force protection (AT/FP) requirements and considerations. The health and safety of onsite military and civilian workers are covered by numerous DoD and Air Force regulations designated to comply with the standards specified by OSHA and USEPA.

3.2.9.1 Affected Environment

The 66 ABG Safety Office provides occupational and non-occupational safety support for all government organizations on Hanscom AFB and geographically separated units. Support includes Ground, Weapons, and Flight safety programs and major mishap prevention programs include inspections, hazard abatement, mishap investigation, and training. The Safety office 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 not supported by the base's occupational health programs (e.g., 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, mishap reporting and recording, worker health and safety training, hazard abatement, and medical surveillance.

3.2.9.2 Environmental Consequences

Preferred Alternative

Occupational safety and health procedures would be implemented as part of C&D activities to ensure the safety and health of individuals at the worksite. Implementation of the Preferred Alternative would not result in direct or indirect impact on the safety and health of DAF employees and others at the site. The Preferred Alternative would be completed in accordance with all applicable federal, state, local, and applicable DAF regulatory safety standards. Contractors would be trained to identify and avoid safety hazards, such as those common to working around/with heavy equipment and electrically powered hand tools.

A temporary construction fence would be installed around the perimeter of the construction area, and only authorized personnel with appropriate personal protective equipment would be allowed to enter the construction zone.

No significant short-term safety and occupational health concerns are anticipated as a result of implementing the Preferred Alternative. During construction and operation, all relevant Hanscom AFB occupational health and safety regulations would be adhered to. Long-term positive benefits would be realized from the construction of a new fire station, which would meet DoD requirements.

No Action Alternative

No C&D activities or operational changes would occur. Therefore, implementation of the No Action Alternative would not result in direct or indirect impacts on the safety and health of DAF employees and contractors at the Preferred Alternative sites.

3.2.10 Environmental Restoration Program

The Environmental Restoration Program (ERP), formerly known as Installation Restoration Program (IRP), began in 1988 with an Installation-wide Preliminary Assessment/Record Search to identify potentially contaminated sites that required further investigation. Since the implementation of the ERP, 22 ERP sites have been identified within the larger Hanscom AFB/Hanscom Field area. Of the 22 identified potentially contaminated sites, 15 sites require no further action and are considered closed and the remaining 7 sites are still active and are either regulated by the USEPA under CERCLA or by the Commonwealth of Massachusetts. Of the 7 active sites, 3 are on Hanscom AFB (Sites 6, 21, and 22), whereas the other 4 active sites (Sites 1, 2, 3, and 4) are located on Hanscom Field and thus on Massport property. Additionally, there are three per- and polyfluoroalkyl substances (PFAS) sites, 2 located on Hanscom Field (Aqueous Film-Forming Foam [AFFF] Sites 1 and 2) and 1 located on Hanscom AFB (AFFF Site 4). Of the 22 total sites, the 7 active sites have land use controls (LUC) in place. The disturbance of these sites must be reviewed and approved by the HAFB Environmental Office.

Perfluoroalkyl and Polyfluoroalkyl substances (PFAS)

The DAF is currently conducting investigations of Perfluoroalkyl and Polyfluoroalkyl substances (PFAS) as part of a large Remedial Investigation for AFFF sources only. Figure 5 shows the closest known PFAS site to the Preferred Alternative sites that are currently under investigation.

The DAF is also completing a non-AFFF draft Due Diligence for Supplemental PFAS Sources Report, which will evaluate potential PFAS source areas unrelated to aqueous film-forming foam (AFFF). This report schedule is unknown at this time.

3.2.10.1 Affected Environment

The Preferred PAX site is not located within any of the ERP sites. However, the Preferred fire station site is an active ERP site (#22) and is currently undergoing restoration/cleanup activities under the MCP. Five petroleum-related releases from former gasoline underground storage tanks (USTs) have led to the existence of soil and groundwater contamination at this site, found and reported in 1981, 1990, 1991, 1992, and 2001. Currently, monitoring wells are sampled annually for volatile petroleum hydrocarbons.

An existing investigation is underway by the ERP to assess the extents of the contaminants, and a Release Abatement Measure (RAM) Plan to address removal of petroleum-impacted soil at the site is underway, with excavation activities scheduled to occur in September, 2024.

No PFAS are anticipated at the Preferred Alternative sites. The closest PFAS site to the Preferred Alternative site is AFFF Site 4 (Motor Pool Release Site). Based on current information on AFFF Site 4 (Motor Pool Release Site), the DAF does not believe that development at the Preferred Alternative sites would interfere with the ongoing Air Force PFAS Remedial Investigation. Activities related to the PFAS investigations study area will occur outside the upgradient fire

station and PAX sites. The Proposed Action will be coordinated with ongoing Air Force investigations of PFAS.

3.2.10.2 Environmental Consequences

Preferred Alternative

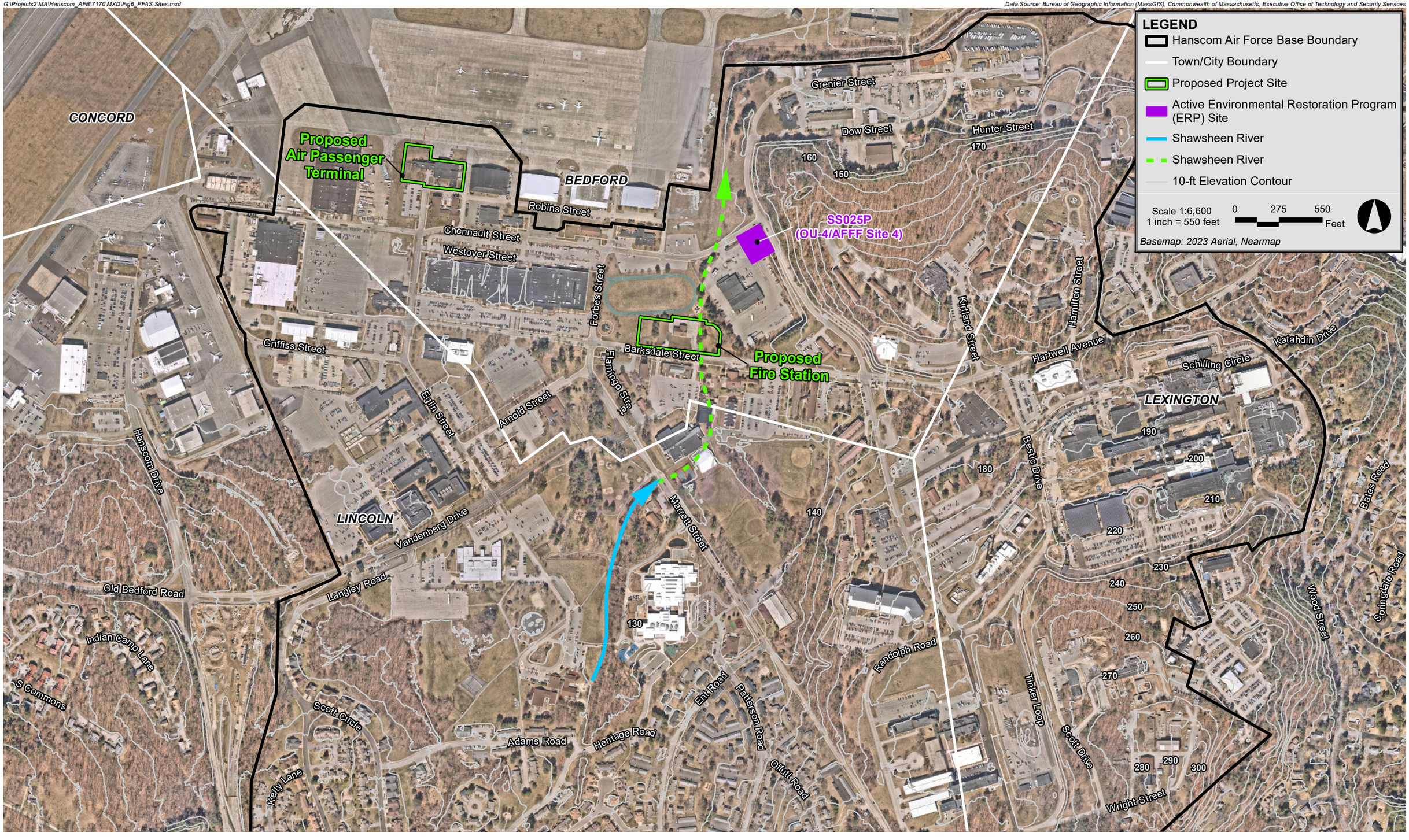
The Preferred Alternative is not expected to have an adverse effect on ongoing Environmental Restoration Program activities. Removal of any contamination will be coordinated with the HAFB ERP to address impacted soils during construction and meet standards under the MCP.

