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# ENVIRONMENTAL ASSESSMENT

## CONSTRUCTION OF AN ARMED FORCES RESERVE CENTER COMPLEX AND IMPLEMENTATION OF BRAC 05 REALIGNMENT ACTIONS AT WESTOVER AIR RESERVE BASE, MASSACHUSETTS



**February 2007**

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*prepared for:*

**Westover Air Reserve Base, MA**

*prepared by:*

**U.S. Army Corps of Engineers**

Mobile District

P.O. Box 2288

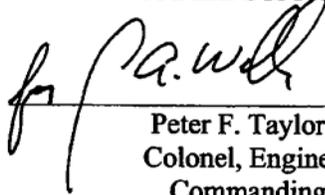
Mobile, AL 36628

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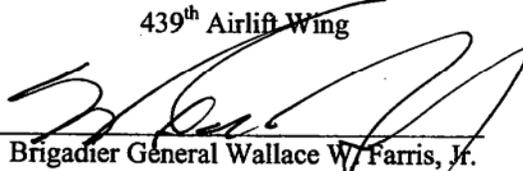


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Peter F. Taylor, Jr.  
Colonel, Engineer  
Commanding

*Approved by:*

439<sup>th</sup> Airlift Wing



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Brigadier General Wallace W. Farris, Jr.

Commander  
439<sup>th</sup> Airlift Wing  
Westover ARB

# ENVIRONMENTAL ASSESSMENT

**LEAD AGENCY:** Mobile District, U.S. Army Corps of Engineers

**TITLE OF PROPOSED ACTION:** Environmental Assessment for Construction of an Armed Forces Reserve Center Complex and Implementation of (Base Realignment and Closure) BRAC 05 Realignment Actions at Westover Air Reserve Base, Massachusetts

**AFFECTED JURISDICTIONS:** Hampden and Hampshire Counties, Massachusetts

**PREPARED BY:** Peter F. Taylor, Jr., Colonel, U.S. Army Corps of Engineers, Mobile District, Commanding

**APPROVED BY:** Wallace W. Farris, Jr., Brigadier General, U.S. Air Force 439<sup>th</sup> Airlift Wing, Commanding

**ABSTRACT:** On September 8, 2005, the Defense Base Realignment and Closure Commission (“BRAC Commission”) recommended that certain realignment actions occur at Westover Air Reserve Base, Massachusetts. These recommendations were approved by the President on September 23, 2005, and forwarded to Congress. The Congress did not alter any of the BRAC Commission’s recommendations, and on November 9, 2005, the recommendations became law. The BRAC Commission’s recommendations must now be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended.

To enable implementation of the BRAC Commission’s recommendations, the Army proposes to provide necessary facilities to support the changes in force structure and the consolidation of reserve units. This Environmental Assessment (EA) analyzes and documents environmental effects associated with the Army’s proposed actions at Westover ARB—an installation receiving realigned U.S. Army Reserve units.

None of the predicted effects of the Proposed Action would result in significant impacts at Westover ARB. Moreover, mitigation would not be necessary to offset impacts. Therefore, preparation of an Environmental Impact Statement is not required and a Finding of No Significant Impact (FNSI) will be published in accordance with the National Environmental Policy Act.

**REVIEW PERIOD:** A Notice of Availability (NOA) of the EA was published in the *Springfield, MA Republican* on December 12 and 13, 2006. In the NOA, interested parties were invited to review and comment on the EA and Draft FNSI during the 30 day comment period of December 12, 2006 through January 12, 2007. The EA and Draft FNSI were accessible via the World Wide Web:

[http://www.hqda.army.mil/acsim/brac/env\\_ea\\_review.htm](http://www.hqda.army.mil/acsim/brac/env_ea_review.htm)

Copies of the EA were also made available during the review period at the following local libraries:

Chicopee Library Main Branch  
449 Front Street  
Chicopee, MA 01013

Hubbard Memorial Library  
24 Center Street  
Ludlow, MA 01056

Reviewers were invited to submit comments on the EA and Draft FNSI during the 30-day public comment period via mail, fax, or electronic mail to the following:

Kirk E. Bargerhuff  
Study Manager/BRAC NEPA Support Team  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742  
fax: (978) 318-8560  
e-mail: [Kirk.E.Bargerhuff@usace.army.mil](mailto:Kirk.E.Bargerhuff@usace.army.mil)

## FINDING OF NO SIGNIFICANT IMPACT

### CONSTRUCTION OF AN ARMED FORCES RESERVE CENTER AND IMPLEMENTATION OF BRAC 05 REALIGNMENT ACTIONS AT WESTOVER AIR RESERVE BASE, MASSACHUSETTS

On September 8, 2005, the Defense Base Closure and Realignment Commission (“BRAC Commission”) recommended that certain realignment actions occur at Westover Air Reserve Base, MA. These recommendations were approved by the President on September 23, 2005, and forwarded to Congress. Congress did not alter any of the BRAC Commission’s recommendations, and on November 9, 2005, the recommendations became law. The BRAC Commission recommendations must now be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended.

The U.S. Army Corps of Engineers, Mobile District, has prepared an Environmental Assessment (EA) which identifies, documents, and evaluates environmental effects of the BRAC Commission’s recommended realignment of Westover Air Reserve Base (ARB) in Hampden County, Massachusetts. The EA has been developed in accordance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.) and implementing regulations issued by the President’s Council on Environmental Quality (CEQ)<sup>1</sup>. The 2006 Base Realignment Closure Manual for Compliance with the National Environmental Policy Act was used for guidance in preparing the EA. The purpose of the EA is to inform decision makers and the public of the likely environmental consequences of the proposed action and alternatives.

#### 1.0 PROPOSED ACTION

The proposed action is to implement the BRAC Commission’s recommendation, as mandated by BRAC law, Public Law 101-510, by constructing new facilities to accommodate the personnel and functions of organizations realigning and relocating to the U.S. Air Force Westover Air Reserve Base, located in the City of Chicopee, MA.

Specific BRAC Commission recommendations include:

Close the Westover Armed Forces Reserve Center, Chicopee, Massachusetts, the MacArthur United States Army Reserve Center, Springfield, Massachusetts, the United States Army Reserve Area Maintenance Support Activity, Windsor Locks, Connecticut, and realign the Malony United States Army Reserve Center on Devens Reserve Forces Training Area by disestablishing the 94<sup>th</sup> Regional Readiness Command, and relocate all units from the closed facilities to a new Armed Forces Reserve Center [AFRC] on Westover Air Reserve Base, Chicopee, Massachusetts. Establish an Army Reserve Sustainment Brigade headquarters in the new Armed Forces Reserve Center on Westover Air Reserve Base. Realign Devens Reserve Forces Training Area by relocating the 5<sup>th</sup> JTF [Joint Task Force], 654<sup>th</sup> ASG [Area Support Group] and the 382<sup>nd</sup> MP [Military Police] Battalion to the new Armed Forces Reserve Center on Westover Air Reserve Base. The new Armed Forces Reserve Center shall have the capability to accommodate Massachusetts Army National Guard units from the Massachusetts Army National Guard Armory in Agawam, Massachusetts, if the state decides to relocate those National Guard units.

To implement these recommendations, the following new facilities are proposed for construction:

***Armed Forces Reserve Center and supporting facilities.*** The AFRC would be an approximately 143,331 square feet (ft<sup>2</sup>) two story structure located on existing Federal property at Westover ARB, Chicopee, MA. The AFRC will be the primary facility for eight U.S. Army Reserve units, one MAARNG unit, and one U.S. Marine Corps Reserve unit, and would provide adequate space for training, classrooms, offices,

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<sup>1</sup> Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act, 40 CFR Parts 1500–1508; Environmental Analysis of Army Actions, 32 CFR Part 651; and the USAF equivalent, The Environmental Impact Analysis Process, 32 CFR Part 989.

administrative and other support spaces for about 1,000 people. The AFRC site would also include an approximately 30,033 ft<sup>2</sup> Area Maintenance Support Activity (AMSA)/Organizational Maintenance Shop (OMS), an approximately 4,556 ft<sup>2</sup> unheated storage building, new privately-owned vehicle (POV) parking lots totaling about 17,787 square yards (sy), and a Military Equipment Parking (MEP) area and associated areas around the AMSA/OMS, totaling approximately 26,922 sy (U.S. Army, 2006d).

Anti-Terrorism/Force Protection (AT/FP) safety and security measures, including minimum stand-off distance from roads, parking areas and vehicle unloading areas, will be incorporated into the facility designs and siting. The AFRC complex is proposed to be constructed on a parcel of land located just north of the James Street Gate and northwest of the Ellipse area of Westover ARB.

## **2.0 ALTERNATIVES CONSIDERED**

Under the No Action Alternative, the U.S. Army would not implement the proposed action at Westover ARB. Council on Environmental Quality (CEQ) regulations require consideration of the No Action Alternative, which was included in the analysis to serve as a baseline for comparison. However, implementation of this course of action is not viable under BRAC law, which directs implementation of the realignment.

The Army considered and analyzed two other alternatives, the Realignment Preferred Alternative, and the Remote MEP Alternative. Under the Preferred Alternative, the facilities would be constructed as described in the proposed action and all facilities would be located within a single, contiguous complex on a land parcel located northwest of the Ellipse, just north of the James Street Gate. Under the Remote MEP Alternative, the AFRC, AMSA/OMS and associated support infrastructure would be built at the same location, but the MEP area would be located at the northern end of the base, in an approximately 4-acre grassland filed located immediately south of Perimeter Road.

Other alternatives were considered, but not analyzed. These included (1) use of existing facilities at Westover ARB, (2) acquisition of new property; (3) leasing existing space off-post; and (4) new construction in locations other than those identified in the preferred alternative or remote MEP alternative. These other alternatives were not considered feasible to implement the proposed action and therefore were dismissed from further analysis.

## **3.0 FACTORS CONSIDERED IN DETERMINING THAT AN ENVIRONMENTAL IMPACT STATEMENT IS NOT REQUIRED**

The Environmental Assessment (EA), which is incorporated by reference into this Finding of No Significant Impact (FONSI), examined potential effects of the alternatives. The EA evaluated 12 resource areas and areas of environmental and socioeconomic concern: land use, aesthetic and visual resources, air quality, noise, geology and soils, water resources, biological resources, cultural resources, socioeconomics (including environmental justice), transportation, utilities, and hazardous and toxic substances.

Implementation of the proposed realignment actions would not have any significant adverse effects or impacts on any of the environmental or related resource areas at Westover ARB or on areas surrounding the base. Potential effects associated with implementation of the realignment (preferred) alternative are expected to be minor. These impacts would be experienced in the following areas: land use, visual, noise, soils, socioeconomics, transportation, utilities, and hazardous materials. Potential effects associated with the implementation of the remote MEP alternative are expected to be minor and would be largely identical to those associated with the preferred alternative, with the addition of minor effects on biological resources.

None of the predicted effects of the proposed realignment actions would result in significant impacts; therefore, mitigation is not needed, and implementation of the proposed action will not require the preparation of an Environmental Impact Statement. Preparation of a FONSI is appropriate.

#### 4.0 PUBLIC COMMENT

Interested parties were invited to review and comment on the EA and Draft FONSI from December 12, 2006 through January 12, 2007. The U.S. Fish and Wildlife Service responded that no federally-listed or proposed, threatened or endangered species or critical habitat under its jurisdiction are known to occur in the project area(s). The Massachusetts and Chicopee Historical Commissions both determined that the project would have no adverse effect on historical resources.

The Notice of Availability was published on December 12<sup>th</sup> and 13<sup>th</sup>, 2006 in the Springfield, MA *Republican* newspaper. The EA was made available during the public comment period on the World Wide Web at:

[http://www.hqda.army.mil/acsim/brac/env\\_ea\\_review.htm](http://www.hqda.army.mil/acsim/brac/env_ea_review.htm)

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Reviewers were invited to submit comments on the EA and Draft FONSI during the 30-day public comment period via mail, fax, or electronic mail to:

Kirk E. Bargerhuff  
Study Manager/BRAC NEPA Support Team  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742  
fax: (978) 318-8560  
e-mail: [Kirk.E.Bargerhuff@usace.army.mil](mailto:Kirk.E.Bargerhuff@usace.army.mil)

No other comments were received on the EA or the Draft FONSI.

#### 5.0 CONCLUSION

Based on the EA, I have determined that implementation of the proposed action will have no significant direct, indirect, or cumulative adverse effects on the quality of the natural or human environment. No significant environmental impacts will result from implementation of the proposed action, therefore an Environmental Impact Statement is not required and will not be prepared.

Date: 3 MAR 07



WALLACE W. FARRIS, JR., Brigadier General, USAFR  
Commander  
439<sup>th</sup> Airlift Wing  
Westover Air Reserve Base, MA

# The Republican.

DAILY AND SUNDAY

## AFFIDAVIT

I hereby certify that the advertisement as detailed below appeared in all editions of The Republican

on Tuesday December 12 2006 on page D5 and  
on Wednesday December 13, 2006 on page D5  
both in the legal notice section. Ad's Concerned  
Notice of Availability Environmental Assessment  
and Draft Finding of No Significant Impact  
for the 2005 BRAC Commission Realignment  
Actions at Westover Air Reserve Base,  
Massachusetts.

Laura Jorsse

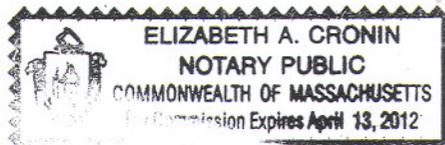
COMMONWEALTH OF MASSACHUSETTS

COUNTY OF HAMPDEN

On December 13, 2006, at Springfield, Massachusetts,

Laura Jorsse personally appeared before me, WHO MADE OATH THAT THE  
FOREGOING IS A TRUE AND CORRECT STATEMENT.

Elizabeth A. Cronin  
NOTARY PUBLIC



Springfield, Massachusetts 01103



# EXECUTIVE SUMMARY

## ES.1 INTRODUCTION

On September 8, 2005, the Base Realignment and Closure (BRAC) Commission recommended that certain realignment actions occur at Westover ARB in Chicopee, MA. These recommendations were approved by the President on September 23, 2005, and forwarded to Congress. The Congress did not alter any of the BRAC Commission's recommendations, and on November 9, 2005, the recommendations became law. The BRAC Commission recommendations must now be implemented as provided for in the Defense Closure and Realignment Act of 1990 (Public Law 101-510), as amended.

The following highlights the BRAC Commission's recommendations for Westover ARB:

- Close the Westover Armed Forces Reserve Center, Chicopee, Massachusetts, the MacArthur United States Army Reserve Center, Springfield, Massachusetts, the United States Army Reserve Area Maintenance Support Activity, Windsor Locks, Connecticut, and realign the Malony United States Army Reserve Center on Devens Reserve Forces Training Area by disestablishing the 94<sup>th</sup> Regional Readiness Command, and relocate all units from the closed facilities to a new Armed Forces Reserve Center on Westover Air Reserve Base, Chicopee, Massachusetts. Establish an Army Reserve Sustainment Brigade [Combat Support Brigade] headquarters in the new Armed Forces Reserve Center on Westover Air Reserve Base. Realign Devens Reserve Forces Training Area by relocating the 5<sup>th</sup> JTF [Joint Task Force], 654<sup>th</sup> ASG [Area Support Group] and the 382<sup>nd</sup> MP [Military Police] Battalion to the new Armed Forces Reserve Center on Westover Air Reserve Base. The new Armed Forces Reserve Center shall have the capability to accommodate Massachusetts Army National Guard units from the Massachusetts Army National Guard Armory in Agawam, Massachusetts, if the state decides to relocate those National Guard units.

To enable implementation of this recommendation, the Army proposes to provide the necessary facilities to support the changes in force structure at Westover ARB. This Environmental Assessment (EA) analyzes and documents environmental effects associated with the Army's proposed action at Westover ARB—an installation receiving realigned missions.

The BRAC law exempts consideration of the need for the action or alternative installations in preparing environmental documentation pursuant to the National Environmental Policy Act (NEPA). However, an appropriate level of NEPA analysis and documentation is required to analyze how the BRAC actions will be implemented for concurrent actions, both BRAC-directed and discretionary, at each installation that is receiving realigned missions. A NEPA document is not required for those installations that are only losing activities. Table ES-1 lists major environmental statutes, regulations, and Executive Orders applicable to federal projects.