No Action Alternative

The No Action Alternative would continue operations at HAFB with no changes. The No Action Alternative would not directly impact or impede monitoring of the active ERP site 22.

G:\Projects2\MA\Hanscom_AFB\7170\MXD\Fig6_PFAS Sites.mxd

Data Source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services



New Fire Station and Air Passenger Terminal Hanscom Air Force Base, Massachusetts

Epsilon ASSOCIATES INC.

Figure 5
PFAS Sites

3.2.11 Solid Waste and Hazardous Materials

The Resource Conservation and Recovery Act (RCRA) (42 USC 6921), passed in 1976, created the framework for America's hazardous and non-hazardous waste management programs. Materials regulated by RCRA are known as "solid waste," which include any garbage or refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, resulting from industrial, commercial, mining, and agricultural operations, and from community activities. Solid waste can also be classified as hazardous waste, which is subject to additional regulation. EPA developed detailed regulations that define what materials qualify as solid waste and hazardous waste. Wastes which are excluded from the definition of solid waste are identified in 40 CFR 261.4(a).

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 waste, including adhesives, sealants, greases, waste paint and thinners, solvents, and corrosive cleaning compounds are accumulated at initial accumulation points, and transferred to the 90-day accumulation site, with final disposal off base. HAFB 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.

3.2.11.1 Affected Environment

The types of solid waste generated at Hanscom AFB include food, various grades of office paper, newspaper, cardboard, cans, glass and plastic containers, scrap metals, and C&D debris. In FY 2023, approximately 2,286 tons of solid wastes were generated by Hanscom AFB consisting of 264 tons of C&D debris, 1,785 tons of municipal solid waste, 215 tons recyclables, and 22 tons of food waste for offsite processing and, where applicable, disposal. Hanscom AFB does not own or operate its own landfill.

Most solid waste generated at Hanscom AFB is removed by private contractors and disposed of by incineration or directly hauled to materials recovery facilities for recycling. The major sources of municipal waste include community operations, offices, and industrial areas, while the major source of C&D debris is the result of multiple engineering projects on the base.

Under permit with MassDEP, the Hanscom AFB solid waste transfer station permit is limited to a maximum of 50 tons/day of C&D debris waste. There are no permit limits on other solids wastes that the transfer station can process. During major construction and renovation projects, C&D debris is disposed of by the performing contractor, who reports quantities to Hanscom AFB, but which are not processed through the transfer station, and therefore do not count toward the 50 ton/day permit limit. Management of all solid waste generated on Hanscom AFB is governed by the Hanscom AFB Integrated Solid Waste Management Plan (ISWMP). The Hanscom AFB Hazardous Waste Management Plan (HWMP) establishes policies, procedures, and responsibilities to ensure compliance with environmental laws and regulations. The HWMP

provides a single-source document for personnel involved with hazardous materials and waste to ensure proper identification, packaging, storing, transporting, treatment, and/or reporting of hazardous materials and waste at Hanscom AFB.

A Hazardous Building Materials Survey Report for the existing PAX/fire station and abandoned gas station buildings was conducted on March 21, 2023 to identify hazardous building materials (HBMs) that may be impacted by future demolition and document their location and quantity. The completed survey is included as Appendix I of the 65% Design Submittal, and is used to inform construction activity accordingly.

Asbestos Containing Materials (ACMs) and lead paint were identified in some sections of both existing buildings. No Polychlorinated biphenyls (PCBs) were reported in either of the existing buildings.

3.2.11.2 Environmental Consequences

Preferred Alternative

The Preferred Alternative is anticipated to produce solid waste during C&D activities. However, it is not anticipated to result in adverse impacts on solid waste and hazardous materials management.

Short-term, minor impacts are anticipated from fugitive dust generated by C&D activities from the implementation of the Preferred Alternative. Following established protocols and BMPs, potential debris would be recycled to the greatest extent feasible. Inert debris (concrete, asphalt, dirt, brick, and other rubble) would be incorporated into reuse and recycling programs when possible.

New construction is not expected to generate any ACM/LBP; however, demolition and renovation of some of the existing structures would result in the generation of LBP and/or ACM waste. As the proper handling, use, and disposal of hazardous materials and waste, including materials such as sealant and surface treatment substances used for parking apron concrete restoration, are routine at HAFB, personnel would adhere to the present Hazardous Materials Management Program (HMMP) tracking and reporting requirements. Contractors hired to execute projects would be responsible for hazardous materials management in accordance with HAFB's HMMP. As a result, no harm to the environment from hazardous materials and hazardous wastes are anticipated from the Proposed Action. In addition, proper health and safety practices would also be employed to protect personnel and public health and safety.

Overall, solid waste management would follow Hanscom AFB recycling policies and MassDEP solid waste policies and guidance to minimize the amount of solid waste disposed without beneficial reuse during construction activities. Contractors hired to execute projects would be responsible for solid and hazardous materials management in accordance with Hanscom AFB's HMMP, ISWMP, and Hazardous Materials Operations Plan. Hazardous materials retrieved during

demolition activities would be stored, transported, and disposed of in accordance with base, military, state, and federal regulations. The management and disposal of the LBP and/or ACM waste would be performed in accordance with HAFB's LBPMP and/or AMOP and Federal, state, and local regulations.

Proper disposal of lead-containing waste would also be conducted in accordance with state and federal regulations, including the Toxic Substances Control Act and the Occupational Safety and Health Act. This waste would be accompanied by a waste manifest and disposed of at a state-approved facility.

Disposal of asbestos wastes would be conducted under the direction of the National Emissions Standards for Hazardous Air Pollutants (40 CFR 61.40-157). Contracted personnel would have to be trained and certified to remove any asbestos materials. The contractor would submit an asbestos work and disposal plan for any demolition, as well as transport and disposal documentation records, including signed manifests.

The implementation of these management requirements would mitigate any adverse impacts resulting from LBP and/or ACM.

Regarding daily operations, no increase in solid waste is anticipated at the fire station and the PAX buildings, given no addition of personnel is proposed.

No Action Alternative

Under the No Action Alternative, no C&D activities would take place; therefore, no solid or hazardous materials would be generated.

3.2.12 Socioeconomics and Environmental Justice

Socioeconomics relates to or involves a combination of social and economic factors. Socioeconomic changes associated with economic activities, such as changes in employment and commercial growth, sometimes result in changes to additional indicators such as housing availability, school capacity, etc. Potential socioeconomic impacts include those that could expose low-income and minority populations to disproportionate negative impacts or could pose special risks to children (under 18 years old) due to noise and other conditions during Hanscom AFB development projects adjacent to such communities. The socioeconomic receptors include nearby communities and property that could be impacted by the noise from Hanscom AFB construction.

Under its instructions for the EIAP (32 CFR Part 989), the DAF must demonstrate compliance with Executive Order 12898, entitled Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, to determine the effects of federal programs, policies, and activities on minority and low income populations. Similarly, under EO 13045, entitled *Protection of Children from Environmental Health Risks and Safety Risks*, each federal agency must assess the environmental health risks and safety risks that may disproportionately affect children.

For there to be a potential environmental justice impact, a unique low-income or minority population must be present, as well as a significant adverse impact.