**Table ES-1: Major Environmental Statutes, Regulations, and Executive Orders Applicable to Federal Projects**

Environmental Resources	Statute, Regulation, or Executive Order
Air	Clean Air Act (CAA) of 1970 (PL 95-95), as amended in 1977 and 1990 (PL 91-604); U.S. Environmental Protection Agency (USEPA), Subchapter C-Air Programs (40 CFR 52-99)
Noise	Noise Control Act of 1972 (PL 92-574) and Amendments of 1978 (PL 95-609); USEPA, Subchapter G-Noise Abatement Programs (40 CFR 201-211)
Water	Federal Water Pollution Control Act (FWPCA) of 1972 (PL 92-500) and Amendments; Clean Water Act (CWA) of 1977 (PL 95-217); USEPA, Subchapter D-Water Programs (40 CFR 100-145); Water Quality Act of 1987 (PL 100-4); USEPA, Subchapter N-Effluent Guidelines and Standards (40 CFR 401-471); Safe Drinking Water Act (SDWA) of 1972 (PL 95-923) and Amendments of 1986 (PL 99-339); USEPA, National Drinking Water Regulations and Underground Injection Control Program (40 CFR 141-149)
Biological Resources	Migratory Bird Treaty Act of 1918; Fish and Wildlife Coordination Act of 1958 (PL 85-654); Sikes Act of 1960 (PL 86-97) and Amendments of 1986 (PL 99-561) and 1997 (PL 105-85 Title XXIX); Endangered Species Act of 1973 (PL 93-205) and Amendments of 1988 (PL 100-478); Fish and Wildlife Conservation Act of 1980 (PL 96-366); Lacey Act Amendments of 1981 (PL 97-79); Responsibilities of Federal Agencies to Protect Migratory Birds (EO 13186)
Wetlands and Floodplains	Section 401 and 404 of the Federal Water Pollution Control Act of 1972 (PL 92-500); USEPA, Subchapter D-Water Programs 40 CFR 100-149 (105 ref); Floodplain Management-1977 (EO 11988); Protection of Wetlands-1977 (EO 11990); Emergency Wetlands Resources Act of 1986 (PL 99-645); North American Wetlands Conservation Act of 1989 (PL 101-233)
Cultural Resources	National Historic Preservation Act (NHPA) (16 USC 470 et seq.) (PL 89-865) and Amendments of 1980 (PL 96-515) and 1992 (PL 102-575); Protection and Enhancement of the Cultural Environment-1971 (EO 11593); Indian Sacred Sites-1966 (EO 13007); American Indian Religious Freedom Act (AIRFA) of 1978 (PL 94-341); Antiquities Act of 1906; Archaeological Resources Protection Act (ARPA) of 1979 (PL 96-95); Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 (PL 101-601); Protection of Historic and Cultural Properties (36 CFR 800)
Solid Waste/Hazardous Materials and Waste	Resource Conservation and Recovery Act (RCRA) of 1976 (PL 94-5800), as Amended by PL 100-582; USEPA, subchapter I-Solid Wastes (40 CFR 240-280); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (42 USC 9601) (PL 96-510); Toxic Substances Control Act (TSCA) (PL 94-496); USEPA, Subchapter R-Toxic Substances Control Act (40 CFR 702-799); Emergency Planning and Community Right-to-Know Act (40 CFR 300-399); Federal Compliance with Pollution Control Standards-1978 (EO 12088), Superfund Implementation (EO 12580); Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition (EO 13101), Greening the Government Through Efficient Energy Management (EO 13123), Greening the Government Through Leadership in Environmental Management (EO 13148)

Environmental Resources	Statute, Regulation, or Executive Order
Health and Safety	Occupational Health and Safety Act of 1970 (29 CFR 1910 and 29 CFR 1926)
Environmental Justice	Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations (EO 12898); Protection of Children from Environmental Health Risks and Safety Risks (EO 13045)

## ES.2 BACKGROUND AND SETTING

Westover ARB comprises approximately 2,500 acres of land within the western Massachusetts communities of Chicopee and Ludlow in the northern portion of Hampden County, MA. The base is near the Massachusetts cities of Springfield and Holyoke, and the Towns of West Springfield, Granby, and South Hadley.

## ES.3 PROPOSED ACTION

The purpose of the Proposed Action is to provide for a new Armed Forces Reserve Center (AFRC) at Westover ARB as directed by the BRAC Commission's recommendations. The AFRC is needed to ensure that adequate training and administrative space is available to support reserve units realigned from area facilities and the addition of a Massachusetts Army National Guard (MAARNG) Unit.

The Proposed Action is to construct a new AFRC and associated support facilities at Westover ARB in Chicopee, MA to support realigned units, and their associated vehicles, from the closing of the current Westover AFRC; the MacArthur USARC, in Springfield, MA; the AMSA in Windsor Locks, CT; and the MAARNG armory in Agawam, MA. The new AFRC would also accommodate the establishment of a new U.S. Army Reserve Combat Support Brigade Headquarters (HQ). Associated support facilities proposed include privately-owned vehicle (POV) parking lots, a new Area Maintenance Support Activity (AMSA)/Organizational Maintenance Shop (OMS) facility, an unheated storage facility, a new Military Equipment Parking (MEP) area, and assorted infrastructure improvements.

**Facilities** - The AFRC would be an approximately 143,331 square feet (ft<sup>2</sup>) two story structure located on existing Federal property at Westover ARB, Chicopee, MA. The AFRC will be the primary facility for eight U.S. Army Reserve units, one MAARNG unit, and one U.S. Marine Corps Reserve unit, and would provide adequate space for training, classrooms, offices, administrative and other support spaces for about 1,000 people. The AFRC site would also include an approximately 30,033 ft<sup>2</sup> AMSA/OMS, an approximately 4,556 ft<sup>2</sup> unheated storage building, new POV parking lots totaling about 17,787 square yards (sy), and a MEP area and associated areas around the AMSA/OMS, totaling approximately 26,922 sy (U.S. Army, 2006d).

Anti-Terrorism/Force Protection (AT/FP) safety and security measures, including minimum stand-off distance from roads, parking areas and vehicle unloading areas, will be incorporated into the facility designs and siting.

**Equipment** - The relocation and realignment of reserve units to the proposed Westover AFRC would bring associated unit vehicles, equipment, and materials, some of which already exist on Westover ARB at the current AFRC. The relocation/realignment will encompass a projected total of 458 vehicles (wheeled and trailers), including 56 vehicles that are already based at Westover ARB and 402 incoming vehicles.

**Personnel** - Implementation of the BRAC recommendations for relocation and realignment of listed units would result in the total assignment of about 1,335 workforce personnel to the new Westover AFRC, 298 of whom are already located on Westover ARB, for a total net increase of approximately 1,037 personnel, 966 of which are part-time (weekend reservist) personnel, and 71 of which are full-time personnel.

#### **ES.4 REALIGNMENT PROCESS**

The timeline for implementing the action at Westover ARB began in late 2005 with Congressional and Presidential approval of the BRAC law followed by the initiation of this NEPA process and related planning activities at Westover ARB. New BRAC facilities at Westover ARB are programmed through fiscal year 2010 with realignment moves scheduled to occur by 2011. Under the BRAC law, the Army must initiate all realignments not later than September 15, 2007, and complete all realignments not later than September 15, 2011.<sup>1</sup> This BRAC EA examines the environmental impact from efforts that will take place within the 6-year BRAC implementation window.

#### **ES.5 ALTERNATIVES**

##### **No Action Alternative**

Under the No Action Alternative, the Army would not implement the proposed action. No units would relocate from other locations, no new units would be established, and no new facilities would be constructed in support of this BRAC action. Westover ARB would continue use of its current inventory of facilities, though routine replacement or renovation actions could occur through normal military maintenance and construction procedures, as circumstances independently warrant.

Implementation of this alternative is not possible due to the BRAC Commission's recommendations having the force of law. However, inclusion of the No Action Alternative is required by CEQ regulations and serves as a baseline against which the impacts of the proposed action and alternatives can be evaluated. Accordingly, the No Action Alternative is evaluated in this EA.

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<sup>1</sup> Section 2904(a), Public Law 101-510, as amended, provides that the Army must "... initiate all closures and realignments no later than two years after the date on which the President transmits a report [by the BRAC Commission] to the Congress ... containing the recommendations for such closures or realignments; and ... complete all such closures and realignments no later than the end of the six year period beginning on the date on which the President transmits the report ..." The President took the specified action on September 15, 2005.

### **Preferred Alternative**

The preferred AFRC site is located within the main cantonment of the base, northeast of the James Street Gate House. It is bordered by the base fence-line to the west and northwest, Globemaster Street to the northeast, and Eagle Drive to the Southeast (see Figure 2-2). The preferred site can support the size and footprint of the proposed AFRC complex and its associated parking areas and facilities, and meets AT/FP stand-off buffer requirements.

### **Remote MEP Site (Perimeter Road) Alternative**

Under this alternative, the AFRC complex would be constructed at the Preferred Alternative site, but the MEP area would be located in a remote portion of the base. The MEP site would be located on the north side of the base on the south side of Perimeter Road, east of Stony Brook (see Figure 3-1).

## **ES.6 ENVIRONMENTAL CONSEQUENCES**

Under the No Action Alternative, the proposed new BRAC facilities would not be constructed, and no environmental impacts would occur.

Under the Preferred Alternative the Proposed Action would not have any significant effects or impacts on any of the environmental or related resource areas at Westover ARB or to areas surrounding the base.

The potential effects associated with the Preferred Alternative are anticipated to be minor and not significant. These minor impacts would be experienced in the following resource areas:

- Land Use
- Visual
- Noise
- Soils
- Socioeconomics – Economic Development
- Transportation
- Utilities – Storm water
- Hazardous and Toxic Substances

Under the Remote MEP Site Alternative the Proposed Action would also not have any significant effects or impacts on any of the environmental or related resource areas at Westover ARB or to areas surrounding the base.

The potential effects associated with the Remote MEP Site Alternative are anticipated to be minor and not significant. These minor impacts would be identical as those under the Preferred Alternative, except for additional minor effects that would be anticipated in the following resource areas:

- Biological Resources

A summary of impacts by resource area for the No Action Alternative, the Preferred Alternative, and the Remote MEP Site Alternative is provided in Table ES-2.

**ES.7 MITIGATION RESPONSIBILITY AND PERMIT REQUIREMENTS**

None of the predicted effects of the Proposed Action under any of the Alternatives would result in significant impacts; therefore, mitigation is not needed, although the Army may consider the use of Best Management Practices (BMPs) in the construction and operation of these facilities. The following permits would likely be required to implement the projects identified in this analysis:

- A National Pollutant Discharge Elimination System (NPDES) notice and an associated Storm Water Pollution Prevention Plan (SWPPP) for the construction phase of the project would be necessary under Clean Water Act (CWA) Section 402 requirements.
- Storm water discharge permits for operations may be necessary under both state and City of Chicopee, MA regulations.
- Any new discharges to the sanitary sewer system would require review and permitting by the City of Chicopee
- A new or revised Spill Prevention Control and Countermeasures (SPCC) plan would likely be required for any new emergency generators that have associated above-ground storage tanks.
- Revised or updated Resource Conservation and Recovery Act (RCRA) Hazardous Waste Generator Permit(s) would likely be necessary for the new AMSA/OMS facility.

**Table ES-2: Summary of Effects of Alternatives**

<b>Resource</b>	<b>No Action Alternative</b>	<b>Preferred Alternative</b>	<b>Remote MEP Site Alternative</b>
<b>Land Use</b>			
<i>Regional Geographic Setting and Location</i>	None	None. No significant impact.	Same as Preferred Alternative
<i>Installation Land Use</i>	None	Negligible to minor. No significant impact.	Same as Preferred Alternative
<i>Current and Future Development in the Region of Influence</i>	None	None. No significant impact.	Same as Preferred Alternative
<b>Aesthetic and Visual Resources</b>	None	Negligible to minor. No significant impact.	Same as Preferred Alternative
<b>Air Quality</b>			
<i>Ambient Air Quality Conditions</i>	None	Negligible. No significant impact.	Same as Preferred Alternative
<i>Regional Air Pollutant Emissions Summary</i>	None	Negligible. No significant impact.	Same as Preferred Alternative

<b>Resource</b>	<b>No Action Alternative</b>	<b>Preferred Alternative</b>	<b>Remote MEP Site Alternative</b>
<b>Noise</b>	None	Negligible to minor short-term due to construction. Negligible long-term due to vehicle and facility operations. No significant impact.	Same as Preferred Alternative
<b>Geology and Soils</b>			
<i>Geologic and Topographic Conditions</i>	None	None. No significant impact.	Same as Preferred Alternative
<i>Soils</i>	None	Negligible to minor, highly-localized to sites. No significant impact.	Same as Preferred Alternative
<i>Prime Farmland</i>	None	None. No significant impact.	Same as Preferred Alternative
<b>Water Resources</b>			
<i>Surface Water</i>	None	Negligible to minor. No significant impact.	Same as Preferred Alternative
<i>Hydrogeology/Groundwater</i>	None	Negligible. No significant impact.	Same as Preferred Alternative
<i>Floodplains</i>	None	None. No significant impact.	Same as Preferred Alternative
<b>Biological Resources</b>			
<i>Vegetation/Wildlife</i>	None	Negligible impacts on vegetation. No significant impact.	Negligible to minor effects on grasslands. No significant impact.
<i>Sensitive Species</i>	None	None. No significant impact.	Negligible to minor effects on State-listed sensitive species habitat. No significant impact.
<i>Wetlands</i>	None	None. No significant impact.	Negligible to minor. No significant impact.
<b>Cultural Resources</b>			
<i>Archaeological</i>	None	None expected. No significant impact.	Same as Preferred Alternative
<i>Historic Architecture</i>	None	Negligible. No significant impact.	Same as Preferred Alternative
<i>Native American Resources</i>	None	None expected. No significant impact.	Same as Preferred Alternative
<b>Socioeconomics</b>			
<i>Economic Development</i>	None	Minor beneficial. No significant impact.	Same as Preferred Alternative
<i>Demographics</i>	None	Negligible. No significant impact.	Same as Preferred Alternative
<i>Housing</i>	None	Negligible. No significant impact.	Same as Preferred Alternative

<b>Resource</b>	<b>No Action Alternative</b>	<b>Preferred Alternative</b>	<b>Remote MEP Site Alternative</b>
<i>Environmental Justice</i>	None	None. No significant impact.	Same as Preferred Alternative
<b>Transportation</b>			
<i>Roadways and Traffic</i>	None	Minor due to additional vehicles entering gates. No significant impact.	Same as Preferred Alternative
<i>Installation Transportation</i>	None	Negligible. No significant impact.	Same as Preferred Alternative
<i>Public Transportation</i>	None	Negligible. No significant impact.	Same as Preferred Alternative
<b>Utilities</b>			
<i>Potable Water Supply</i>	None	Negligible. No significant impact.	Same as Preferred Alternative
<i>Wastewater System</i>	None	Negligible. No significant impact.	Same as Preferred Alternative
<i>Storm water System</i>	None	Negligible to minor. No significant impact.	Same as Preferred Alternative
<b>Hazardous and Toxic Substances</b>			
<i>Uses of Hazardous Materials</i>	None	Potential negligible to minor increase in amounts of materials used. No significant impact.	Same as Preferred Alternative
<i>Storage and Handling Areas</i>	None	Negligible. No significant impact.	Same as Preferred Alternative
<i>Hazardous Waste Disposal</i>	None	Potential negligible to minor increase in waste disposal amounts. No significant impact.	Same as Preferred Alternative
<i>Site Contamination and Cleanup</i>	None	None. No significant impact.	Same as Preferred Alternative

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# 1.0 PURPOSE, NEED, AND SCOPE

## 1.1 INTRODUCTION

The U.S. Army's mission is to defend the United States and territories, support national policies and objectives, and defeat nations responsible for aggression that endangers the peace and security of the U.S. To carry out these tasks, the U.S. Army must adapt to changing world conditions and must improve its capabilities to respond to a variety of circumstances across the full spectrum of military operations. A key part of this adaptation is to realign and reorganize U.S. Army organizational structures and properly align facilities and infrastructure to support the changing conditions and threats that the U.S. Army must respond to worldwide. This Environmental Assessment (EA) addresses proposed actions at Westover Air Reserve Base (ARB) in Chicopee, Massachusetts as part of the overall U.S. Army restructuring and realignment, and examines the environmental impact from efforts that would take place within the 6-year Base Realignment and Closure (BRAC) implementation window, 2005 to 2011.

On September 8, 2005, the BRAC Commission recommended that certain realignment actions occur at Westover ARB in Chicopee, MA. These recommendations were approved by the President on September 23, 2005, and forwarded to Congress. The Congress did not alter any of the BRAC Commission's recommendations, and on November 9, 2005, the recommendations became law.

The BRAC law exempts consideration of the need for the action or alternative installations in preparing environmental documentation pursuant to the National Environmental Policy Act (NEPA). Accordingly, this EA does not address the need for base closure or realignment. However, an appropriate level of NEPA analysis and documentation is required to analyze how the BRAC actions will be implemented for concurrent actions, both BRAC-directed and discretionary, at each installation that is receiving realigned missions.

The following highlights the BRAC Commission's recommendations for Westover ARB:

- Close the Westover Armed Forces Reserve Center, Chicopee, Massachusetts, the MacArthur United States Army Reserve Center, Springfield, Massachusetts, the United States Army Reserve Area Maintenance Support Activity, Windsor Locks, Connecticut, and realign the Malony United States Army Reserve Center on Devens Reserve Forces Training Area by disestablishing the 94<sup>th</sup> Regional Readiness Command, and relocate all units from the closed facilities to a new Armed Forces Reserve Center on Westover Air Reserve Base, Chicopee, Massachusetts. Establish an Army Reserve Sustainment Brigade [Combat Support Brigade] headquarters in the new Armed Forces Reserve Center on Westover Air Reserve Base. Realign Devens Reserve Forces Training Area by relocating the 5<sup>th</sup> JTF [Joint Task Force], 654<sup>th</sup> ASG [Area Support Group] and the 382<sup>nd</sup> MP [Military Police] Battalion to the new Armed Forces Reserve Center on Westover Air Reserve Base. The new Armed Forces Reserve Center shall have the capability to accommodate

Massachusetts Army National Guard units from the Massachusetts Army National Guard Armory in Agawam, Massachusetts, if the state decides to relocate those National Guard units.

These actions are part of the decision to realign and transform Reserve Component facilities and command and control functions throughout the Northeast region of the U.S.

To implement this recommendation, the U.S. Army proposes to construct a new AFRC and related facilities on Westover ARB. Details on the implementation of the Proposed Action at Westover ARB are provided in Section 2.0.

## **1.2 PURPOSE AND NEED**

### **1.2.1 Purpose of the Proposed Action**

The purpose of the proposed action is to provide for a new Armed Forces Reserve Center (AFRC) at Westover ARB as directed by the BRAC Commission's recommendations. The AFRC is needed to ensure that adequate training and administrative space is available to support reserve units realigned from area facilities and the addition of a Massachusetts Army National Guard (MAARNG) Unit.<sup>2</sup>

These BRAC actions would significantly enhance training, mobilization, equipment readiness, and deployment by creating joint use facilities. At the same time, these actions would reduce manpower and associated costs for maintaining existing facilities (DoD, 2005). The new AFRC and associated Organizational Maintenance Shop (OMS)/Area Maintenance Support Activity (AMSA), unit storage building and Military Equipment Parking (MEP) area would accommodate personnel and equipment from the closing or realigned facilities — the existing Westover AR facility in Chicopee, MA; the MacArthur Army Reserve Center (ARC) facility in Springfield, MA; the AMSA facility in Windsor Locks, CT; and the MA ARNG in Agawam, MA — and would alleviate the overcrowded and substandard spaces located at the Devens Reserve Forces Training Area (RFTA).

The existing U.S. Army Reserve facilities in Chicopee and Springfield, MA and Windsor Locks, CT are made up of numerous buildings occupied by U.S. Army Reserve units and associated personnel. These facilities have not been significantly improved since their initial construction. The new AFRC and associated facilities would provide up-to-date space for administrative, educational, assembly, library, learning center, physical fitness, and vehicle storage and maintenance areas. It would also provide for updated telecommunications and data management systems to permit the U.S. Army Reserve, Army National Guard, and Marine Corps Reserve units to upgrade and use current technology (U.S. Army, 2005a).

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<sup>2</sup> Westover ARB is assigned to the Air Force Reserve Command (AFRC). In this EA, the acronym AFRC refers to the proposed Armed Forces Reserve Center.

### 1.2.2 Need for the Proposed Action

The need for the proposed action is to improve the ability of the Nation to respond rapidly to challenges of the 21<sup>st</sup> century. The U.S. Army is legally bound to defend the United States and its territories, support national policies and objectives, and defeat nations responsible for aggression that endangers the peace and security of the United States. To carry out these tasks, the U.S. Army must adapt to changing world conditions and must improve its capabilities to respond to a variety of circumstances across the full spectrum of military operations. The following discusses three major initiatives that contribute to the U.S. Army's need for the proposed action.

***Base Realignment and Closure.*** In previous rounds of BRAC, the explicit goal was to save money and downsize the military to reap a "peace dividend." In the 2005 BRAC round, the Department of Defense (DoD) sought to reorganize its installation infrastructure to most efficiently support its forces, increase operational readiness and facilitate new ways of doing business. Thus, BRAC represents more than cost savings. It supports advancing the goals of transformation, improving military capabilities, and enhancing military value. The U.S. Army needs to carry out the BRAC Commission's recommendations at Westover ARB to achieve the objectives for which Congress established the BRAC process.

The following provides excerpts from the Secretary of Defense's justification for the BRAC Commission's recommendations in the New England Region (DoD, 2005):

*This recommendation transforms Reserve Component facilities and command and control structure throughout the New England Region of the United States. The implementation of this recommendation will enhance military value, improve homeland defense capability, greatly improve training and deployment capability, create significant efficiencies and cost savings, and is consistent with the Army's force structure plans and Army transformational objectives.*

*This recommendation is the result of a nation-wide analysis of Reserve Component installations and facilities conducted by a team of functional experts from Headquarters, Department of the Army, the Office of the State Adjutant General, and the Army Reserve Regional Readiness Command.*

*This recommendation supports the Army Reserve's Command and Control restructuring initiative to reduce Regional Readiness Commands from ten to four by disestablishing one major peacetime administrative headquarters, the 94th Regional Readiness Command, and creating a new deployable headquarters on Westover Air Reserve Base.*

*This recommendation closes one Armed Forces Reserve Center in Chicopee, MA, one United States Army Reserve Center in Springfield, MA, one United States Army Reserve Area Maintenance Support Activity in Windsor Locks, CT, and constructs a multicomponent, multifunctional Armed Forces Reserve Center on Westover Air Reserve Base. The Marine Corps Reserve units located in the Armed Forces Reserve Center in Chicopee will relocate to the new AFRC on Westover Air Reserve Base. The Department understands that the State of Massachusetts will*

*close one Massachusetts Army National Guard Armory in Agawam, MA. The Armed Forces Reserve Center will have the capability to accommodate these units if the state decides to relocate the units from the closed facilities into the new AFRC.*

*Although not captured in the COBRA [cost of base realignment actions] analysis, this recommendation avoids an estimated \$21.6M in mission facility renovation costs and procurement avoidances associated with meeting AT/FP [anti-terrorism/force protection] construction standards and altering existing facilities to meet unit training and communications requirements. Consideration of these avoided costs reduce costs and increase the net savings to the Department of Defense in the 6-year BRAC implementation period and in the 20-year period used to calculate NPV [net present value].*

*This recommendation provides the opportunity for other Local, State, or Federal organizations to partner with the Reserve Components to enhance homeland security and homeland defense at a reduced cost to those agencies.*

***U.S. Army Transformation and the U.S. Army Modular Force.*** On October 12, 1999, the Secretary of the Army and the Chief of Staff articulated a vision about people, readiness, and transformation of the U.S. Army to meet challenges emerging in the 21st century, and the need to be able to respond more rapidly to different types of operations requiring military action. The strategic significance of land forces continues to lie in their ability to fight and win the Nation's wars and in their providing options to shape the global environment to the benefit of the United States and its allies. Transformation responds to the U.S. Army's need to become more strategically responsive and dominant at every point on the spectrum of operations. In March 2002, the U.S. Army published its *Programmatic Environmental Impact Statement for Army Transformation* for its proposal to conduct a multiyear, phased, and synchronized program of transformation. Over a 30-year period, the U.S. Army will conduct a series of transformation activities affecting virtually all aspects of U.S. Army doctrine, training, leader development, organizations, installations, materiel, and Soldiers. On April 11, 2002, the U.S. Army issued a Record of Decision reflecting its intent to transform the U.S. Army. This EA evaluates a proposed action that comports with the transformation process, which is designed to provide the Nation with combat forces that are more responsive, deployable, agile, versatile, lethal, survivable, and sustainable.

***Installation Sustainability.*** On October 1, 2004, the Secretary of the Army and the Chief of Staff issued *The Army Strategy for the Environment*. The strategy focuses on the interrelationships of mission, environment, and community. A sustainable installation simultaneously meets current and future mission requirements, safeguards human health, improves quality of life, and enhances the natural environment. A sustained natural environment is necessary to allow the U.S. Army to train and maintain military readiness.

### **1.3 SCOPE**

This EA has been developed in accordance with NEPA and the implementing regulations issued by the President's Council on Environmental Quality (CEQ) and the U.S. Army. The *2006 Base Realignment Closure*

*Manual for Compliance with the National Environmental Policy Act* was used for guidance in preparing the EA (U.S. Army, 2006a). The purpose of the EA is to inform decision makers and the public of the likely environmental consequences of the proposed action and alternatives.

This EA identifies, documents, and evaluates the potential environmental effects of the Proposed Action at Westover ARB in Chicopee, MA.

The Defense Base Closure and Realignment Act of 1990 specifies that NEPA does not apply to actions of the President, the Commission, or the DoD, except “(i) during the process of property disposal, and (ii) during the process of relocating functions from a military installation being closed or realigned to another military installation after the receiving installation has been selected but before the functions are relocated” (Sec. 2905(c)(2)(A), Public Law 101-510, as amended). The law further specifies that in applying the provisions of NEPA to the process, the Secretary of Defense and the secretaries of the military departments concerned do not have to consider “(i) the need for closing or realigning the military installation which has been recommended for closure or realignment by the Commission, (ii) the need for transferring functions to any military installation which has been selected as the receiving installation, or (iii) military installations alternative to those recommended or selected” (Sec. 2905(c)(2)(B)). The BRAC Commission’s deliberation and decision, as well as the need for closing or realigning a military installation, are exempt from NEPA. Accordingly, this EA does not address the need for realignment.

#### **1.4 PUBLIC INVOLVEMENT**

The U.S. Army invites public participation in the NEPA process. Consideration of the views and information of all interested persons promotes open communication and enables better decision making. All agencies, organizations, and members of the public having a potential interest in the proposed action, including minority, low-income, disadvantaged, and Native American groups, are urged to participate in the decision making process.

Public participation opportunities with respect to this EA and decision making on the proposed action are guided by 32 Code of Federal Regulations (CFR) Part 651. Upon completion of a draft, the EA will be made available to the public for 30 days, along with a draft Finding of No Significant Impact (FNSI) or a draft Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS), whichever is appropriate depending on the level of impacts. At the end of the 30-day public review period, the U.S. Army will consider any comments submitted by individuals, agencies, or organizations on the proposed action, the EA, or draft FNSI/NOI. If no significant impacts are expected, the U.S. Army may then execute the FNSI and proceed with implementation of the proposed action. If it is determined prior to issuance of a final FNSI that implementation of the proposed action would result in significant impacts, the U.S. Army will either publish in the *Federal Register* a NOI to prepare an EIS or commit to mitigation actions sufficient to reduce impacts below significance levels.

A Notice of Availability (NOA) was published in the Springfield, MA Republican on December 12 and 13, 2006. Interested parties were invited to review and comment on the EA and Draft FNSI during the 30 day comment period of December 12, 2006 through January 12, 2007. The EA and Draft FNSI were accessible during the comment period on the World Wide Web at:

[http://www.hqda.army.mil/acsim/brac/env\\_ea\\_review.htm](http://www.hqda.army.mil/acsim/brac/env_ea_review.htm)

Printed copies of the EA were also made available during the comment period, at the following local libraries:

Chicopee Library Main Branch  
449 Front Street  
Chicopee, MA 01013

Hubbard Memorial Library  
24 Center Street  
Ludlow, MA 01056

Reviewers were invited to submit comments on the EA and Draft FNSI during the 30-day public comment period via mail, fax, or electronic mail to the following:

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## **1.5 IMPACT ANALYSIS PERFORMED**

An interdisciplinary team of environmental scientists, biologists, planners, economists, engineers, archaeologists, historians, and military technicians has analyzed the proposed action and alternatives in light of existing conditions and has identified relevant beneficial and adverse effects associated with the action. Section 1.0 of the EA provides the purpose, need, and scope. The proposed action is described in Section 2.0, and alternatives, including the No Action Alternative, are described in Section 3.0. Conditions existing as of 2006, considered to be the “baseline” conditions, are described in Section 4.0, Affected Environment and Environmental Consequences. The expected effects of the proposed action, also described in Section 4.0, are presented immediately following the description of baseline conditions for each environmental resource addressed in the

EA. Section 4.0 also addresses the potential for cumulative effects, and mitigation measures are identified where appropriate. Section 5.0 presents the findings and conclusions.

## **1.6 FRAMEWORK FOR ANALYSIS**

A decision on whether to proceed with the proposed action rests on numerous factors such as mission requirements, schedule, availability of funding, and environmental considerations. In addressing environmental considerations, the U.S Army and the host installation are guided by relevant statutes (and their implementing regulations) and Executive Orders that establish standards and provide guidance on environmental and natural resources management and planning. These include the Clean Air Act (CAA), Clean Water Act (CWA), Noise Control Act, Endangered Species Act (ESA), National Historic Preservation Act (NHPA), Archaeological Resources Protection Act (ARPA), Resource Conservation and Recovery Act (RCRA), Toxic Substances Control Act (TSCA), Sikes Act, and the Migratory Bird Treaty Act (MBTA). Executive Orders bearing on the proposed action include Executive Order (EO) 11988 (*Floodplain Management*), EO 11990 (*Protection of Wetlands*), EO 12088 (*Federal Compliance with Pollution Control Standards*), EO 12580 (*Superfund Implementation*), 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 13101 (*Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition*), EO 13123 (*Greening the Government Through Efficient Energy Management*), EO 13148 (*Greening the Government Through Leadership in Environmental Management*), EO 13175 (*Consultation and Coordination with Indian Tribal Governments*), and EO 13186 (*Responsibilities of Federal Agencies to Protect Migratory Birds*). These authorities are addressed in various sections throughout this EA when relevant to environmental resources and conditions. The full text of the laws, regulations, and EOs are available on the Defense Environmental Network & Information Exchange Web site at <http://www.denix.osd.mil>.

## **2.0 DESCRIPTION OF THE PROPOSED ACTION**

### **2.1 INTRODUCTION**

This section describes the U.S. Army's Proposed Action for implementing the BRAC Commission's recommendations for Westover ARB. The BRAC Commission recommended the realignment of the following agencies/activities with relocation to Westover ARB in Chicopee, MA.

- Close the Westover Armed Forces Reserve Center, Chicopee, Massachusetts, the MacArthur United States Army Reserve Center, Springfield, Massachusetts, the United States Army Reserve Area Maintenance Support Activity, Windsor Locks, Connecticut, and realign the Malony United States Army Reserve Center on Devens Reserve Forces Training Area by disestablishing the 94<sup>th</sup> Regional Readiness Command, and relocate all units from the closed facilities to a new Armed Forces Reserve Center on Westover Air Reserve Base, Chicopee, Massachusetts. Establish an Army Reserve Sustainment Brigade [Combat Support Brigade] headquarters in the new Armed Forces Reserve Center on Westover Air Reserve Base. Realign Devens Reserve Forces Training Area by relocating the 5<sup>th</sup> JTF [Joint Task Force], 654<sup>th</sup> ASG [Area Support Group] and the 382<sup>nd</sup> MP [Military Police] Battalion to the new Armed Forces Reserve Center on Westover Air Reserve Base. The new Armed Forces Reserve Center shall have the capability to accommodate Massachusetts Army National Guard units from the Massachusetts Army National Guard Armory in Agawam, Massachusetts, if the state decides to relocate those National Guard units.

These actions are related to the decision to realign and transform Reserve Component facilities throughout the New England region.

### **2.2 CRITERIA FOR IDENTIFICATION OF PROPOSED BRAC ACTIONS**

The DoD applied 8 major criteria when evaluating individual facility BRAC actions.

- Military Value (higher priority):
  1. The current and future mission capabilities and the impact on operational readiness of the total force of the Department of Defense, including the impact on joint warfighting, training, and readiness.
  2. The availability and condition of land, facilities, and associated airspace (including training areas suitable for maneuver by ground, naval, or air forces throughout a diversity of climate and terrain areas and staging areas for the use of the Armed Forces in homeland defense missions) at both existing and potential receiving locations.
  3. The ability to accommodate contingency, mobilization, surge, and future total force requirements at both existing and potential receiving locations to support operations and training.
  4. The cost of operations and the manpower implications.
- Other Considerations:

1. The extent and timing of potential costs and savings, including the number of years, beginning with the date of completion of the closure or realignment, for the savings to exceed the costs (pay-back period).
2. The economic impact on existing communities in the vicinity of military installations.
3. The ability of the infrastructure of both the existing and potential receiving communities to support forces, missions, and personnel.
4. The environmental impact, including the impact of costs related to potential environmental restoration, waste management, and environmental compliance (DoD, 2005).

The application of these criteria to the need to realign and restructure reserve forces and facilities in the Northeast yielded a number of proposed facility changes, among them the proposed actions at Westover ARB. The site-specific BRAC related projects are defined by existing Defense Department (DD) Form 1391s. The DD Form 1391 is used by the DoD to submit requirements and justifications in support of funding requests for military construction to Congress.

### **2.3 PROPOSED ACTION/IMPLEMENTATION PROPOSED**

The Proposed Action is to construct a new AFRC and associated support facilities at Westover ARB in Chicopee, MA to support realigned units, and their associated equipment, from the closing of the current Westover AFRC; the MacArthur USARC, in Springfield, MA; the AMSA in Windsor Locks, CT; and the MAARNG armory in Agawam, MA. The new AFRC would also accommodate the establishment of a new U.S. Army Reserve Combat Support Brigade HQ. Associated support facilities proposed include a new OMS/AMSA facility, an unheated storage building, a new MEP area, Privately-Owned Vehicle (POV) parking lots, and assorted infrastructure improvements such as security fencing, lighting, and utility upgrades.