3.2.11.1 Affected Environment

Hanscom AFB employs nearly 7,000 people and includes approximately 740 housing units on the base. The workforce at Hanscom AFB includes military (active duty), military (reservists), Department of DoD civilians, non-DoD civilians, and contractors. From a social perspective, Hanscom AFB has limited impacts on surrounding communities due to the small number of residents who reside on the base and the self-contained nature of the facility.

For environmental justice purposes, the region of influence (ROI) is considered the three towns in which the base is located. According to the Environmental Justice (EJ) Viewer, there are 21 EJ block groups which have been designated as comprising an Environmental Justice population, most of which are in Lexington. All the identified block groups meet the criterion for Minority (M). The Preferred Alternative falls within EJ communities classified as Minority.

From an economic perspective, Hanscom AFB affects a much larger area as a major regional employer. With a daytime population of over 10,000 (Hanscom AFB 2020b), the base draws employees from throughout the greater Boston metropolitan area. The base has several active retail and service establishments primarily serving the needs of on-base employees and residents, as well as off-base personnel with access privileges such as retirees.

3.2.11.2 Environmental Consequences

Preferred Alternative

Under the Preferred Alternative, no adverse impacts on socioeconomics and environmental justice would occur. No increase in Hanscom employees is anticipated. The Proposed Action only proposes infrastructure improvements. Temporary disruption of traffic and increases in noise are anticipated from C&D activities. However, these effects would be short-term, mostly affecting Hanscom AFB residents than off-installation residents.

The Preferred Alternative would result in long-term benefits including improving the operations of the fire department.

No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented; therefore, no operation and efficiency benefits would be realized by the Hanscom fire department and the PAX passengers and personnel. Instead, long-term impacts would occur as the current fire station/PAX facility is aging and deficient in space and limits operations.

3.2.13 Construction

Preferred Alternative

Phasing

Construction period will occur in three phases:

- Phase 1 will involve the demolition of the abandoned gas station and construction of the new fire station in its place.
- Phase 2 will include the construction of the new PAX.
- Phase 3 will involve the demolition of the existing fire station/PAX building.

Utility Protection

Existing public and private infrastructure located within the public right-of-way will be protected during C&D activities. The installation of proposed utilities within the public way will be in accordance with the appropriate governing utility company requirements. All necessary permits will be obtained before the commencement of the specific utility installation.

- **Fire Station:** The utility services to the former gas station will be removed back to the main or logical connection point. There are also multiple storm drains, communications lines and electrical duct banks that cross the site that will need to be evaluated to determine if they can be removed or if they require relocation. There are two 60-inch storm drain pipes under the east side of the site that carry the Shawsheen River and they must not be disturbed. Utilities identified to be demolished will not be abandoned in place. Per the provided scope of work for the gas station tank and fuel island removal, all piping and utilities associated with the fuel tanks and island have been removed.
- ***PAX:*** The utility services to the fire station/PAX will be removed back to the main or logical connection point. There are also multiple small diameter and electrical lines that cross the site and will require evaluation to determine if they can be removed or if they require relocation. Utilities identified to be demolished will not be abandoned in place.

Demolition

Building foundations will be removed in their entirety. Pavements, including aggregate base course, and miscellaneous site supporting elements will be removed in their entirety to the maximum extent possible throughout the construction site to minimize interference with the installation of the proposed new foundations, footings, utilities, and pavement sections. All demolition materials will be disposed of off-base at approved landfills/recycling centers.

- **Fire Station:** The former gas station building and associated paving will be removed, along with the backstop for a youth baseball field directly west of the gas station and the sidewalk from the gas station parking lot to the playground north of the site. There will be curb demolition along Barksdale Street associated with the new access drives for the fire station and parking areas.

- **PAX:** After the fire station and PAX buildings are operational, the existing fire station/PAX and a portion of the associated paving will be demolished. This will include a section of the flightline fence, but the existing flightline vehicular gate on the east side of the fire station/PAX will remain. The existing apron and adjacent DV receiving area will be retained.

Construction Staging

The Preferred Alternative construction staging/laydown area for the PAX will be located in the parking lot east of the site, between Robins and Chennault Streets and nearby buildings. For the fire station, the staging/laydown area will be west of the site in the parking lot southwest of the intersection of Forbes and Barksdale Streets. Contractor access to the Preferred Alternative sites will be via the commercial vehicle entry at the Sartain Gate and all access procedures will be coordinated during design.

The Contractor will be required to provide a temporary construction fence, screened with brown fabric, with access gates into the laydown areas. The Contractor will also be required to restore the areas to the pre-existing condition or green space prior to completion of construction. POV parking for Contractor's personnel will be within the staging area and the facility construction site. The Contractor will be required to provide an aggregate surfaced area for any unpaved surfaces at the laydown and staging area for the duration of construction, and to restore the area to its pre-existing condition or green space prior to completion of construction.

Erosion and Sediment Control

Pollution prevention for construction-related activities will be required for the Proposed Action.

Public Safety

To ensure public safety, secure fencing and barricades will be used to isolate construction areas from pedestrian traffic adjacent to the construction sites. Sidewalk areas and walkways near construction activities will also be well marked and lit to protect pedestrians and ensure their safety. Construction procedures will be designed to meet all OSHA safety standards for specific site construction activities.

During construction, entrances to the Proposed Action sites will be restricted to points where aggregate surfaces will be used to limit the tracking of soil out of the Proposed Action sites by construction vehicles.

No Action Alternative

Under the No Action Alternative, no C&D activities would take place.

4.0 REASONABLY FORESEEABLE ACTIONS AND CUMULATIVE EFFECTS

4.1 Past, Present, and Reasonably Foreseeable Actions

CEQ regulations require that all federal agencies include an analysis of potential direct and indirect cumulative effects on the environment from the incremental effect of a proposed action when added to the other past, present, and reasonably foreseeable future actions. Cumulative effects are most likely to arise when a relationship or synergy exists between a proposed action and other actions expected to occur in a similar location or during a similar time period. Actions overlapping with or close to a proposed action would be expected to have more potential for a relationship than those more geographically separated.

4.2 Assessment of Cumulative Impacts

This EA considers the effects of cumulative impacts as required in 40 CFR 1508.7 and connected actions as required in 40 CFR 1508.25(1). A cumulative impact, as defined by the CEQ (40 CFR 1508.7) is the "…impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of which agency (Federal or non-Federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."

The following projects have occurred at Hanscom AFB within the last five years:

- Reconfiguration of the Ruiz (aka Hartwell) Gate Complex, FONSI issued 2023;
- Construction of Sartain (Vandenberg) Gate Complex and roadway System, FONSI issued in 2022;
- 24-Hour Access Gate at Hanscom AFB; FONSI issued in 2022;
- NC3 MILCON, Mission Consolidation at Hanscom AFB; FONSI issued 2021 (project has not been constructed yet);
- AAFES Consolidation and Gas Station at Hanscom; FONSI issued 2021;
- Installation Development Plan EA; FONSI issued 2020;
- Leasing Off-Base Space for HBN Personnel; FONSI issued 2020;

Future anticipated projects on Hanscom AFB not addressed by this EA include:

- Construction of a New Child Development Center (Estimated in 2024)
- Replacement of Lead Service Lines (Estimated in 2024)

For projects listed above, no significant impacts on socioeconomic/environmental justice, noise, climate change, geology and soils, floodplains, or the environmental restoration program hazardous waste were identified in the project EAs. The short-term increases in solid waste during construction for these projects would be minor because recycled materials would be utilized, and efficient building technologies were included in the building design. Traffic increases from projects would be minimized by the implementation of traffic demand management (TDM) strategies. Specific to the construction of buildings with Hanscom AFB, minor increases in demands on the water supply, wastewater, electrical, telecommunications, and natural gas systems, as a result of a small increase in the base population, were determined not to be adverse.

No cumulative impacts on Hanscom AFB resources are anticipated when the Preferred Alternative is evaluated together with past, present, and reasonably foreseeable actions.

5.0 SUMMARY OF ENVIRONMENTAL MANAGEMENT AND MITIGATIONS

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

Parameter:	BMPs or Other Measures to Reduce Impacts:
Land Use	A construction schedule would 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 off-peak hours to avoid the disturbance to frequented roadways where nearby C&D activities would occur.
Utilities	Existing utility alignments would be identified through markings (similar to "Dig Safe") prior to any C&D activities to prevent damage to existing infrastructure within and surrounding sites where C&D activities are proposed.
Air Quality	All equipment and vehicles used during C&D activities would be maintained in good operating condition so that exhaust emissions are minimized. Dust would be controlled on-site using water to wet down disturbed areas.
Surface Water	During C&D activities, silt fence and/or hay bales would be placed around catch basins to reduce potential for sediment/eroded materials to be transported to the Shawsheen River via the storm sewers.
Vegetation	Existing vegetation on the fire station/PAX site would be protected during C&D activities and sites part of the Proposed Action will be restored to existing conditions to the extent possible.
Cultural Resources	No archaeological sensitive areas would be disturbed or impacted during C&D activities of the Preferred Alternative.
Hazardous Waste	All hazardous materials encountered during C&D activities would be handled and disposed of in accordance with Hanscom AFB policies and protocols and all applicable state and federal regulations.

6.0 REFERENCES

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7.0 LIST OF PREPARERS

This EA has been prepared under the direction of the Environmental Office (66ABG/CEIE), along with Epsilon Associates to fulfill the requirements of NEPA for Hanscom AFB, MA.

The following persons authored and provided direct oversight for the preparation of this EA:

MANAGEMENT

Howe, Jennifer, PE, SMMA, Boston, Massachusetts. B.S. in Environmental Engineering; As the Project Director, Ms. Howe, with over 25 years of experience, provided management oversight for preparation of this environmental assessment.

Santamaria, Austin, SMMA, Boston, Massachusetts. B.S. in Finance. Mr. Santamaria assisted with Project Management for the preparation of this environmental assessment.

TASK LEADER

Maravelias, James P., CIV USAF AFMC 66 ABG/CEIE. As the task leader for this effort, Mr. Maravelias provided technical analysis and editing and daily oversight for preparation of this environmental assessment.

Sheehan, Scott. E.I.T.; 66 ABG/CEIE; B.S. in Civil Engineering. Mr. Sheehan provided technical analysis and editing support for preparation of this environmental assessment.

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Weiss, Ida. Epsilon Associates, Maynard, Massachusetts. Project Engineer with one year of experience in air dispersion modeling and mesoscale air quality analysis.

APPENDIX A

List of Parties Contacted and Correspondences

APPENDIX A: CONSULTATION LETTER RECIPIENT LIST

Federal

- Environmental Protection Agency (EPA) Region 1
- U.S. Fish and Wildlife Service (USFWS) - Section 7

State

- Massachusetts Historical Commission (MHC) State Historic Preservation Office (SHPO) – Section 106

Local

- Town of Bedford (Fire Department, Department of Public Works)
- Town of Lexington (Fire Department, Department of Public Works)
- Town of Lincoln (Fire Department, Department of Public Works)
- Town of Concord (Fire Department, Department of Public Works)
- Hanscom Area Towns Committee (Bedford, Lincoln, Concord, and Lexington)

Tribal Consultation

- Section 106 –Wampanoag Tribe of Gayhead (Aquinnah)
- Mashpee Wampanoag Tribe

TOWN OF CONCORD
Office of the Town Manager
Town House
P.O. Box 535
Concord, Massachusetts 01742

April 22, 2024

Mr. Jim Maravelias
66 ABG/CEIE
120 Grenier Street
Hanscom AFB, MA 01731-1910

Dear Mr. Maravelias,

Thank you for providing the Town of Concord with an opportunity to comment on both the proposed construction of a new fire station and air passenger terminal and the proposed construction of a steel lattice-type tower with radome atop the structure and an appurtenant equipment shelter and external diesel fuel tank within the Hanscom Air Force Base Boundaries. Please find comments and questions from the Concord Select Board and Town Manager's Office on the project below:

New Fire Station and Air Passenger Terminal

1. All efforts should be made to create the passenger terminal and fire station as highly energy efficient buildings, with a focus on achieving net-zero energy use. This is consistent with the most energy efficient building codes in Massachusetts and consistent with MA greenhouse gas reduction goals, as outlined in the MA Specialized Stretch Building Codes. The use of fossil fuels for any heating and cooling systems should be avoided, and instead electrification of those systems should be employed via air- or ground-source heat pump technologies. Given that the facilities appear to be adjacent there could be the potential to use one geothermal field to serve both buildings. The installation of rooftop and/or canopy solar PV and battery storage should be considered to offset any power demands and to increase resiliency.
2. Consideration should be taken to minimize the amount of impervious surface on the site, and green stormwater infrastructure measures taken to capture and minimize storm runoff. Low albedo surfaces or coatings should also be employed where possible to minimize the heat absorption of artificial surfaces and reduce heat island effects and impacts.
3. EV charging infrastructure should be installed to support the use of electric service and support vehicles for both buildings, and for passenger terminal visitors.

Radome Tower and Equipment Shelter

1. It would be helpful to learn more about how the 4,000-gallon external diesel fuel tank factors into the project. Will it serve as the main source of power for the 24/7/365 operation of the radome and associated equipment, or it only used as a

back-up fuel supply as needed? If the former is true, we strongly support the use of a cleaner energy source to be used for regular operations, given the adverse impacts of diesel fuel use on greenhouse gas emissions and air quality.

2. Could you please outline the anticipated levels of noise pollution associated with operating the radome and associated support equipment 24/7/365?
3. The installation of solar PV and battery storage should be considered to help offset any of the regular or back-up power demands of the project and increase resiliency.

Thank you for the opportunity to respond to these projects. We look forward to reviewing the Environmental Assessment upon its completion.

Sincerely,

Megan J. Zammuto

Megan J. Zammuto
Deputy Town Manager
Town of Concord

CC: Concord Select Board

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

Mr. Charles N. Strickland III, P.E.
Chief, Installation Management Flight
120 Grenier Street
Hanscom AFB, MA 01731-1910

Ms. Meegan Zammuto
Deputy Town Manager
P.O Box 519
Concord, MA 01742

Dear Ms. Zammuto,

Thank you for providing us comments and questions for the proposed new Fire Station and Air Passenger Terminal Environmental Assessment (EA), in a letter dated April 22, 2024. We are unable to answer all your questions at this time because we are in preliminary stages in the project design.

This project must follow Executive Order (E.O.) 14057, Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability. Section 510(b)(ii) of E.O. 14057 directs the Council on Environmental Quality (CEQ) to issue a Federal Building Performance Standard (BPS). A copy of the federal building performance standard is found at https://www.sustainability.gov/pdfs/federal-building-performance-standard.pdf. In addition, the project will follow Unified Facilities Criteria (UFC) 1-200-02 High Performance and Sustainable Building Requirements.

Your letter and this response are being added to the Draft Environmental Assessment. I forwarded your comments and questions to our design team to further consider your comments during the project design.

Thanks again for your review and comments. If you have any questions, please feel free to contact Jim Maravelias anytime at (781) 225-6209 or james.maravelias.1@us.af.mil.

Sincerely

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

From: CASSERLY, JESSICA M CIV USAF AFMC 66 ABG/PA
To: MARAVELIAS, JAMES P CIV USAF AFMC 66 ABG/CEIE
Subject: RE: Fire station and passenger terminal EA
Date: Thursday, May 2, 2024 8:28:16 AM
Attachments: image001.png

Jim,

Thank you for sending this information! I will pass it along to the Hanscom Area Towns Committee in response to their questions.