The proposed action is further detailed below, in the *Facilities (Section 2.3.1)*, *Equipment (Section 2.3.2)*, and *Personnel (Section 2.3.3)* sub-sections. Figure 2-1 is a general area map indicating the location of Westover ARB in the larger community. Figure 2-2 is an aerial photo of Westover ARB with an overlay of the proposed AFRC facilities.

The preferred AFRC site is located within the main cantonment of the base northeast of the James Street Gate House. It is bordered by the base fence-line to the west and northwest, Globemaster Street to the northeast, and Eagle Drive to the southeast. This site can support the size and footprint of the proposed AFRC complex and its associated parking areas and facilities, and meets AT/FP stand-off buffer requirements.

#### **2.3.1 Facilities**

The AFRC would be an approximately 143,331 square feet (ft<sup>2</sup>) two-story structure located on existing Federal property at Westover ARB, Chicopee, MA. The AFRC will be the primary facility for eight U.S. Army Reserve units, one MAARNG unit, and one U.S. Marine Corps Reserve unit, and would provide adequate space for training, classrooms, offices, administrative and other support spaces for about 1,000 people. The AFRC site would also include an approximately 30,033 ft<sup>2</sup> AMSA/OMS, an approximately 4,556 ft<sup>2</sup> unheated storage

building, new POV parking lots totaling about 17,787 sy, and a MEP area and associated paved areas around the AMSA/OMS, totaling approximately 26,922 sy (U.S. Army, 2006d).

AT/FP safety and security measures, including minimum stand-off distance from roads, parking areas and vehicle unloading areas, will be incorporated into the facility designs and siting.

Supporting improvements are also proposed to compliment the AFRC and associated facilities, including paving, fencing, general site improvements, and the extension of utilities to serve the project. Accessibility for disabled persons will be provided (U.S. Army, 2005a).

The AFRC and AMSA/OMS structures would be permanent construction with reinforced concrete foundations, concrete floor slabs, structural steel frames, and masonry veneer walls; heating, ventilation, and air-conditioning (HVAC) systems; and plumbing, mechanical, electrical, and security systems. These facilities would be located on previously disturbed land. Other improvements include site grading, clearing, and landscaping, walkways, and fencing/gates.

The AFRC building will provide space for training, classrooms, administrative, physical fitness, assembly, library, learning center, vault, and weapons simulator for reserve units. The AMSA/OMS building will provide work bays and maintenance administrative support areas.

### **2.3.2 Equipment**

The relocation and realignment of reserve units to the proposed Westover AFRC would bring associated unit vehicles, equipment, and materials, some of which are already on Westover ARB at the current AFRC. The relocation/realignment will encompass a projected total of 458 vehicles (wheeled and trailers), including 32 wheeled vehicles and 24 trailers that are already based at Westover ARB and 402 incoming vehicles and trailers. The incoming AMSA supports 500 vehicles and is authorized to store 10%, or 50 vehicles, on-base (per U.S. Army Regulation 140-483) (U.S. Army, 2006b). In addition to these 50 vehicles, 198 wheeled vehicles and 154 trailers would be arriving with units not currently located on Westover ARB (see Table 2-1). Thirty two wheeled vehicles and 24 trailers will relocate from units currently located at the Westover AFRC. Wheeled vehicles include 25-ton line haul tractor trailers, Humvees, fork lifts, wreckers, cranes, dump trucks, cargo trucks, and other like vehicles. Trailers include semi-trailer flatbeds, water tanks, generator sets, field kitchens, steam pressure cleaner, light sets, and other vehicles (U.S. Army, 2006b, 2006c, 2006d; MAARNG, 2006a).

Figure 2-1: Area Map

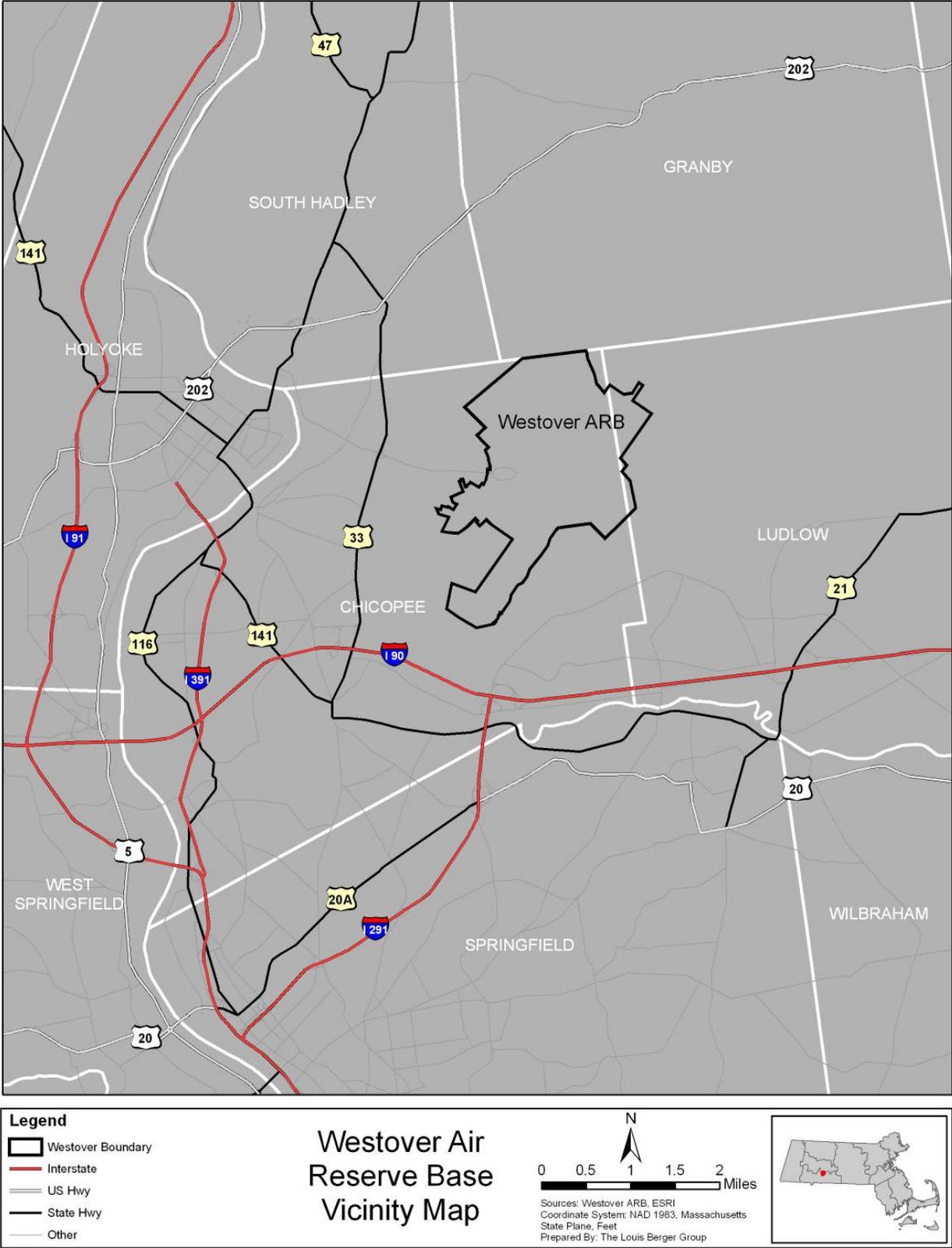
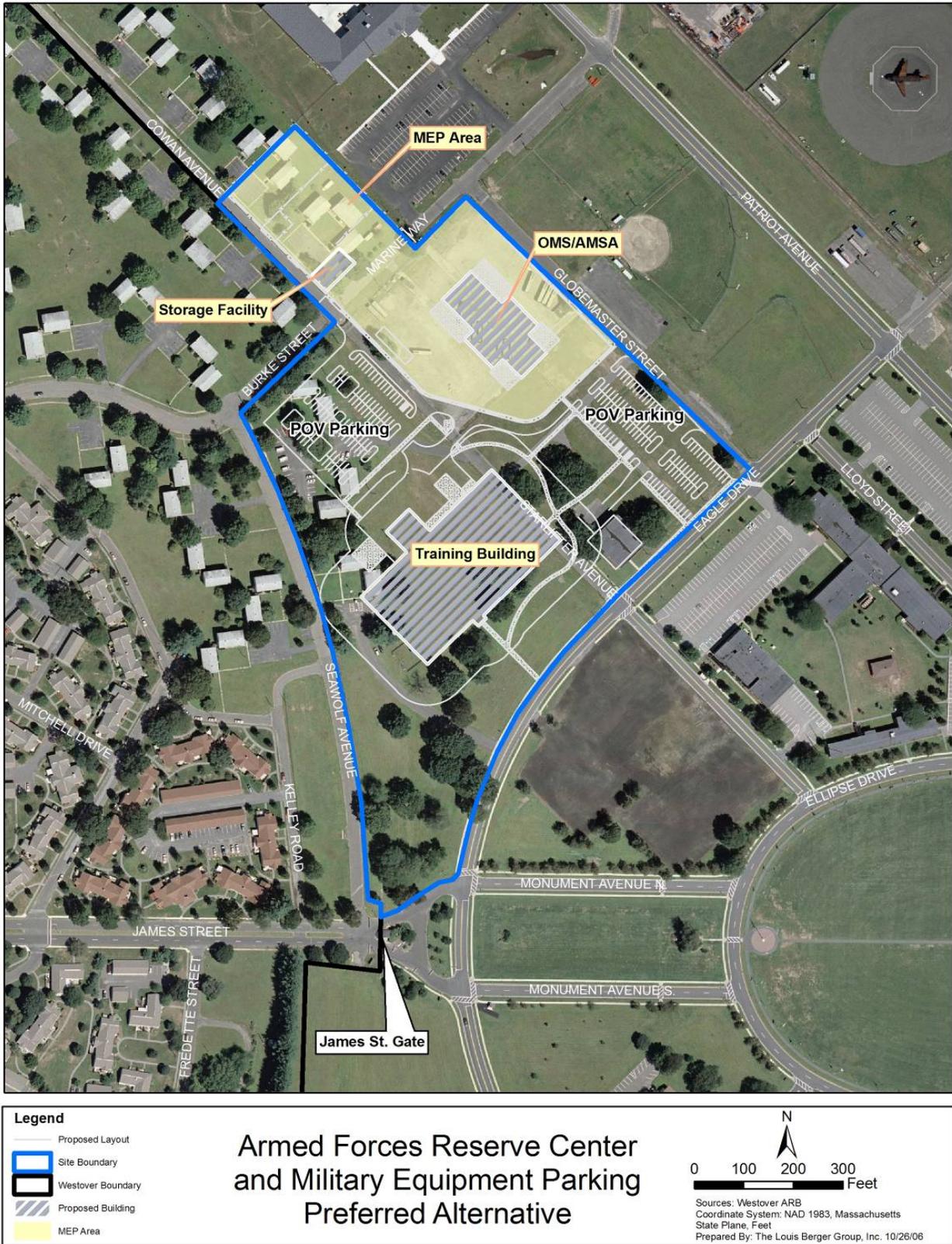


Figure 2-2: Westover ARB Proposed AFRC and Associated Facilities



**Table 2-1: Westover ARB, MA 2005 BRAC Actions: Equipment Changes**

Action	Organization/Unit	From	Total Number Wheeled Vehicles	Total Number Trailers	Total Estimated Increase in Equipment at Westover ARB
Incoming	MacArthur USARC 304 TC (-)	Springfield, MA	31	56	+87
Incoming	AMSA 72 Windsor Locks	Windsor Locks, CT	≤ 50	--	+50
Incoming	Malony USARC Devens RFTA	Ayer, MA	21	10	+31
Incoming	U.S. Army Reserve Combat Support Brigade HQ (disestablished 94th Regional Readiness Command (RRC) from Devens RFTA)	Ayer, MA	144	86	+230
Incoming	MA Army National Guard	Agawam, MA	2	2	+4
On-base	U.S. Army Reserve, Westover AFRC	Westover ARB	32	24	0
On-base	Marine Corps Reserve, Westover AFRC	Westover ARB	--	--	0
		<b>TOTAL</b>	<b>280</b>	<b>178</b>	<b>+402</b>

(U.S. Army, 2006b, 2006c, 2006d; MAARNG, 2006a).

### 2.3.3 Personnel

Implementation of the BRAC Commission’s recommendations for relocation and realignment of the listed units would result in the total assignment of about 1,335 workforce personnel to the new Westover AFRC, some of whom are already located on Westover ARB. Only 71 new full-time personnel would be relocating to Westover ARB under the proposed action. The expanded workforce would include:

- 1,037 personnel arriving from units not located on Westover ARB, including:
  - 43 full-time military personnel
  - 28 full-time civilian employees
  - 966 part-time reservists
- 298 personnel currently located on Westover ARB, including:
  - 15 full-time military personnel
  - 1 full-time civilian employee
  - 282 part-time reservists

(U.S. Army, 2006b, 2006c, 2006d; MAARNG, 2006a).

Although personnel associated with units currently at the Westover AFRC do not contribute to the increase in total new personnel coming to Westover ARB, they do factor into the size requirement of the new AFRC and associated parking requirements. The overall current workforce population of Westover ARB is about 5,093, including 254 full-time military personnel, 4,263 part-time reservists, and 576 civilian employees (USAF, 2005a).

The potential direct and/or cumulative impacts to the environment from the increase in personnel are considered in this EA. Table 2-2 details the total anticipated personnel changes.

**Table 2-2: Westover ARB, MA 2005 BRAC Actions: Personnel Changes**

<b>Action</b>	<b>Organization</b>	<b>From</b>	<b>Total Number of Unit Personnel</b>	<b>Total Estimated Increase in Personnel at Westover ARB</b>
Incoming	MacArthur USARC 304 TC (-)	Springfield, MA	125	+125
Incoming	AMSA 72 Windsor Locks	Windsor Locks, CT	12	+12
Incoming	Malony Devens RFTA	Ayer, MA	168	+168
Incoming	U.S. Army Reserve Combat Support Brigade HQ (disestablished 94th RRC from Devens RFTA)	Ayer, MA	598	+598
Incoming	MA Army National Guard	Agawam, MA	134	+134
On-base	U.S. Army Reserve, Westover AFRC	Westover ARB	208	0
On-base	Marine Corps Reserve, Westover AFRC	Westover ARB	90	0
		<b>TOTAL</b>	<b>1335</b>	<b>+1037</b>

(U.S. Army, 2006b, 2006c, 2006d; MAARNG, 2006a).

## 2.4 SCHEDULE

Under the BRAC law, the U.S. Army must initiate all realignments not later than September 15, 2007, and complete all realignments not later than September 15, 2011.<sup>3</sup>

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<sup>3</sup> Section 2904(a), Public Law 101-510, as amended, provides that the Army must "... initiate all closures and realignments no later than two years after the date on which the President transmits a report [by the BRAC Commission] to the Congress ... containing the recommendations for such closures or realignments; and ... complete all such closures and realignments no later than the end of the six year period beginning on the date on which the President transmits the report ... " The President took the specified action on September 15, 2005.

## 3.0 ALTERNATIVES

### 3.1 INTRODUCTION

A key principle of NEPA is that an agency is to consider reasonable alternatives to a proposed action. Considering alternatives helps to avoid unnecessary impacts and allows analysis of reasonable ways to achieve the stated purpose. To warrant detailed evaluation, an alternative must be reasonable. To be considered reasonable, an alternative must be affordable, capable of implementation, and satisfactory with respect to meeting the purpose of and need for the action. The following discussion identifies alternatives considered by the U.S. Army, and identifies whether they are feasible and, hence, subject to detailed evaluation in this EA.

Alternatives to the Proposed Action have been examined according to three variables: means to physically accommodate realigned units, siting of new construction, and schedule. This section presents the U.S. Army's development of alternatives and addresses alternatives available for the Proposed Action. This section also describes the No Action Alternative, in which neither the Proposed Action nor an alternative is undertaken.

### 3.2 DEVELOPMENT OF ALTERNATIVES

*Means to Accommodate Realigned Units.* Relocation of units and establishment of new units involves ensuring that the installation has adequate physical accommodations for personnel and their operational requirements. The U.S. Army considers four means of meeting increased space requirements:

- Use of existing facilities
- Modernization or renovation of existing facilities
- Leasing of off-post facilities
- Construction of new facilities

U.S. Army Regulation 210-20, *Master Planning for Army Installations*, establishes U.S. Army policy to maximize use of existing facilities. The regulation directs that new construction will not be authorized to meet a mission that can be supported by existing underutilized adequate facilities, provided that the use of such facilities does not degrade operational efficiency. Under this policy, selection and use of facilities to support mission requirements adheres to the foregoing four choices in the order that they are listed. That is, if there are adequate existing facilities to accommodate requirements, and absent other overriding considerations, further examination of renovation, leasing, or construction alternatives is not required. Similarly, if a combination of use of existing facilities and renovation satisfies the U.S. Army's needs, leasing or new construction need not be addressed. New construction may proceed only when use of existing facilities, renovation, leasing, or a combination of such measures are inadequate to meet mission requirements.

*Siting of New Construction.* The U.S. Army considers new construction of facilities when use of existing facilities, renovation, or leasing would fail to provide for adequate accommodations of realigned functions. The U.S. Army considers both general and specific siting criteria for construction of new facilities.

General siting criteria include consideration of compatibility between the functions to be performed and the installation land use designation for the site, adequacy of the site for the function required, proximity to related activities, distance from incompatible activities, availability and capacity of roads, efficient use of property, development density, potential future mission requirements, and special site characteristics, including environmental incompatibilities.

Specific siting criteria include consideration of location of the workforce and efficient, streamlined management of functions. Collocation of similar types of functions, as opposed to dispersion, permits more efficient use of equipment, vehicle, and other assets.

A large portion of Westover ARB has some form of constraint to development and in many areas various constraints overlap. Airfield criteria constrain the largest amount of land area at Westover ARB and include Primary Surfaces, Clear Zones, and Accident Potential Zones. Other constraints include, but are not limited to, explosive safety clear zones, referred to as quantity distance (QD) arcs; AT/FP stand-off distances; and natural and cultural resources. Figure 3-1 is an aerial photo of Westover ARB with an overlay of constraints and the alternative AFRC and MEP sites that were considered, and which are described in following sections.

*Schedule.* Alternatives for the scheduling of the proposed realignment actions are principally affected by three factors: the availability of facilities to house realigned personnel and functions, efforts to minimize potential disruption of mission activities based on the number of personnel involved in the relocation or the amount of work to be performed, and early realization of benefits to be gained by completion of the realignments. In most cases, minor shifts in schedule would not produce different environmental results.

### **3.3 ALTERNATIVES TO THE PROPOSED ACTION**

#### **3.3.1 Use of Off-Base Leased Space**

The only possible off-base leased space scenario around Westover ARB would be to utilize build-to-suit leased facilities. There are no appropriate facilities in the area near Westover ARB that are capable of meeting this requirement. Construction outside the installation would be counter-productive to the war fighting, operational, and security considerations of the overall BRAC realignment plan. Any location outside the installation would not meet the project objective and the BRAC requirement that the facilities be located on Westover ARB. For these reasons, use of off-base leased space is not feasible and is not further evaluated in this EA.

### **3.3.2 Acquisition of New Property**

This alternative is not permitted under the BRAC action as authorized by the U.S. Congress and the President, and would undermine the cost savings realized through the closure of multiple U.S. Army Reserve facilities.

### **3.3.3 Existing Westover ARB Facilities**

The current Westover AFRC consists of a 48,622 ft<sup>2</sup> training building and a 3,855 ft<sup>2</sup> OMS acquired in 1976, which is 158% utilized. The existing training building would require an 84,583 ft<sup>2</sup> addition and 48,622 ft<sup>2</sup> of alterations. The existing OMS would require a 21,378 ft<sup>2</sup> addition and 3,855 ft<sup>2</sup> of alterations. A 3,645 ft<sup>2</sup> unheated storage building would have to be constructed (U.S. Army, 2005a). This course of action, however, is overcome by the requirement to provide a high degree of work flow efficiency for the units/commands involved. Opportunities to add to or alter existing facilities are very limited due to this constraint. In no case could all of the requirements of the Proposed Action be met by alteration and/or addition to an existing Westover ARB structure or group of structures, without creating an offsetting new construction requirement for some other unit or activity on the installation. Accordingly, new construction would be required and use of existing facilities at Westover ARB is not further evaluated in this EA.

### **3.3.4 New Construction Alternative Sites**

Construction of new facilities at Westover ARB is the preferred alternative because there are no viable alternative facilities currently available on the installation that could reasonably accommodate the requirements of the realigning units, either singularly or combined. New construction facilitates a high level of shared use of facilities by the realigned units if configured and managed properly. While providing adequate and appropriate space for each unit to accomplish its own home station goals and objectives, integrated new construction will also include significant areas that provide for the shared use by all of the newly realigned units. These include a common drill/assembly area, food service areas, physical fitness facility, classroom space, conference areas, vehicle maintenance and storage areas, and POV parking areas.

Alternative locations for siting the AFRC and MEP area were identified and evaluated through consultation with Westover ARB personnel, and in consideration with the Westover ARB *General Plan* (USAF, 2005a). The General Plan outlines land use and compatibility guidelines and the constraints for planned development at the installation. The greatest factor limiting the siting of the AFRC and MEP area is the constraints outlined by safety buffers and arcs. Each of the alternative sites considered requires new construction under the Proposed Action (see discussion in Section 2.0).

Four potential alternative locations for the AFRC and four potential alternative locations for the MEP area were identified and evaluated to determine whether these locations would meet the Purpose and Need and could be considered reasonable alternatives for the Proposed Action. Each alternative site is briefly discussed below. Figure 3-1 is a base constraints map with the alternative site locations indicated.

### ***Co-Located AFRC and MEP Location – Preferred Alternative***

The preferred AFRC site is located within the main cantonment of the base, north of the James Street Gate House. It is bordered by the base fence-line to the west and northwest, Globemaster Street to the northeast, and Eagle Drive to the Southeast. The advantage of this site is that it can support the size and footprint of the proposed AFRC complex, the MEP site, and associated POV lots and facilities. The site also meets AT/FP stand-off buffer requirements. In addition, the site is located in proximity to the Westover Ellipse and provides for easy ingress/egress through the existing James Street Gate (Fairview Gate). The site consists primarily of landscaped grass, occasional large diameter shade trees, and is set within and near the developed core area of the base. This is the only site identified that can accommodate all of the proposed facilities in a single, contiguous site, thereby greatly improving efficiency of operations, training, and maintenance activities. This site is evaluated as the preferred action.

***Remote MEP Site (Perimeter Road) Alternative.*** This alternative would locate the AFRC, AMS/OMS, unheated storage building, and POV parking lots in the same location as the Preferred Alternative, while locating the MEP area in a remote location on the north side of the base. The proposed MEP site is open space (grassland) located immediately south of Perimeter Road and east of Stony Brook and a grenade training range. The area is outside of primary airfield and ordnance QD constraints. The site is also large enough, about 27 acres, to accommodate the proposed 4 acre MEP area without encroaching upon the surrounding wetlands or QD arcs. The area is currently mowed every other year prior to the Westover Great New England Air Show and used as a parking area for cars during that event. The primary disadvantage of this site is its separation from the proposed site for the AFRC and the AMSA/OMS, decreasing the efficiency of operations that would result from co-locating all of these activities. Another disadvantage is that this site would impact 4+ acres of grassland habitat that has been used previously (along with many other grassland areas on base) by the state-listed *grasshopper sparrow* as breeding habitat from April to August. This site is carried forward for analysis in the EA.

A number of other alternative locations were evaluated for the AFRC complex and the MEP area. These sites were found to not be viable alternatives and therefore were not carried forward for analysis. Each site is discussed below.

### ***AFRC Locations***

***Site 1: Recall and Walker Avenues Alternatives.*** This site is located between Recall and Walker Avenues within the main cantonment of the base. The advantage of this site is that it can support the size and footprint of the proposed AFRC and associated parking and facilities. The primary disadvantage is that there are existing plans for development at this site. Westover ARB plans to construct new centralized lodging and dining facilities in this area, under the ongoing development of the Westover ARB “urban campus.” An alternative site for the USAF lodging and dining areas would need to be identified and base plans would be impacted. Therefore this site was not carried forward for additional analysis.

**Site 2: Eagle Drive Alternative.** This site is located south of Ellipse Drive between Eagle Drive and Port Street, within the main cantonment of the base. The advantage of this site is that it can support the size and footprint of the proposed AFRC and associated parking and facilities. The disadvantage of this site is that Westover ARB plans to construct the new 439<sup>th</sup> Airlift Wing HQ at this location. The footprint of this activity would reduce the amount of acreage to below that required to accommodate the size and footprint of the proposed AFRC and its associated parking and facilities. Therefore, this site was found to not be a viable alternative to the preferred AFRC site, and was not carried forward for additional analysis.

**Site 3: Walker Avenue Alternative.** This site is located northwest of Walker Avenue, and was evaluated to provide inadequate space for the size and footprint of the proposed AFRC and its associated parking and facilities. Although there is undeveloped land available in this location, the site does not have adequate space to meet AT/FP stand-off buffer requirements. Therefore this site was determined to not be a viable alternative to the preferred AFRC site, and was not carried forward for additional analysis.

### ***MEP Locations***

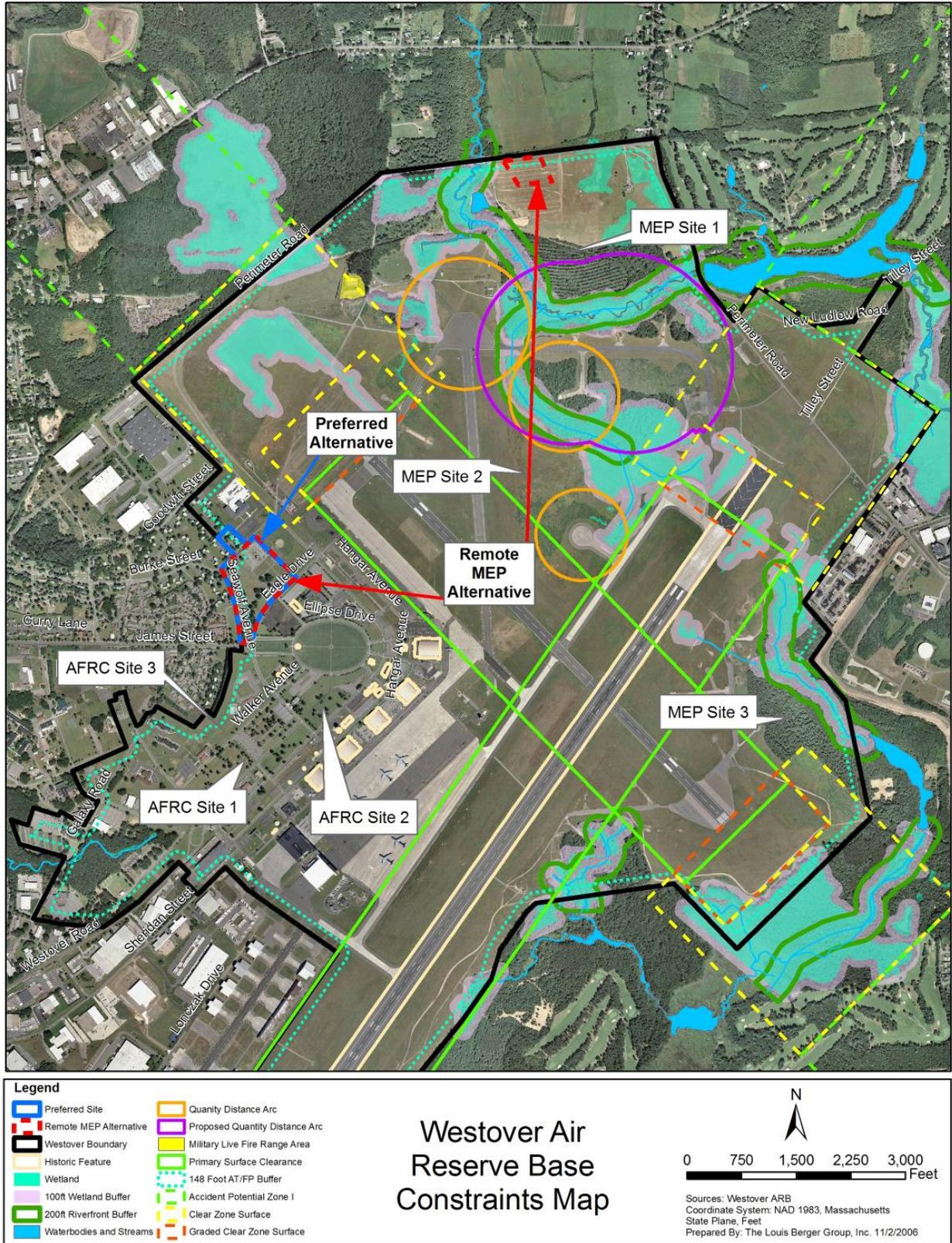
**Site 1: North Base Alternative.** This site is located south of the Remote MEP Site (Perimeter Road) Alternative and contains both open grassland and urban forest habitat. The advantage of this site is that it could decrease the overall impact on the grassland habitat where the state listed grasshopper sparrow is known to nest. However, most of the south side of this site is constrained by the QD arcs from two planned munitions storage areas, greatly reducing the degree to which the grassland habitat could be avoided. The site is also bisected by an abandoned railway that would need to be removed. The forested areas of this site would need to be logged and graded, and the generally varying topography of the site would need to be leveled, thereby greatly increasing site preparation costs and earthworks requirements. For vehicle access to this site an access road and utility lines extending from Perimeter Road would need to be constructed, thus increasing the overall amount of disturbed area, and further increasing project costs. Based on available, non-constrained land and cost considerations, this site was found to not be a viable alternative.

**Site 2: Drop-Zone Alternative.** This site is located on open space (grassland) north of the secondary runway. There are no advantages to using this site as a MEP area. Disadvantages of this site include that it is completely surrounded by constraints (QD arcs, wetland buffers, and runway clearance zones) which isolate it, and there is no vehicle accessibility to the site. An extensive access road and utility lines would be required, greatly increasing project costs and increasing the total amount of impacted acreage. In addition, during certain military operations vehicle accessibility to the site might be prohibited, thus impacting operational effectiveness and efficiency of units training at the AFRC. This site, similar to other grassland habitat throughout the installation, is used annually by the state-listed grasshopper sparrow and occasionally by the state-listed upland sandpiper as breeding habitat. This site is also currently used as the base's drop-zone training area, and a new drop-zone training area would need to be identified and constructed. Vehicle storage would be inconsistent with drop-zone training

activities, and could introduce safety concerns during training. Therefore, this site was found to not be a viable alternative to the preferred MEP area site and not carried forward for analysis.

**Site 3: East Base Alternative.** This site is located in the southeastern portion of Westover ARB. The advantage to this site is that it would not impact any grassland habitat that is used by the state-listed grasshopper sparrow for breeding. The disadvantages of this site are that it is forestland bordered by airfield constraints to the west and south and a 200-foot riverfront buffer to the north and east, and the site has limited accessibility for vehicles and utilities. The site would have to be logged and cleared and a new gate would need to be constructed for off-base access to transit to the preferred AFRC/OMS/AMSA location. Therefore, this site was found to not be a viable alternative and is not carried forward for analysis.

Figure 3-1: Westover ARB Constraints and Alternative AFRC and MEP Sites



### **3.3.5 Scheduling Alternatives**

The schedule for implementation of the proposed action must balance facilities construction timeframes and planned arrival dates of inbound units and stand-up dates of newly-established units, all within the 6-year limitation of the BRAC law. Realignment earlier than that shown in the schedule in Section 2.4 is not feasible in due to the time required to build facilities. Shifting of schedules to accomplish realignment at a later date would unnecessarily delay the realization of benefits to be gained. Since earlier implementation is not possible, and since delay is avoidable and unnecessary, alternative schedules are not further evaluated in this EA.

### **3.4 NO ACTION ALTERNATIVE**

Under the No Action Alternative reserve units presently assigned to the Westover USARC would continue to train at and operate from that facility. No units would relocate from other locations and they would continue to operate in facilities that are outdated, inadequate, and improperly configured to allow the most effective training to meet mission requirements. Implementation of this alternative is not possible due to the BRAC Commission's recommendations having the force of law. However, inclusion of the No Action Alternative is required by CEQ regulations and serves as a baseline against which the impacts of the proposed action and alternatives can be evaluated. Accordingly, the No Action Alternative is evaluated in this EA.

## **4.0 AFFECTED ENVIRONMENT AND CONSEQUENCES**

### **4.1 INTRODUCTION**

This section contains a description of the current environmental conditions of the areas that would be affected should the proposed action be implemented. It also includes analysis of potential effects arising from the implementation of the proposed action. The description of environmental conditions represents the baseline conditions, or the “as is” or “before the action” conditions at the installation. Where appropriate and definable, a specific Region of Influence (ROI) is indicated for a given resource area. The baseline is further defined as the level of operations and environmental conditions at the time of the BRAC Commission’s fall 2005 decision. The baseline facilitates subsequent identification of changes in conditions that would result from realignment. The environmental consequences portion represents the culmination of scientific and analytic analysis of potential effects arising from the implementation of the proposed action. Direct, indirect, and cumulative effects of the proposed action are also addressed.

Baseline environmental conditions for each resource area or condition are presented first, followed immediately thereafter by the evaluation of potential effects of the No Action Alternative, Preferred Alternative, and the Remote MEP Site Alternative.