I really appreciate the help.

v/r,
Jessica

Jessica Casserly, Civ (she/her)
Strategic Engagement lead
66 ABG/ Public Affairs
Hanscom AFB, MA
Office: 781-225-1611
jessica.casserly@us.af.mil

From: MARAVELIAS, JAMES P CIV USAF AFMC 66 ABG/CEIE <james.maravelias.1@us.af.mil>
Sent: Wednesday, May 1, 2024 1:48 PM
To: CASSERLY, JESSICA M CIV USAF AFMC 66 ABG/PA <jessica.casserly@us.af.mil>; WELCH, RENATA N CIV USAF AFMC 66 ABG/CEIE <renata.welch@us.af.mil>; LYNCH, MICHAEL R CIV USAF AFMC 66 ABG/CE <michael.lynch.25@us.af.mil>; STRICKLAND, CHARLES N III CIV USAF AFMC 66 ABG/CEI <charles.strickland.4@us.af.mil>; SHEEHAN, SCOTT E CIV USAF AFMC 66 ABG/CEIE <scott.sheehan.1@us.af.mil>
Cc: KASLICK, CAROLE A CIV USAF AFMC 66 ABG/CEIE <carole.kaslick@us.af.mil>; WONG, DAVID P CIV USAF AFMC 66 ABG/CEN <david.wong.7@us.af.mil>; KOPEK, ALBERT CIV USAF AFMC 66 ABG/CENM <albert.kopek@us.af.mil>
Subject: RE: Fire station and passenger terminal EA

Jessica,

1. The proposed fire station will not be located in the same space adjacent to the flight line. It would be constructed at the site of the former gas station location along Barksdale Street
2. The existing 21,269 square foot (sf) multi-story facility that houses the existing fire station, PAX
   facility and the existing 4,241 sf. single-story abandoned gas station along Barksdale Street are
   proposed to be demolished. A new single-story 26,325 sf fire station will be constructed at the site of the former gas station. A new single-story 5,150 sf PAX building will be constructed north of the existing fire station/PAX building.

Let me know if you need additional information.

Thanks,

Jim

MR. JIM MARAVELIAS, DAF, CSSBB, ALM, MS
66 ABG/CEIE, HANSCOM AFB
NEPA/EIAP MANAGER
POL/TANKS COMPLIANCE PROGRAM MANAGER
COMM (781) 225-6209
DSN 845-6209
CELL (781) 983-7075

gas station. **From:** CASSERLY, JESSICA M CIV USAF AFMC 66 ABG/PA <jessica.casserly@us.af.mil>
Sent: Wednesday, May 1, 2024 1:26 PM
To: WELCH, RENATA N CIV USAF AFMC 66 ABG/CEIE <renata.welch@us.af.mil>; LYNCH, MICHAEL R CIV USAF AFMC 66 ABG/CE <michael.lynch.25@us.af.mil>; STRICKLAND, CHARLES N III CIV USAF AFMC 66 ABG/CEI <charles.strickland.4@us.af.mil>; SHEEHAN, SCOTT E CIV USAF AFMC 66 ABG/CEIE <scott.sheehan.1@us.af.mil>
Cc: KASLICK, CAROLE A CIV USAF AFMC 66 ABG/CEIE <carole.kaslick@us.af.mil>; MARAVELIAS, JAMES P CIV USAF AFMC 66 ABG/CEIE <james.maravelias.1@us.af.mil>; WONG, DAVID P CIV USAF AFMC 66 ABG/CEN <david.wong.7@us.af.mil>; KOPEK, ALBERT CIV USAF AFMC 66 ABG/CENM <albert.kopek@us.af.mil>
Subject: RE: Fire station and passenger terminal EA

Good afternoon,

Thanks again for helping to prep me to brief an update on the fire station/passenger terminal EA during the April 25 Hanscom Area Towns Committee meeting.

The committee greatly appreciated the info on plans for the new fire station, passenger terminal and DV lounge. The committee members did have two follow up questions:

1. Will the new fire station be located in the same space adjacent to the flight line?

2. What are the proposed sizes of the new fire station and passenger terminal relative to the current facility?

For question one, I let the committee know that since the fire station and the passenger terminal/DV lounge will be two separate facilities, it is possible the fire station may be relocated. I did not provide any details on the potential new location.

Does your team have a response for the second question or should I let the committee know that the facility dimensions and other details will be included in the impending EA?

Thank you!

v/r,
Jessica

Jessica Casserly, Civ (she/her)
Strategic Engagement lead
66 ABG/ Public Affairs
Hanscom AFB, MA
Office: 781-225-1611
jessica.casserly@us.af.mil

From: WELCH, RENATA N CIV USAF AFMC 66 ABG/CEIE <renata.welch@us.af.mil>
Sent: Thursday, April 18, 2024 5:07 PM
To: CASSERLY, JESSICA M CIV USAF AFMC 66 ABG/PA <jessica.casserly@us.af.mil>; LYNCH, MICHAEL R CIV USAF AFMC 66 ABG/CE <michael.lynch.25@us.af.mil>; STRICKLAND, CHARLES N III CIV USAF AFMC 66 ABG/CEI <charles.strickland.4@us.af.mil>; SHEEHAN, SCOTT E CIV USAF AFMC 66 ABG/CEIE <scott.sheehan.1@us.af.mil>
Cc: KASLICK, CAROLE A CIV USAF AFMC 66 ABG/CEIE <carole.kaslick@us.af.mil>; MARAVELIAS, JAMES P CIV USAF AFMC 66 ABG/CEIE <james.maravelias.1@us.af.mil>; WONG, DAVID P CIV USAF AFMC 66 ABG/CEN <david.wong.7@us.af.mil>; KOPEK, ALBERT CIV USAF AFMC 66 ABG/CENM <albert.kopek@us.af.mil>
Subject: RE: Fire station and passenger terminal EA

No concerns from my end.

Thank you

From: CASSERLY, JESSICA M CIV USAF AFMC 66 ABG/PA <jessica.casserly@us.af.mil>
Sent: Thursday, April 18, 2024 3:27 PM
To: LYNCH, MICHAEL R CIV USAF AFMC 66 ABG/CE <michael.lynch.25@us.af.mil>; STRICKLAND, CHARLES N III CIV USAF AFMC 66 ABG/CEI <charles.strickland.4@us.af.mil>; WELCH, RENATA N CIV USAF AFMC 66 ABG/CEIE <renata.welch@us.af.mil>; SHEEHAN, SCOTT E CIV USAF AFMC 66 ABG/CEIE <scott.sheehan.1@us.af.mil>
Cc: KASLICK, CAROLE A CIV USAF AFMC 66 ABG/CEIE <carole.kaslick@us.af.mil>; MARAVELIAS, JAMES P CIV USAF AFMC 66 ABG/CEIE <james.maravelias.1@us.af.mil>; WONG, DAVID P CIV USAF AFMC 66 ABG/CEN <david.wong.7@us.af.mil>; KOPEK, ALBERT CIV USAF AFMC 66 ABG/CENM <albert.kopek@us.af.mil>
Subject: RE: Fire station and passenger terminal EA

Good afternoon,

Thank you all for this information—I really appreciate the help.

Please let me know if you have any concerns with me briefing the following update at next week's

HATS meeting:

- Hanscom AFB is proposing to construct a new single-story fire station to provide fire protection and firefighting services for the base. Additionally, a separate single-story passenger terminal and distinguished visitor lounge construction project is also proposed. Hanscom AFB has a fire station and passenger terminal now, but both are not properly sized and need to be reconfigured and modernized. We anticipate releasing a draft EA on these proposed projects for public comment in early-to-mid May. Currently, we anticipate receiving funding for the projects in fiscal year 2027. Once funded and on contract, we expect construct to take approximately two years.

Thanks!