### **4.2 LAND USE**

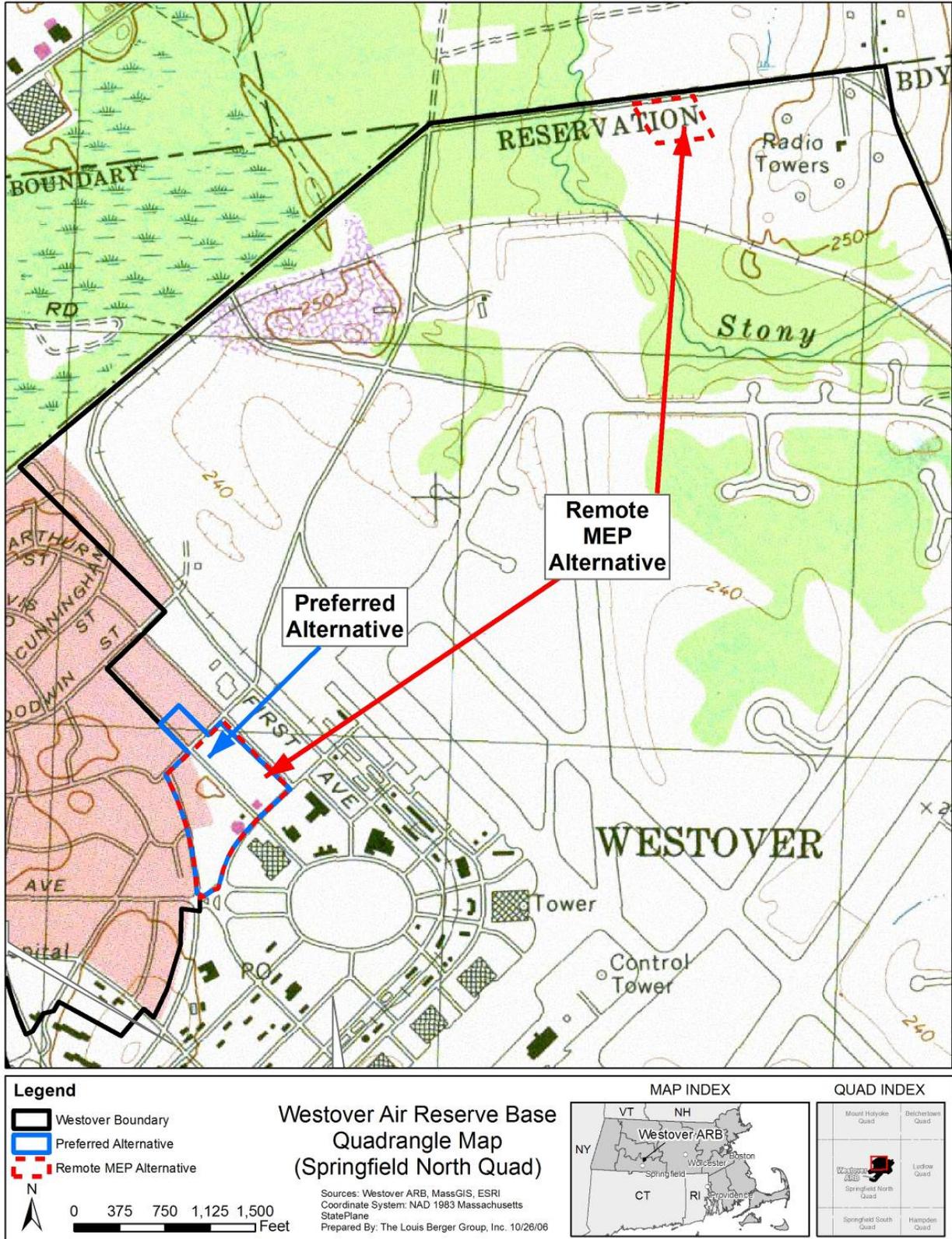
#### **4.2.1 Affected Environment**

The ROI for land use is defined as the base itself and the surrounding communities of Chicopee, Granby, Ludlow, and South Hadley.

##### ***4.2.1.1 Regional Geographic Setting and Location***

Westover ARB comprises about 2,500 acres of land within the communities of Chicopee and Ludlow in the northern portion of Hampden County, MA. The base is near the Massachusetts cities of Springfield and Holyoke, and the Towns of West Springfield, Grandby, and South Hadley. Westover ARB is located in the Pioneer Valley Region, which encompasses 43 municipalities within Hampshire and Hampden Counties along the Connecticut River. Hampshire County is located just to the north of Westover ARB and a portion of the county’s southern boundary abuts the northern perimeter of the base (USAF, 2003a). The base is about 2 miles east of the Connecticut River, and is intersected or bounded by Cooley, Stony, and Willimansett Brooks. Figure 2-1 shows the regional location of Westover ARB. Figure 4-1 is a U.S. Geological Survey quadrangle map of Westover ARB.

Figure 4-1: USGS Quadrangle Map



**Climate.** Westover ARB is located within the Connecticut River Lowlands of Western Massachusetts. This region is bounded by the Berkshire Mountains to the west and the Worcester Plateau to the east. The lowland areas of the Connecticut River Valley in Massachusetts are typically characterized by cold winters and moderately warm summers with occasional hot spells. The average annual temperature at Westover ARB is 9° C (49° F). The average maximum temperature is 28 °C (83° F), with the hottest temperatures typically recorded in July. The average minimum temperature is -4 °C (24° F), with the coldest month being January.

Precipitation in the Westover ARB region is relatively stable throughout the year. Mean precipitation averages approximately 42 inches per year. Average snowfall in the area is 50 inches per year, with twelve days annually exceeding 1.5 inches of snow. Prevailing winds are from the south in the summer, at an average of about five knots, and during the remainder of the year, from the northwest at approximately six knots (USAF, 2003a).

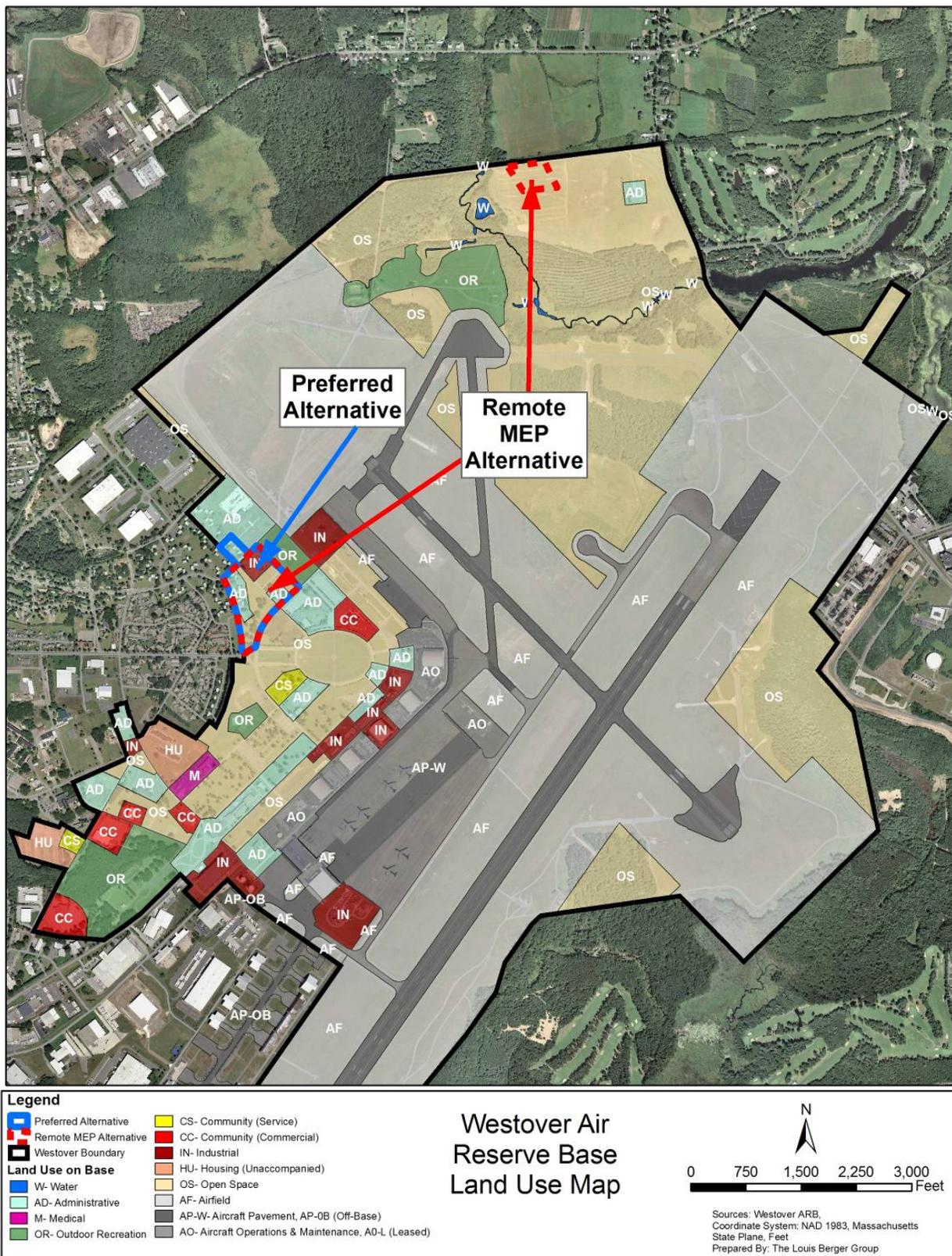
#### **4.2.1.2 Installation Land Use**

Lands of Westover ARB have been the responsibility of the DoD since 1940 when the base was first activated to fulfill the government's need for a major installation in the northeastern region of the U.S. Originally 5,000 acres, approximately one-half of the base's area has since been transferred to the communities of Chicopee and Ludlow. Unlike most Air Force Reserve installations, Westover ARB was developed as an active duty Air Force Base. The base occupied a large amount of land and had a wide variety of land uses, including housing and recreational uses. Throughout the conversion to an Air Force Reserve installation, large areas of land and several buildings were excessed and the overall density of development on the installation decreased, especially in the cantonment area (USAF, 2005a).

Today there are large open space areas of developable land in both the main cantonment of the base and the rest of the installation. There are also areas where infill development can take place. These areas of undeveloped land and infill opportunities provide flexibility and allow the base to develop in a low density style consistent with the majority of off-base lands. Developed areas are characterized by land uses typical of DoD air installations including the following: airfield; aircraft operations and maintenance; industrial; administrative; community (commercial, recreational, and service); medical; temporary lodging; and outdoor recreation.

The base's recently completed *General Plan* (USAF, 2005a) provides guidance for making future land use decisions on-base. The General Plan also makes recommendations for land uses on-base that are compatible with expected future off-base land uses. Figure 4-2 is a Land Use map for Westover ARB. Note that the large area in the north portion of the base that is designated as "OR" – Outdoor Recreation – is a military field encampment and training area.

Figure 4-2: Westover ARB Land Use Map



### ***4.2.1.3 Current and Future Development in the Region of Influence***

Westover ARB is located in low to medium density developed portions of the communities of Chicopee and Ludlow with South Hadley and Granby situated just to the north. Land use in the area surrounding the base includes agriculture, undeveloped and open space, golf courses, a mix of one- and two-family residences, and light industrial. Residential housing clustered to the west of the fenceline near the James Street Gate was formerly base housing.

Westover is unique in that it is located in close proximity to the largest population center in Western MA, as well as rural areas. These rural areas are susceptible to sprawling residential development. The base, DoD, and local communities have been proactive in assuring that sprawl does not encroach on the base's ability to carry out its mission. This is accomplished by implementing compatible land use programs and studies that work to make sure any new development is compatible with base operations. These efforts recently culminated in an updated Westover ARB/Westover Metropolitan Airport Joint Land Use Study (Pioneer Valley Planning Commission, 2004). Furthermore, the Pioneer Valley Planning Commission and the town of Chicopee have taken great care to not allow any incompatible uses within Westover's ARB airfield clear zone or accident potential zones—these zones are located at the ends of the runways and represent areas where aircraft accidents are more likely to occur, and areas where some forms of development are incompatible (e.g., residential development). Overall, any new off-base development is expected to be compatible with base operations given the compatible land use programs and collaborative off-base land use planning framework that is in place.

The land parcel located immediately west of the base fenceline along Cowan Avenue, which is part of the New Capehart housing area, is expected to be transferred from the U.S. Navy to the City of Chicopee. The timeframe for this property transfer to be finalized is unknown at this time. The transfer would include approximately 27 acres containing 69 buildings, consisting of 3- and 4- bedroom duplex units built in 1962. Previously used as military family housing, these units would reportedly require substantial renovations to meet city residential standards. Just to the north of this parcel lies a light industrial area of Chicopee called Air Park North, which was developed by the city on property previously transferred from the Air Force. The parcel is bounded to the east by the base fenceline along Cowan Avenue, and to the west by Outer Drive. The proximity of this current land use, the condition of the New Capehart Housing, and availability of funding will determine the ultimate redevelopment of the New Capehart property, although there are indications that light industrial use would be preferred by the City of Chicopee (City of Chicopee, 2006 and U.S. Navy, 2004).

## **4.2.2 Environmental Consequences**

### ***4.2.2.1 No Action Alternative***

Under the No Action Alternative, no direct or indirect effects would be expected. Under the No Action Alternative, existing land use at the AFRC or MEP sites being considered under the proposed action would not be altered.

#### **4.2.2.2 Preferred Alternative**

Under the Preferred Alternative, negligible to minor changes to existing land use would occur on Westover ARB. The proposed site for the new AFRC and MEP complex would be consistent with the *General Plan*, which identified the proposed site as being located within areas suitable for future development. The General Plan refers to these areas as Opportunity Areas. There are 11 identified Opportunity Areas on Westover ARB, each of which is defined according to the level of and types of constraints.

The AFRC site would fall within Opportunity Area 6 in the plan. According to the plan, there are approximately 50 trees in Opportunity Area 6, which is somewhat constrained by base perimeter AT/FP requirements. Several buildings have recently been removed from the area immediately northeast of Monument Avenue at Eagle Drive (see Figure 2-2). The plan states that the area is prime real estate and has frontage to the Ellipse landmark feature. Appropriate future uses identified for the area include headquarters administrative functions, training facilities north and west of Eagle Drive, and potentially a conference center and chapel. The proposed AFRC would be consistent with these future land uses. The proposed MEP area would be located on an adjacent parcel between Cowan Avenue and the existing USMC reserve center. This area is currently owned by the USMC and six 2-story wood-frame structures (former housing) located on it were previously scheduled for demolition. This area is an appropriate site for the MEP because it is further removed from the historic ellipse area, and would be shielded by the AFRC, OMS/AMSA, and existing tree cover and parking areas.

No direct or indirect effects are expected on off-base local and regional land use as a result of the proposed action. The Navy's New Capehart Housing area, which is located just outside the fenceline, immediately to the west of the proposed MEP area, is in the process of being transferred to the City of Chicopee, MA. This area will eventually be redeveloped by the city, either as light industrial (more likely) or housing. In either case, potential impacts of the AFRC and MEP on this area would be negligible, as light industrial use would be complimentary and consistent, and residential use would not be expected to introduce an incompatible land use, since the area has historically been used for military housing, and there already exists a number of residential areas immediately along the Westover ARB fenceline. In addition, the scale of the proposed AFRC and MEP would not be expected to be intrusive to neighboring residential areas, and a number of mature trees provide buffers.

On-base effects on land use are expected to be minor and limited in scope. The construction of the AFRC would remove identified base areas from availability for potential future development, and would result in a minor overall reduction in open, undeveloped space on-base. Minor beneficial effects are anticipated, in terms of improved and more efficient transportation flow, parking facilities, access for reservists, and the integration of reserve activities into a single, integrated AFRC complex. In addition, the required AT/FP stand-off distance between the base's fence line and any facilities would provide a buffer that works to separate on-base and off-base land use.

#### **4.2.2.3 Remote MEP Site Alternative**

Impacts to Land Use resources would be identical to those under the Preferred Alternative, for the AFRC and associated facilities. The remote MEP site would be located in the western portion of an area that the General Plan identifies as Opportunity Area 9. This area is located on the northern edge of the base and the General Plan states that this area includes some natural environment constraints, but is suitable for development. According to the General Plan, this site can accommodate additional training uses as well as a potentially relocated Fire Training Pit. The area currently includes a grenade training range and other small facilities. A MEP in this area would be consistent with such uses.

### **4.3 AESTHETICS AND VISUAL RESOURCES**

The ROI is defined as Westover ARB and areas within viewing distance (“viewshed”) of the base.

#### **4.3.1 Affected Environment**

While most areas of Westover ARB are devoted to the airfield and facilities that support day-to-day operations and personnel, the Ellipse area is the feature that stands out as the most significant landmark element on base. The Ellipse is located at the base’s administrative core and it provides an unobstructed view from the former main gate to Base Hanger #1 and the airfield area. To the southwest of the Ellipse lies the base’s commercial and service core. Overall the base aesthetic values are consistent with a well-maintained and well landscaped air base, with views dominated by the airfield, historic hangars, and mowed grassy areas.

There are several large areas of open space and forested land on Westover ARB. Open space on the west side of the base includes the area inside the Ellipse, as well as several larger areas in the western half of the cantonment’s area. Large areas of open space are also found on the north and east sides of the airfield.



Most of the off-base surrounding areas maintain a low-density residential or rural farm-like quality representative of current and historic land uses. Large areas directly off-base also remain undeveloped or open space. Areas of low- to medium-density residential and mixed-use development are located directly west of the base (see photo inset at left).

Several styles or classifications of architecture are represented by facilities on-base including international, modern,

utilitarian, Georgian, and art deco. Facility exterior materials include brick, cut stone, and slate as well as less

expensive materials including vinyl, aluminum, and wooden siding and asphalt composition roofing. On-base facility massing and size is reflective of low- to medium-density development. Most facilities are 1 or 2-story buildings, except for unique facilities such as the airfield hangars and control tower.

### **4.3.2 Environmental Consequences**

#### **4.3.2.1 No Action Alternative**

Under the No Action Alternative, there would be no effects on the viewshed or on the aesthetic values of the region.

#### **4.3.2.2 Preferred Alternative**

Aesthetics and visual resource quality is affected by visible elements including the size and height of key objects, similarity to surroundings, and visual “fit.” In addition, the value of a viewshed is affected by the number and type of viewers and viewer expectations. These visual elements help to determine the potential effects of the Proposed Action on aesthetics and existing visual resources. For example, the introduction of a large multi-story structure into an entirely natural environment could significantly impact visual resources, while the same structure introduced into a developed area might go largely unnoticed by viewers. From an aesthetics perspective, the introduction of a modern cinderblock walled facility with no windows into the center of a campus-like area with all red-brick Georgian style buildings could also have a significant effect.

The addition of the proposed AFRC and AMSA/OMS to an area northwest of the Ellipse would have minor impacts on aesthetics and visual resources in the area due to its size and the large footprint required for the primary structure, parking, and ancillary facilities. The inset photograph at right provides a view to the southeast from the proposed AFRC site. The AFRC would have an impact on aesthetics if exterior design is substantially at variance with the design and materials of nearby structures. The AFRC does



“fit” with respect to function and similarity in use to other facilities off of the Ellipse. The project would demolish a number of substandard facilities located in the project area and allow for a higher and better use of the land, which could be considered a positive effect. Given required AT/FP stand-off distances, the AFRC would

have negligible to minor aesthetic or visual impacts on off-base areas. Given the location of the proposed AFRC in close proximity to the base-designated historic core, there is a greater level of aesthetic sensitivity to the design and materials for the new structures. The MEP area would be located on current USMC property that contains six two-story wood frame structures that are scheduled for demolition (below left), and would be adjacent to an existing USMC reserve center and parking area (below right).



The MEP area is adjacent to the base fenceline along Cowan Avenue, and directly northeast of the property parcel scheduled for transfer from the U.S. Navy to the City of Chicopee. Military vehicle parking in this area would be expected to have a negligible adverse impact on the existing viewshed and aesthetics of the area. This is due to current visual aspects of the area, which include the USMC reserve center, current military equipment parking that occurs in the immediate area (where the proposed AMSA/OMS would be constructed), and the overall existing viewshed of the air base and facilities in terms of the expectations of outside viewers.

#### **4.3.2.3 Remote MEP Site Alternative**



Impacts to Aesthetic and Visual resources would be identical to those under the Preferred Alternative, for the AFRC and associated facilities. The Remote MEP alternative would have a minor impact on the undeveloped and open space area in the northern portion of the base, given the likely size of the MEP area, an estimated 4 acres. The area is currently characterized as grass covered open space that is bounded by Perimeter Road and the base fenceline to the immediate north (photograph at left), and the grenade training range to the immediate west (see photographs below). Natural

constraints include trees and wetland areas. Off-base lands in the area include farms, open space, and forested areas. These areas would also experience a minor impact related to the MEP development, as a small portion of the viewshed looking from off-base would change from grass covered open space to a parking area.



#### **4.4 AIR QUALITY**

The Environmental Protection Agency (EPA) defines ambient air in 40 CFR Part 50 as “that portion of the atmosphere, external to buildings, to which the general public has access.” In compliance with the 1970 CAA and the 1977 and 1990 Clean Air Act Amendments (CAAA), the EPA has promulgated ambient air quality standards and regulations. The National Ambient Air Quality Standards (NAAQS) were enacted for the protection of the public health and welfare, allowing for an adequate margin of safety. To date, the EPA has issued NAAQS for six criteria pollutants: carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), particles with a diameter less than or equal to a nominal 10 micrometers (PM<sub>10</sub>), ozone (O<sub>3</sub>), nitrogen dioxide (NO<sub>2</sub>), and lead (Pb). The EPA promulgated standards for particles with a diameter less than or equal to a nominal 2.5 micrometers (PM<sub>2.5</sub>) in April 2005; however, PM<sub>2.5</sub> thresholds have not yet been finalized. Areas that do not meet NAAQS are called non-attainment areas.

##### **4.4.1 Affected Environment**

The EPA has classified the Springfield area, including the area of the Proposed Action (Hampden County, MA) as in moderate non-attainment for the criteria pollutant ozone. The NAAQS for ozone are presented in Table 4-1.

To regulate the emission levels resulting from a project, federal actions located in non-attainment areas are required to demonstrate compliance with the general conformity guidelines established in 40 CFR Part 93 *Determining Conformity of Federal Actions to State or Federal Implementation Plans* (the Rule). The Proposed Action is located within an area designated by the EPA as a moderate non-attainment area for ozone in the Northeast Ozone Transport Region; therefore, a General Conformity Rule applicability analysis is warranted.

**Table 4-1: Ambient Air Quality Standards for Ozone**

Pollutant	Federal Standard	Massachusetts Standard <sup>1</sup>
Ozone (O <sub>3</sub> ) <sup>1</sup> 8-Hour Average	0.08 ppm	0.12 ppm

<sup>1</sup> Primary and secondary standards for this pollutant are identical.

Source: EPA, 2002; MADEP 310 CMR 6.00

Section 93.153 of the Rule sets the applicability requirements for projects subject to the Rule through the establishment of *de minimis* levels for annual criteria pollutant emissions. These *de minimis* levels are set according to criteria pollutant non-attainment area designations. Projects below the *de minimis* levels are not subject to the Rule. Those at or above the levels are required to perform a conformity analysis as established in the Rule. The *de minimis* levels apply to direct and indirect sources of emissions that can occur during the construction and operational phases of the action.

To determine the applicability of the Rule to this action, emissions were estimated for the pollutants NO<sub>x</sub> and volatile organic compounds (VOC), which are both precursors to ozone. Annual emissions for these compounds were estimated for each of the project actions (construction and operation) to determine if they would be above or below the *de minimis* levels established in the Rule. The *de minimis* thresholds for moderate non-attainment ozone areas within an ozone transport region are 100 tons per year (TPY) for NO<sub>x</sub> and 50 TPY for VOCs. Sources of NO<sub>x</sub> and VOC associated with the Proposed Action include emissions from construction equipment, construction crew commuting vehicles, the painting of interior building surfaces and parking spaces (VOC only), daily commuting vehicles, incoming vehicle equipment use, and stationary heating units (boilers and water heaters).

In addition to the evaluation of air emissions against *de minimis* levels, emissions are also evaluated for regional significance. A federal action that does not exceed the threshold emission rates of criteria pollutants may still be subject to a general conformity determination if the direct and indirect emissions from the action exceed 10% of the total emissions inventory for a particular criteria pollutant in a non-attainment or maintenance area. If the emissions exceed this 10% threshold, the federal action is considered to be a “regionally significant” activity, and thus, the general conformity rules apply.

**4.4.1.1 Ambient Air Quality Conditions**

Ozone is monitored in Hampden County by one monitoring site. The monitor is located on Anderson Road at Westover ARB in Chicopee, MA. The ozone monitor records an average of 6 exceedences a year. Over the past 5 years ozone exceedences peaked in 2002 with 10 days above the standard and reached a minimum in 2004 with one exceedence. In 2005 the monitor recorded 8 days above the standard. Table 4-2 shows the existing ozone monitoring data within Hampden County, MA.

**Table 4-2: Existing 8-hour Ozone Monitoring Data within Hampden County, MA**

Monitoring Station	Year				
	2001	2002	2003	2004	2005
# 250130008 Anderson Road	0.105/0.098	0.118/0.115	0.099/0.093	0.093/0.083	0.104/0.090

Ozone values are in parts per million (ppm); 1<sup>st</sup>/2<sup>nd</sup> highest data  
 NAAQS: 8-hour average = 0.08 ppm (0.085 is an exceedance)  
 Source: U.S. EPA, AIRS Data, April, 2006

**4.4.1.2 Meteorology/Climate**

Temperature is a parameter used in calculations of emissions for air quality applicability. Westover ARB is located within the Connecticut River Lowlands of Western Massachusetts. This region is bounded by the Berkshire Mountains to the west and the Worcester Plateau to the east. The lowland areas of the Connecticut River Valley in Massachusetts are typically characterized by cold winters and moderately warm summers with occasional hot spells. The average annual temperature at Westover ARB is 49° F. The average maximum temperature is 83° F, with the hottest temperatures typically recorded in July. The average minimum temperature is 24° F, with the coldest weather occurring in January.

Precipitation in the Westover ARB region is relatively stable throughout the year. Mean precipitation averages approximately 42 inches per year. Average snowfall in the area is 50 inches per year, with 12 days annually exceeding 1.5 inches of snow (USAF, 2003a).

**4.4.1.3 Permits**

Westover ARB is an active air installation which emits large amounts of pollutants per year as a result of aircraft operations. For the year 2003, the base emitted 7.2 TPY of NO<sub>x</sub> and 2.9 TPY of VOCs from stationary sources. In the same year, mobile sources at Westover ARB emitted 1,110 TPY of NO<sub>x</sub> and 108.41 TPY of VOCs (USAF, 2004a).

Westover ARB operates under two types of air permits issued by the Massachusetts Department of Environmental Protection (MADEP). A Limited Plan Approval (LPA) permit allows Westover ARB to operate single air contaminant sources that emit between 1 and 5 TPY. This permit has been issued for four spray booths, a large bead blaster, and one fuel cell repair facility in operation at the base. Additionally, the base has been issued a Restricted Emission Status (RES) permit aimed at limiting potential emissions from the facility. This permit was issued to restrict potential emissions from four gasoline storage tanks and associated dispensing systems on base. A second RES was issued to the base in 2002 for the heating plant boilers, hot water heaters, small boilers, furnaces, and emergency generators (USAF, 2004a).

#### ***4.4.1.4 Regional Air Pollutant Emissions Summary***

The EPA calculates the Air Quality Index (AQI) for five major air pollutants regulated by the CAA: ground-level ozone, particulate matter, carbon monoxide, sulfur dioxide, and nitrogen dioxide. Data collected for Hampden County, MA are released in the form of the AQI, which runs from zero to 300, with zero being no air pollution and 300 representing severely unhealthy air pollution levels. An AQI value between 101 and 150 indicates that air quality is unhealthy for sensitive groups who may be subject to negative health effects. Sensitive groups may include those with lung or heart disease who will be more negatively affected by lower levels of ground level ozone and particulate matter than the rest of the general public. An AQI value between 151 and 200 is considered to be unhealthy, and may result in negative health effects for the general public, with more severe effects possible for those in sensitive groups. AQI values above 200 are considered to be very unhealthy (Air Watch, 2006).

According to the EPA's AQI Report for Hampden County, MA, in 2000 the county experienced 3 days where air quality was considered 'unhealthy for sensitive groups.' In 2001, the area experienced 12 days that were considered unhealthy for sensitive groups and 1 day that was classified as unhealthy for the general public. In 2002, the area experienced 9 days that were considered unhealthy for sensitive groups, and 6 days that were classified as unhealthy for the general public. In 2003, the area experienced 10 days that were unhealthy for sensitive groups, and in 2004, the area experienced 5 days that were unhealthy for sensitive groups. In 2005, the area experienced 14 days that were considered unhealthy for sensitive groups. The data indicate that there are significant fluctuations in air quality from year to year, leaving the overall picture of air quality somewhat inconsistent (EPA, 2006).

#### **4.4.2 Environmental Consequences**

##### ***4.4.2.1 No Action Alternative***

Implementation of the No Action Alternative would not change current conditions and therefore would not affect the current air quality conditions in the region.

##### ***4.4.2.2 Preferred Alternative***

A project construction and operations-related General Conformity Applicability Analysis was performed for the Proposed Action. The General Conformity applicability analysis estimated the level of potential air emissions (VOCs and NO<sub>x</sub>) for the Proposed Action. The No Action Alternative would not impact air quality beyond existing conditions; therefore, it was not included in the analysis. Appendix C contains a detailed description of the assumptions, methodology, and the EPA-approved models and emission factors used to estimate the potential emissions for the construction and operation phases of the Proposed Action at Westover ARB. Appendix D is a draft Record of Non-Applicability (RONA).

Table 4-3 summarizes the total emissions associated with the construction and operation phases of the Proposed Action at Westover ARB. Construction related emissions would be temporary and only occur during the 24-

month construction period for all buildings. However, a conservative approach was employed in the applicability analysis to ensure that construction scheduling would not result in more severe results than predicted. The analysis first assumed that emissions generated during construction for all proposed buildings would occur concurrently over a single 1-year period. These results were further added to estimated data for a year of operations, bounding the potential emissions that might result for any overlap between construction and operations emissions.

The data in table 4-3 shows that the emissions associated with constructing and operating the new AFRC and associated facilities, when compared to the *de minimis* values for this moderate ozone non-attainment area, fall well below the *de minimi* values of 100 TPY for NO<sub>x</sub> and 50 TPY for VOCs even under the initial conservative assumptions that were employed. As a result, the Proposed Action is not subject to the General Conformity Rule requirements.

**Table 4-3: Summary of Annual Emissions and Comparison to *de minimis* Values-Proposed Action**

Activity	Construction Emissions (TPY)		Operations Emissions (TPY)		Combined Emissions (TPY)	
	NO <sub>x</sub>	VOC	NO <sub>x</sub>	VOC	NO <sub>x</sub>	VOC
Heavy Equipment (building/parking)	20.70	2.08			20.70	2.08
Construction Crew Commuting Vehicles	1.07	1.04			1.07	1.04
Painting	N/A	0.70			N/A	0.70
Stationary Heating Unit (boiler and water heater)			0.489	0.026	0.489	0.026
Daily Commuter Traffic			2.228	2.166	2.228	2.166
Incoming Vehicles			3.052	0.55	3.052	0.55
<b>Totals</b>	<b>21.77</b>	<b>3.82</b>	<b>5.769</b>	<b>2.742</b>	<b>27.54</b>	<b>6.56</b>

Air emissions were also evaluated to determine regional significance. The 2002 Massachusetts Supplement to the July 1998 Ozone Attainment State Implementation Plan Submittal (MADEP, 2002) sets forth daily target levels which are less than the total amount of emissions allowed under the State Implementation Plan (SIP) for the region, of 86.7 tons per day of VOC and 226.36 tons per day of NO<sub>x</sub> for the Massachusetts 8-Hour Ozone Non-Attainment Area, which includes Hampden County, MA. The increase in annual emissions from the Proposed Action would not make up 10% or more of the available emissions inventory, and would therefore not be regionally significant. Air quality impacts are therefore considered to be not significant.

#### **4.4.2.3 Remote MEP Site Alternative**

Impacts to Air Quality resources would be identical to those identified under the Preferred Alternative.

### **4.5 NOISE**

Noise is generally defined as unwanted sound. Sound is all around us - it becomes noise when it interferes with normal activities such as speech, concentration, or sleep. Noise associated with military installations is a factor in land use planning both on- and off-base. In particular, noise associated with airfield and airspace operations can be of concern to on-base personnel and surrounding communities. Noise also emanates from vehicular traffic associated with new facilities and from project sites during construction. Ambient noise (the existing background noise environment) can be generated by a number of noise sources, including mobile sources, such as airplanes, automobiles, trucks, and trains; and stationary sources such as construction sites, machinery, or industrial operations. In addition, there is an existing and variable level of natural ambient noise from sources such as wind, streams and rivers, and other sources.

#### **4.5.1 Affected Environment**

##### **4.5.1.1 Noise from Airfield Operations**

Aircraft operations are the primary noise source at Westover ARB. These operations can include in-flight arrivals, departures, and pattern flight operations, as well as pre-flight and maintenance run-up operations on the airfield. Computer models are used to develop day-night average sound level (DNL) noise contours<sup>4</sup> for land use planning purposes based on information about these operations, including the following:

- Type(s) of aircraft
- Types of operations (e.g., arrival, departure, pattern)
- Number of operations per day
- Time of operation
- Flight track(s)
- Aircraft power settings, speeds, and altitudes
- Number, duration, and location of pre-flight and maintenance run-ups
- Environmental data (humidity and temperature)
- Topographical features of the area

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<sup>4</sup> The sound environment around an air installation is typically described using a measure of the cumulative exposure that results from all aircraft operations. The DoD-specified metric used to account for this is the day-night average sound level (DNL). This metric is also endorsed by the U.S. Environmental Protection Agency. Noise contours represent isopleth delineations of specific sound levels.