V/r,
Jessica

Jessica Casserly, Civ (she/her)
Strategic Engagement lead
66 ABG/ Public Affairs
Hanscom AFB, MA
Office: 781-225-1611
jessica.casserly@us.af.mil

From: LYNCH, MICHAEL R CIV USAF AFMC 66 ABG/CE <michael.lynch.25@us.af.mil>
Sent: Thursday, April 18, 2024 1:55 PM
To: STRICKLAND, CHARLES N III CIV USAF AFMC 66 ABG/CEI <charles.strickland.4@us.af.mil>; WELCH, RENATA N CIV USAF AFMC 66 ABG/CEIE <renata.welch@us.af.mil>; CASSERLY, JESSICA M CIV USAF AFMC 66 ABG/PA <jessica.casserly@us.af.mil>; SHEEHAN, SCOTT E CIV USAF AFMC 66 ABG/CEIE <scott.sheehan.1@us.af.mil>
Cc: KASLICK, CAROLE A CIV USAF AFMC 66 ABG/CEIE <carole.kaslick@us.af.mil>; MARAVELIAS, JAMES P CIV USAF AFMC 66 ABG/CEIE <james.maravelias.1@us.af.mil>; WONG, DAVID P CIV USAF AFMC 66 ABG/CEN <david.wong.7@us.af.mil>; KOPEK, ALBERT CIV USAF AFMC 66 ABG/CENM <albert.kopek@us.af.mil>
Subject: RE: Fire station and passenger terminal EA

Chuck,

I just heard this morning that funding is shifting to FY 27. I'd hate to start throwing out a detailed construction schedule but if funded in 27 and depending on when it gets on contract we are looking at approximately a two year construction period.

Mike

Michael R. Lynch
Chief Portfolio Optimization

66 ABG/CENP
120 Grenier Street
Hanscom AFB, MA 01731
Cell: (978) 804-4343 (telework)
Comm: (781) 225-6040
DSN: 845-6040

From: STRICKLAND, CHARLES N III CIV USAF AFMC 66 ABG/CEI <charles.strickland.4@us.af.mil>
Sent: Thursday, April 18, 2024 1:49 PM
To: WELCH, RENATA N CIV USAF AFMC 66 ABG/CEIE <renata.welch@us.af.mil>; CASSERLY, JESSICA M CIV USAF AFMC 66 ABG/PA <jessica.casserly@us.af.mil>; SHEEHAN, SCOTT E CIV USAF AFMC 66 ABG/CEIE <scott.sheehan.1@us.af.mil>; LYNCH, MICHAEL R CIV USAF AFMC 66 ABG/CE <michael.lynch.25@us.af.mil>
Cc: KASLICK, CAROLE A CIV USAF AFMC 66 ABG/CEIE <carole.kaslick@us.af.mil>; MARAVELIAS, JAMES P CIV USAF AFMC 66 ABG/CEIE <james.maravelias.1@us.af.mil>; WONG, DAVID P CIV USAF AFMC 66 ABG/CEN <david.wong.7@us.af.mil>; KOPEK, ALBERT CIV USAF AFMC 66 ABG/CENM <albert.kopek@us.af.mil>
Subject: RE: Fire station and passenger terminal EA

Mike,

Since Dave and Al appear to be off until next week, can you chime in on PA's questions about the Fire Station project questions below?

-CNS
TEL: 781.225.2969
DSN: 845.2969
CELL: 781.953.1472

From: WELCH, RENATA N CIV USAF AFMC 66 ABG/CEIE <renata.welch@us.af.mil>
Sent: Thursday, April 18, 2024 1:40 PM
To: CASSERLY, JESSICA M CIV USAF AFMC 66 ABG/PA <jessica.casserly@us.af.mil>; SHEEHAN, SCOTT E CIV USAF AFMC 66 ABG/CEIE <scott.sheehan.1@us.af.mil>
Cc: KASLICK, CAROLE A CIV USAF AFMC 66 ABG/CEIE <carole.kaslick@us.af.mil>; MARAVELIAS, JAMES P CIV USAF AFMC 66 ABG/CEIE <james.maravelias.1@us.af.mil>; STRICKLAND, CHARLES N III CIV USAF AFMC 66 ABG/CEI <charles.strickland.4@us.af.mil>
Subject: RE: Fire station and passenger terminal EA

Hi Jessica,

Scott is TDY and Jim Maravelias – CEIE NEPA PM – is on leave thru 4/24.

Fire Station EA is currently in preliminary draft comment period. We anticipate draft EA ready for public comment release in early to mid-May.

Dave Wong is the one to inform about the funding status and anticipated construction schedule.

Below is a link to **preliminary draft EA** for project description and other information of interest to pull from:

https://usaf.dps.mil/:f:/r/sites/21911/CE/EA/READY%20FOR%20LEGAL%20REVIEW/Fire%20Station%20EA?csf=1&web=1&e=A8gucg

Regards,
Renata

From: CASSERLY, JESSICA M CIV USAF AFMC 66 ABG/PA <jessica.casserly@us.af.mil>
Sent: Wednesday, April 17, 2024 7:48 AM
To: SHEEHAN, SCOTT E CIV USAF AFMC 66 ABG/CEIE <scott.sheehan.1@us.af.mil>
Cc: WELCH, RENATA N CIV USAF AFMC 66 ABG/CEIE <renata.welch@us.af.mil>; KASLICK, CAROLE A CIV USAF AFMC 66 ABG/CEIE <carole.kaslick@us.af.mil>
Subject: Fire station and passenger terminal EA

Good morning Scott,

I am reaching out to see if you/the CEIE team can help answer a few EA-related questions.

As you may know, PA sends a representative to the Hanscom Area Towns Committee (HATS) meetings to provide routine updates. The HATS chair recently reached out to ask if PA can provide any updates related to the Fire Station and passenger terminal project at the next meeting.

Do you have a brief description of the project that you can share? Has the public comment period for the Fire Station and passenger terminal EA closed? Is the project funded? And if so, do we have an anticipated start date?

Any publicly releasable information about this project that you can share would be helpful and greatly appreciated.

Thanks for your time!

v/r,
Jessica

Jessica Casserly, Civ (she/her)
Strategic Engagement lead
66 ABG/ Public Affairs
Hanscom AFB, MA
Office: 781-225-1611
jessica.casserly@us.af.mil

APPENDIX B

Notice of Availability and Comment Letters

PUBLIC NOTICE

NOTICE OF AVAILABILITY

DRAFT ENVIRONMENTAL ASSESSMENT AND

PROPOSED FINDING OF NO SIGNIFICANT IMPACT

FOR THE CONSTRUCTION OF A NEW FIRE STATION AND AIR PASSENGER TERMINAL

AT HANSCOM AIR FORCE BASE, MASSACHUSETTS

The Department of the Air Force (DAF) announces the availability of a draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the Construction of a New Fire Station and Air Passenger Terminal at Hanscom Air Force Base (AFB).

The EA, prepared in accordance with the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations, and Department of Air Force Instructions implementing NEPA, evaluates potential impacts of the Proposed Action and Alternatives on the environment including the No Action Alternative.

Based on this analysis, the DAF has prepared a proposed Finding of No Significant Impact. The DAF seeks public comments on the draft EA and draft FONSI and will consider all input received before reaching a final decision.

Copies of the draft EA and draft FONSI are available for review and can be downloaded at the following link:

https://www.hanscom.af.mil/About-Us/Fact-Sheets/Display/Article/379486/civil-engineering.

Civil engineering officials recommend individuals without internet access visit a local library or town hall for assistance in downloading the document. Requests for hard copies will be considered on a case-by-case basis.

For further information, contact the Hanscom AFB Environmental Office on 781-367-7168.

Written comments will be received through xxx, 2023 and may be either emailed to Jim Maravelias at james.maravelias.1@us.af.mil or mailed to 66 ABG/CEIE; 120 Grenier Street, Hanscom AFB, MA 01731-1910.

PRIVACY ADVISORY NOTICE

Public comments on this draft EA are requested pursuant to NEPA, 42 United States Code 4321, et seq. All comments received during the comment period will be made available to the public and considered during the final EA preparation. Providing private address information with your comment is voluntary and such personal information will be kept confidential unless release is required by law. However, address information will be used to compile the project mailing list and failure to provide it will result in your name not being included on the mailing list.

APPENDIX C

ESA “No Effect" Determination

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

29 Sep 2023

MEMORANDUM FOR RECORD

SUBJECT: Extension of ESA "No Effect" Determination for the NLEB at Hanscom AFB

1. On 2 Oct 2018, Hanscom AFB (HAFB) had determined that proposed undertakings within the boundaries of Hanscom AFB main base and within the boundaries of Fourth Cliff in Scituate, Massachusetts will have "no effect" on the federally listed Northern Long-eared Bat (*Myotis septentrionalis*) (NLEB). This determination was effective for a period of 5 years and valid for undertakings which commenced on or after 2 Oct 2018 and were completed on or prior to 1 Oct 2023.

2. HAFB conducted updated bat surveys during the active season in calendar year 2023. As of the date of this memo, results of those surveys have not yet been compiled. It is expected that results will be available in early 2024.

3. The active bat season at HAFB occurs between April and October. Seeing as the season is quickly coming to an end, HAFB is extending the original determination of No Effect through March 2024, at which time data from recent surveys should be available for analysis. A "No Effect" determination remains appropriate through March 2024.

4. This determination is not applicable to geographically separated areas of Hanscom AFB that include FAMCAMP (which has not been surveyed) or Sagamore Hill (which has documented the presence of the NLEB).

5. If further information is needed, please contact me at (781) 225-6144, scott.sheehan.1@us.af.mil

SCOTT E. SHEEHAN, GS-12, DAF
Hanscom AFB Natural Resources Manager

Attachment:
2 Oct 2018 No Effect Determination

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

2 Oct 2018

MEMORANDUM FOR RECORD

SUBJECT: ESA "No Effect" Determination for the NLEB at Hanscom AFB

1. Upon review of the best available science, Hanscom AFB has determined that proposed undertakings within the boundaries of Hanscom AFB main base and within the boundaries of Fourth Cliff in Scituate, Massachusetts will have "no effect" on the federally listed Northern Long-eared Bat (*Myotis septentrionalis*) (NLEB). This determination is effective for a period of 5 years and is valid for undertakings which commence on or after 2 Oct 2018 and are completed on or prior to 1 Oct 2023 unless subsequently rescinded based on newly acquired science or information. A "No Effect" determination is appropriate because:

a. Recent acoustical surveys conducted in 2018 have failed to indicate presence of the NLEB within the areas of Hanscom AFB main base and Fourth Cliff. Results of this study, "*Natural Resource Program, Multiple Installations, U.S. Air Force Bat Acoustic Survey Project AFCE50979317*" are on file at Hanscom AFB, 66 ABG/CEIE Administrative Record File number 14-1-2018-0901-01.

b. Undertakings in these areas do not have the potential to remove any trees within an area known to provide habitat for the NLEB nor within the vicinity of any known maternity roost trees or hibernaculum for the species (reference: https://www.mass.gov/service-details/the-northern-long-eared-bat).

2. This determination is not applicable to geographically separated areas of Hanscom AFB that include FAMCAMP (which has not been surveyed) or Sagamore Hill (which has documented the presence of the NLEB).

3. If further information is needed, please contact me at (781) 225-6144, scott.sheehan.1@us.af.mil.

SCOTT E. SHEEHAN, GS-12, DAF
Hanscom AFB Natural Resources Manager

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

21 Mar 2024

MEMORANDUM FOR RECORD

SUBJECT: Extension of ESA "No Effect" Determination for the NLEB at Hanscom AFB

1. On 2 Oct 2018, Hanscom AFB (HAFB) had determined that proposed undertakings within the boundaries of Hanscom AFB main base and within the boundaries of Fourth Cliff in Scituate, Massachusetts will have "no effect" on the federally listed Northern Long-eared Bat (*Myotis septentrionalis*) (NLEB) (attachment 1). This determination was effective for a period of 5 years and valid for undertakings which commenced on or after 2 Oct 2018 and were completed on or prior to 1 Oct 2023. This was then extended to 31 Mar 2024, pending results of bat surveys conducted in 2023 (attachment 2).

2. HAFB conducted updated bat surveys during the active season in calendar year 2023. These surveys also failed to indicate presence of the NLEB within the areas of Hanscom AFB main base and Fourth Cliff. Results of this study, "*North American Bat Monitoring Program (NABat) 2023 Acoustic Survey Results*" prepared for Hanscom AFB, are on file at Hanscom AFB, 66 ABG/CEIE Administrative Record File number 14-1-2018-0901-04. Undertakings in these areas do not have the potential to remove any trees within an area known to provide habitat for the NLEB nor within the vicinity of any known maternity roost trees or hibernaculum for the species (reference: https://www.mass.gov/service-details/the-northern-long-eared-bat).

3. Upon review of the best available science, Hanscom AFB has determined that proposed undertakings within the boundaries of Hanscom AFB main base and within the boundaries of Fourth Cliff in Scituate, Massachusetts will have "no effect" on the federally listed Northern Long-eared Bat (Myotis septentrionalis) (NLEB). This determination is effective for a period of 5 years and is valid for undertakings completed on or prior to 31 Mar 2029 unless subsequently rescinded based on newly acquired science or information.

4. This determination is not applicable to geographically separated areas of Hanscom AFB that include FAMCAMP (which requires additional survey confirmation) or Sagamore Hill (which has documented the presence of the NLEB).

5. If further information is needed, please contact me at, scott.sheehan.1@us.af.mil

Scott E. Sheehan

SCOTT E. SHEEHAN, GS-12, DAF
Hanscom AFB Natural Resources Manager

2 Attachments:
1. 2 Oct 2018 No Effect Determination
2. 29 Sep 2023, Extension of Not Effect Determination through March 2024

APPENDIX D

ACAM Model Report

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

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

- Action Title: Construction and Demolition

- Project Number/s (if applicable): 7170

- Projected Action Start Date: 4 / 2024

- Action Purpose and Need:
The demolition of two buildings and construction of two new buildings – a fire station and Air Passenger Terminal

- Action Description:
The demolition of two buildings and construction of two new buildings – a fire station and Air Passenger Terminal

- Point of Contact
Name: Katerina Matjucha
Title: Staff Scientist
Organization: Epsilon Associates
Email: kmatjucha@epsilonassociates.com
Phone Number: 978 460 8178

- Activity List:

	Activity Type	Activity Title
2.	Construction / Demolition	Demolition Building 1721 (Fire Station/PAX)
3.	Construction / Demolition	Demolition Building 1639 (gas station)
4.	Construction / Demolition	Construction Fire Station
5.	Construction / Demolition	Construction Air Terminal

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location
County: Middlesex
Regulatory Area(s): Boston-Lawrence-Worcester (E. MA), MA

- Activity Title: Demolition Building 1721 (Fire Station/PAX)

- Activity Description:
Demolition Building 1721 (Fire Station/PAX)

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Activity Start Date
Start Month: 3
Start Month: 2026

- Activity End Date
Indefinite: False
End Month: 3
End Month: 2026

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.009963
SO_x	0.000187
NO_x	0.065080
CO	0.097690
PM 10	0.062455

Pollutant	Total Emissions (TONs)
PM 2.5	0.002145
Pb	0.000000
NH_3	0.000154
CO_2e	20.8

2.1 Demolition Phase

2.1.1 Demolition Phase Timeline Assumptions

- Phase Start Date
Start Month: 3
Start Quarter: 1
Start Year: 2026

- Phase Duration
Number of Month: 1
Number of Days: 0

2.1.2 Demolition Phase Assumptions

- General Demolition Information
Area of Building to be demolished (ft^2): 21269.49
Height of Building to be demolished (ft): 13.5

- Default Settings Used: Yes

- Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Concrete/Industrial Saws Composite	1	8
Rubber Tired Dozers Composite	1	1
Tractors/Loaders/Backhoes Composite	2	6

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Demolition Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Concrete/Industrial Saws Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0336	0.0006	0.2470	0.3705	0.0093	0.0093	0.0030	58.539
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.194	000.002	000.099	002.787	000.005	000.004		000.024	00306.760
LDGT	000.216	000.003	000.176	003.168	000.007	000.006		000.026	00400.636
HDGV	000.867	000.006	000.879	013.546	000.027	000.024		000.052	00925.089
LDDV	000.083	000.001	000.080	002.990	000.003	000.002		000.008	00309.135
LDDT	000.092	000.001	000.121	002.061	000.003	000.003		000.009	00361.632
HDDV	000.135	000.004	002.551	001.596	000.044	000.041		000.032	01229.823
MC	002.400	000.003	000.665	011.973	000.022	000.019		000.052	00389.274

2.1.4 Demolition Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (0.00042 * BA * BH) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
0.00042: Emission Factor (lb/ft^3)
BA: Area of Building to be demolished (ft^2)
BH: Height of Building to be demolished (ft)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (1 / 27) * 0.25 * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

BA: Area of Building being demolish (ft^2)
BH: Height of Building being demolish (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
0.25: Volume reduction factor (material reduced by 75% to account for air space)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

3. Construction / Demolition

3.1 General Information & Timeline Assumptions

- Activity Location
County: Middlesex
Regulatory Area(s): Boston-Lawrence-Worcester (E. MA), MA

- Activity Title: Demolition Building 1639 (gas station)

- Activity Description:
Demolition Building 1639 (gas station)

- Activity Start Date
Start Month: 4
Start Month: 2024

- Activity End Date
Indefinite: False

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

End Month: 4
End Month: 2024

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.010089
SO_x	0.000177
NO_x	0.062568
CO	0.094497
PM 10	0.011264

Pollutant	Total Emissions (TONs)
PM 2.5	0.002354
Pb	0.000000
NH_3	0.000074
CO_2e	17.8

3.1 Demolition Phase

3.1.1 Demolition Phase Timeline Assumptions

- Phase Start Date
Start Month: 4
Start Quarter: 1
Start Year: 2024

- Phase Duration
Number of Month: 1
Number of Days: 0

3.1.2 Demolition Phase Assumptions

- General Demolition Information
Area of Building to be demolished (ft^2): 4240.981
Height of Building to be demolished (ft): 10

- Default Settings Used: Yes

- Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Concrete/Industrial Saws Composite	1	8
Rubber Tired Dozers Composite	1	1
Tractors/Loaders/Backhoes Composite	2	6

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC

POVs	50.00	50.00	0	0	0	0	0

3.1.3 Demolition Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Concrete/Industrial Saws Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0357	0.0006	0.2608	0.3715	0.0109	0.0109	0.0032	58.544
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1747	0.0024	1.1695	0.6834	0.0454	0.0454	0.0157	239.47
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0348	0.0007	0.1980	0.3589	0.0068	0.0068	0.0031	66.875

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**Pb**	**NH_3**	**CO_2e**
LDGV	000.202	000.002	000.113	002.939	000.005	000.004		000.024	00314.282
LDGT	000.228	000.003	000.200	003.360	000.007	000.006		000.026	00408.862
HDGV	000.891	000.006	000.960	014.337	000.027	000.024		000.052	00919.607
LDDV	000.085	000.001	000.085	003.044	000.003	000.002		000.008	00320.568
LDDT	000.096	000.001	000.131	002.130	000.003	000.003		000.009	00367.586
HDDV	000.150	000.004	002.729	001.655	000.053	000.049		000.032	01257.600
MC	002.400	000.003	000.667	012.119	000.022	000.019		000.052	00389.151

3.1.4 Demolition Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (0.00042 * BA * BH) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
0.00042: Emission Factor (lb/ft^3)
BA: Area of Building to be demolished (ft^2)
BH: Height of Building to be demolished (ft)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (1 / 27) * 0.25 * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building being demolish (ft^2)
BH: Height of Building being demolish (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards ($1\ yd^3 / 27\ ft^3$)
0.25: Volume reduction factor (material reduced by 75% to account for air space)
HC: Average Hauling Truck Capacity (yd^3)

(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

4. Construction / Demolition

4.1 General Information & Timeline Assumptions

- Activity Location
County: Middlesex
Regulatory Area(s): Boston-Lawrence-Worcester (E. MA), MA

- Activity Title: Construction Fire Station

- Activity Description:
Construction Fire Station

- Activity Start Date
Start Month: 6
Start Month: 2024

- Activity End Date
Indefinite: False
End Month: 2
End Month: 2026

- Activity Emissions:

Pollutant	Total Emissions (TONs)

Pollutant	Total Emissions (TONs)

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

VOC	0.429864
SO_x	0.007697
NO_x	2.517457
CO	3.523561
PM 10	0.092041

PM 2.5	0.091911
Pb	0.000000
NH_3	0.002746
CO_2e	743.0

4.1 Building Construction Phase

4.1.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 6
Start Quarter: 1
Start Year: 2024

- Phase Duration
Number of Month: 21
Number of Days: 0

4.1.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial
Area of Building (ft^2): 26325
Height of Building (ft): 16
Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	6
Forklifts Composite	2	6
Generator Sets Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8
Welders Composite	3	8

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips

Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

4.1.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Cranes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0715	0.0013	0.4600	0.3758	0.0161	0.0161	0.0064	128.78
Forklifts Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0246	0.0006	0.0973	0.2146	0.0029	0.0029	0.0022	54.451
Generator Sets Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0303	0.0006	0.2464	0.2674	0.0091	0.0091	0.0027	61.061
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0348	0.0007	0.1980	0.3589	0.0068	0.0068	0.0031	66.875
Welders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0227	0.0003	0.1427	0.1752	0.0059	0.0059	0.0020	25.653

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.202	000.002	000.113	002.939	000.005	000.004		000.024	00314.282
LDGT	000.228	000.003	000.200	003.360	000.007	000.006		000.026	00408.862
HDGV	000.891	000.006	000.960	014.337	000.027	000.024		000.052	00919.607
LDDV	000.085	000.001	000.085	003.044	000.003	000.002		000.008	00320.568
LDDT	000.096	000.001	000.131	002.130	000.003	000.003		000.009	00367.586
HDDV	000.150	000.004	002.729	001.655	000.053	000.049		000.032	01257.600
MC	002.400	000.003	000.667	012.119	000.022	000.019		000.052	00389.151

4.1.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (0.42 / 1000) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)

(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

5. Construction / Demolition

5.1 General Information & Timeline Assumptions

- Activity Location
County: Middlesex

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Regulatory Area(s): Boston-Lawrence-Worcester (E. MA), MA

- Activity Title: Construction Air Terminal

- Activity Description:
Construction Air Terminal

- Activity Start Date
Start Month: 6
Start Month: 2024

- Activity End Date
Indefinite: False
End Month: 2
End Month: 2026

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.206480
SO_x	0.004224
NO_x	1.054919
CO	1.740528
PM 10	0.035293

Pollutant	Total Emissions (TONs)
PM 2.5	0.035239
Pb	0.000000
NH_3	0.001283
CO_2e	406.8

5.1 Building Construction Phase

5.1.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 6
Start Quarter: 1
Start Year: 2024

- Phase Duration
Number of Month: 21
Number of Days: 0

5.1.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial
Area of Building (ft^2): 5150
Height of Building (ft): 10
Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	4
Forklifts Composite	2	6
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips

Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

5.1.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Cranes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0715	0.0013	0.4600	0.3758	0.0161	0.0161	0.0064	128.78
Forklifts Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0246	0.0006	0.0973	0.2146	0.0029	0.0029	0.0022	54.451
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0348	0.0007	0.1980	0.3589	0.0068	0.0068	0.0031	66.875

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.202	000.002	000.113	002.939	000.005	000.004		000.024	00314.282
LDGT	000.228	000.003	000.200	003.360	000.007	000.006		000.026	00408.862
HDGV	000.891	000.006	000.960	014.337	000.027	000.024		000.052	00919.607
LDDV	000.085	000.001	000.085	003.044	000.003	000.002		000.008	00320.568
LDDT	000.096	000.001	000.131	002.130	000.003	000.003		000.009	00367.586
HDDV	000.150	000.004	002.729	001.655	000.053	000.049		000.032	01257.600
MC	002.400	000.003	000.667	012.119	000.022	000.019		000.052	00389.151

5.1.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)

EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = BA * BH * (0.42 / 1000) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

2000: Conversion Factor pounds to tons