Noise contours are usually calculated in 5 DNL intervals including 65, 70, and 75 DNL levels. In general, land areas under noise contours ranging from the 65-75 DNL level are subject to high noise levels and noise sensitive land uses are not recommended, unless sound attenuation or noise level reduction (e.g., sound resistant windows, noise insulation) is included in the use. Areas under the 75 DNL contour or above are subject to severe noise exposure, and noise sensitive uses are usually incompatible and strongly discouraged.

Over the years, numerous noise contours reflecting operations at Westover ARB have been developed. The most recent Air Installation and Compatible Use Zone (AICUZ) study was developed for the installation in 1996, and it contains noise contours that are cited in the 2005 General Plan. The recently completed Westover Air Reserve Base/Westover Metropolitan Airport Joint Land Use Study (JLUS) also contains noise contours reflecting operations for 1990, 1993 and 2002 (Pioneer Valley Planning Commission, 2004).

#### ***4.5.1.2 Noise from Construction and Demolition***

Instances of increased noise are expected during the short-term construction and demolition phases associated with any projects. Measures that serve to limit or mitigate noise during construction and demolition include limiting activity at project sites to daytime hours; limiting truck traffic ingress/egress at access gates to daytime hours; promoting awareness that producing prominent discrete tones and periodic noises (e.g., excessive dump truck gate banging) should be avoided as much as possible; requiring that work crews seek pre-approval for any weekend activities, or activities outside of daytime hours; and employing noise-controlled construction equipment to the maximum extent possible.

High levels of noise can also affect the health of construction/demolition workers. Application of federal Occupational Health and Safety Administration (OSHA) standards for occupational noise exposure associated with construction (29 CFR 1926.52) is required.

#### ***4.5.1.3 Noise from Facility and Vehicle Operations***

Once facilities are constructed, noise can be generated from facility operations and the vehicles associated with these facilities. Aside from negligible heating, ventilation, and air conditioning (HVAC) related noise, the majority of facilities on military installations do not generate high levels of noise themselves. Some industrial-related facilities may produce noise, and during power outages, operation of emergency generators could cause minor, short-term noise impacts. Most noise is usually created by vehicles associated with these facilities, including organizational vehicles used for training and operations, government and private delivery vehicles, commuter shuttles or buses, and personal vehicles used for commuting purposes. The noise impact created by facility and vehicle operations is rarely considered significant.

### **4.5.2 Environmental Consequences**

The ROI is defined as the Westover ARB and areas immediately surrounding the base that may be subject to heightened noise from base operations.

#### ***4.5.2.1 No Action Alternative***

No effects would be expected. Under the No Action Alternative, alteration of existing noise levels at the sites being considered, and at any additional locations, would not occur.

#### ***4.5.2.2 Preferred Alternative***

Minor adverse short-term noise impacts related to the construction of the AFRC, OMS/AMSA, and MEP would be expected to occur. Once the facilities become operational, negligible adverse long-term noise effects would be expected. These effects are related to the additional use of passenger vehicles, delivery trucks (tractor semi-trailers), and military vehicles. Sensitive noise receptors in the area include residential housing just northwest and west of the preferred AFRC site. These areas could be subject to minor, short-term adverse impacts from noise generated during AFRC construction activities. However, noise levels would be expected to be insignificant compared to daily airfield operations, which have been ongoing at Westover ARB since the 1940s.

Any noise generated by operations at the AFRC, AMSA/OMS, and MEP would not be significant in comparison to the noise generated by airfield and flight operations. While the preferred site is outside areas indicated as subject to 65 DNL or above contours (as depicted in the Westover ARB 1996 AICUZ Study and 2005 JLUS Study), the proposed facilities would likely be subject to instances of higher levels of noise given their proximity to the airfield's runways and the fact that flight patterns and noise contours may change in the future. During the project design process, the use of sound attenuation or noise level reduction features (e.g. sound resistant windows, noise insulation) may be considered as a way to improve compatibility of the AFRC facilities with respect to the potential high noise environment resulting from flight operations.

#### ***4.5.2.3 Remote MEP Site Alternative***

Noise impacts under the Remote MEP Alternative are expected to be the same as those identified under the Preferred Alternative, with minor differences. The Remote MEP would require the routine transfer of vehicles to and from the remote MEP area to the AMSA/OMS site for maintenance activities, and off-base for training activities. Given the proximity of the remote MEP site and Perimeter Road to flightlines and existing airfield operations noise contours, these routine vehicle movements would represent a negligible source of additional noise on the base.

### **4.6 GEOLOGY AND SOILS**

#### **4.6.1 Affected Environment**

The ROI is defined as the immediate areas of the preferred AFRC complex and MEP sites, and adjacent areas that may be disturbed or affected during construction activities.

#### **4.6.1.1 Geologic and Topographic Conditions**

Westover ARB is generally located on the surface of a Pleistocene outwash delta that was built by glacial meltwaters associated with the glacial Chicopee Delta. These fan-shaped deposits of sand developed in the now vanished Glacial Lake Hitchcock, whose deposits of silt and clay underlie the sandy outwash. Underlying the deltaic deposits are lacustrine deposits of gray varied clays with fine sand and silt laminate. The thickness of this unit ranges from 10 to more than 250 feet in the Westover ARB area. A glacial till layer of poorly sorted gravel, sand, silt, and clay is sometimes present below the lacustrine deposits with a thickness of up to 20 feet or more. These are underlain primarily by Triassic sedimentary bedrock

Westover ARB is not located near any major activity faults. According to seismic zones identified in Air Force Manual 88-3, *Seismic Design for Buildings*, Westover ARB is located in Seismic Zone 2. Earthquakes within this seismic zone are typically categorized as VII to VIII on the Modified Mercalli index, and 5.0 to 5.5 on the Richter Scale. The topography of the project area can be characterized as reasonably flat. Due to the flat terrain in the area, there is minimal risk of landslides (USAF, 2003a).

#### **4.6.1.2 Soils**

The soils of the area reflect the geologic history. For the most part, except for the Stony Brook system and small shallow isolated depressions, the area contains well- and excessively-drained sandy loams of glaciofluvial origin. The United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) mapped and classified Westover ARB soils in 1975. The major soil unit present on base is the Urban Land Hinkley-Windsor association (Uk); areas disturbed or destroyed by urban development are classified as Ub. The sand dune ridges generally contain well-drained fine to medium sands and silty sands, while the Stony Brook system contains true hydric and organically enriched swamp (paludal) deposits associated with poorly- and very poorly-drained environments. Hydric soils are saturated, flooded, or ponded long enough during the growing season to develop anaerobic (living without free oxygen) conditions in the upper part of the soil. These soils are sufficiently wet to support the growth and regeneration of hydrophytic vegetation (plants adapted for life in saturated soil conditions).

The Windsor soils have a layer of loamy sand to a depth of 7 inches, with a layer of loamy sand, loamy fine sand, and sand to a depth of 23 inches. Sand and fine sand extend to a depth of 60 inches. Permeability is rapid and water transmissivity in the soil is high. These soils are not prone to flooding, and depth to seasonal high water table is generally greater than 6 feet. This soil has a low shrink-swell potential and is generally suitable for construction. Due to the sandy nature of this soil, excavations require support to prevent caving in. The Urban Land-Hinkley-Windsor soil has been modified by construction, and has good potential for further construction development (USAF, 2003a). Site-specific soil borings would be conducted prior to any construction or site preparation activities to confirm local soil conditions.

#### **4.6.1.3 Prime Farmland**

No agricultural use of Westover ARB lands currently occurs and no farmland would be removed from use. There are agricultural lands immediately beyond portions of the northern fenceline. The Farmland Protection Policy Act (FPPA) is not applicable since the lands are Federally-owned, and the Proposed Action is national defense-related.

#### **4.6.2 Environmental Consequences**

##### **4.6.2.1 No Action Alternative**

No effects on area soils would occur under the No Action Alternative. Disturbances of site soils would not occur and existing conditions would not be modified.

##### **4.6.2.2 Preferred Alternative**

Minor impacts can be expected to site soils as a result of the Proposed Action. Soils at the preferred AFRC site would require preparation prior to construction. This may include removal of covering vegetation (primarily mowed grass areas and ornamental landscaping), excavation, reconsolidation and compaction, grading and leveling, and related earthworks. Soils in this area have previously been disturbed and therefore the site soil layer structure has previously been disturbed. It is expected that soils at the site would have to be reconsolidated to provide adequate structural support (Berger, 2006). There are indications that transite (asbestos-containing materials, (ACM)) cement pipes underlie portions of the preferred AFRC site. These materials would need to be excavated, removed, and properly disposed of during site preparation and earthworks activities. There may also be ACM in site soils from previous buildings that were demolished (Berger, 2006).

Disturbed areas outside of the AFRC and MEP complex footprint would be regraded and revegetated as necessary following construction activities, and appropriate soil erosion and sediment control measures would be applied to minimize effects on soils.

The *Westover ARB Storm Water Pollution Prevention Plan* describes Best Management Practices (BMP) generally used to reduce the potential for soil erosion. Applicable BMPs for the proposed site may include use of buffer zones around active construction sites, utilization of silt fences or straw bales, protection of storm drain inlets and outlets, utilization of dust control measures, and minimizing areas of exposed soils. In addition, Westover ARB maintains a current and comprehensive *Erosion and Sedimentation Control Manual*.

Prior to construction activities, the Army (as tenant), Westover ARB, or the construction contractor would submit a NOI under proper National Pollutant Discharge Elimination System (NPDES) procedures, and would prepare a site-specific Storm Water Pollution Prevention Plan (SWPPP) describing specific measures that would be taken during construction.

### **4.6.2.3 Remote MEP Site Alternative**

Impacts would be the same as those identified under the Preferred Alternative, with minor differences. The remote MEP site soils are largely undisturbed. Site preparation activities would include removal of covering vegetation (primarily grassed areas), possibly minor reconsolidation and compaction, grading and leveling. As a MEP site, structural support loadings would be unnecessary and soil preparation would likely be limited to grading prior to paving (likely with a gravel base). Impacts to the approximately 4 acres of grassed land would include soil disturbances and alterations to surface layers. Currently the site is periodically mowed to minimize growth of shrubs and trees, and is used as an overflow parking area during the Westover ARB air show.

## **4.7 WATER RESOURCES**

### **4.7.1 Affected Environment**

The following sections provide a summary of the general condition and character of water resources found at Westover ARB, as well as more specific descriptions of the water resources in the immediate vicinity of the proposed project sites.

#### **4.7.1.1 Surface Water**

Westover ARB has extensive natural and man-made surface drainage. Cooley, Stony, and Willimansett brooks are the primary drainage of Westover ARB. Most of the water that is discharged is collected from impervious surfaces throughout the installation and conveyed via ditches, culverts, and underground storm sewer lines which empty into these brooks (USAF, 2005d). Cooley Brook flows south from extensive wetlands along the southeastern boundary of Westover ARB into the Chicopee River. Neither the site for the proposed AFRC complex nor the remote MEP alternative site drains to this brook so it is not discussed further. Figure 4-3 shows water resources on and near Westover ARB.

Drainage from the northwestern section of Westover ARB, including the proposed AFRC site, is conveyed into the headwaters of the Willimansett Brook via the storm water drainage system and an outfall point which drains 353.2 acres, of which 70.8 acres (approximately 20 percent) are impervious surfaces (USAF, 2005d).

Stony Brook is in the vicinity of the remote MEP alternative site (Figure 4-3). The slow-moving waters of Stony Brook are fed by Wade Lake and enter the Base from the northeast. They initially form a wetland and eventually leave the Base along the northern boundary. Stony Brook flows north after leaving the Base, toward South Hadley center prior to entering the Connecticut River. Stony Brook receives drainage from the Base through a variety of sources, including storm water runoff via an outfall, overland flow, and sheet flow from wooded and filled areas (USAF, 2005d). The total drainage area of the outfall into Stony Brook is 327.7 acres, of which 41.5 acres (approximately 13 percent) are covered with pavement or other structures (USAF, 2005d).

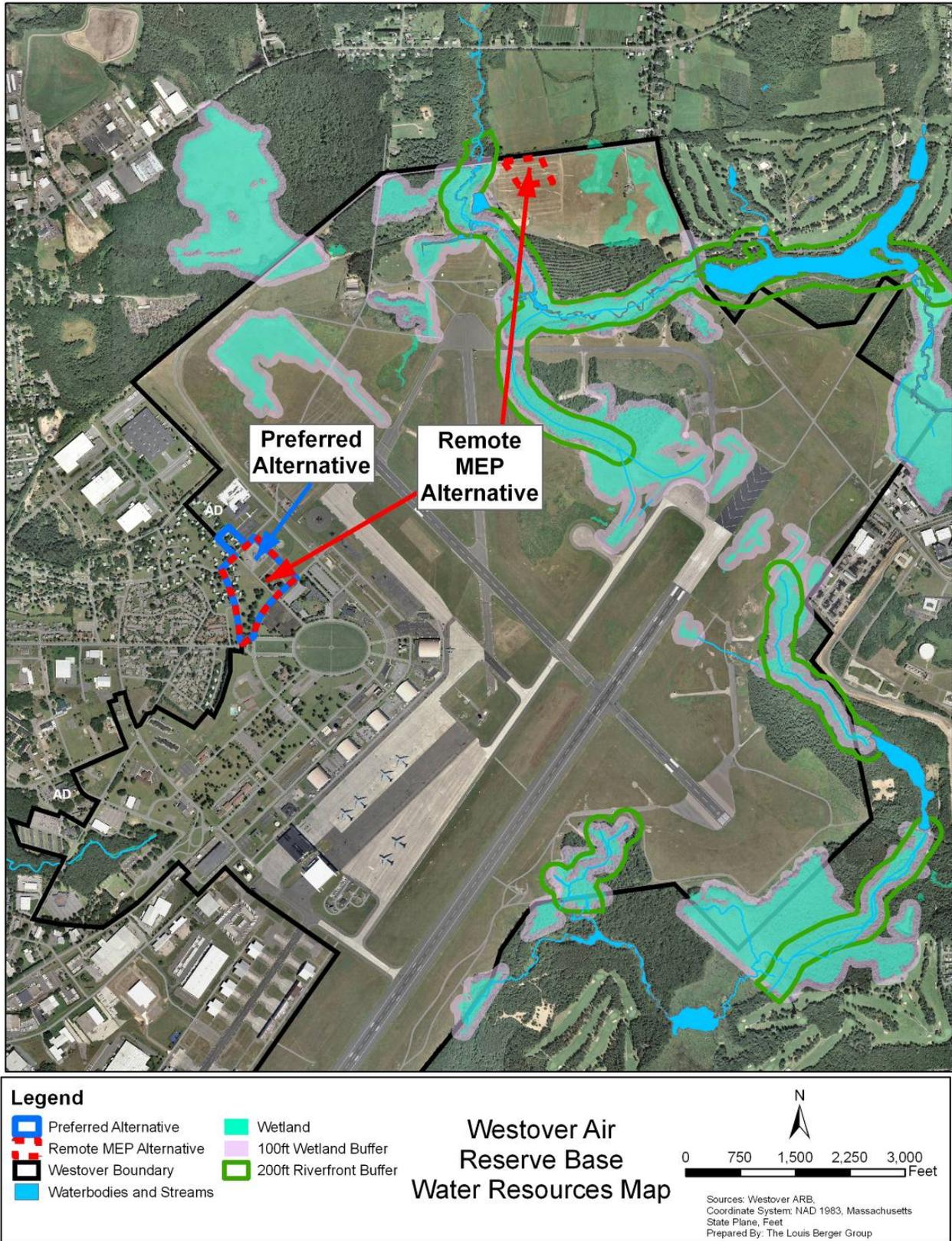
Historical surface water quality data for Westover ARB has been collected at storm water outlets. Previous sampling of Stony Brook in 2003 in conjunction with investigations of Installation Restoration Program (IRP) sites LF-02 and LF-12 discovered no evidence of contamination, and only manganese exceeded the secondary drinking water maximum contaminant level (MCL), which is likely due to natural factors (USAF, 2003a and USAF, 2004b).

**Wetlands** – Certain wetlands are federally protected as a subset of “waters of the United States” under Section 404 of the CWA. The U.S. Army Corps of Engineers (USACE) defines wetlands as “those areas that are inundated or saturated with ground or surface water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and “similar areas” as defined in 33 CFR 328. Wetlands are also protected in Massachusetts under the Massachusetts Wetlands Protection Act (MA WPA) (Massachusetts General Law Chapter 131 Section 40). Areas protected under the MA WPA include Isolated Land Subject to Flooding (ILSF), the 100-year floodplains, 100-foot wetland buffer zones, and the riverfront area.

A base-wide survey was conducted in September 2004 to identify and delineate the jurisdictional wetlands present on Westover ARB. Thirty four wetlands totaling approximately 162 acres were identified, representing the entire federally regulated wetland resource on the Base (USAF, 2005d). The wetlands are in a variety of landscapes, ranging from forested areas to open grasslands. There are no wetlands in the vicinity of the proposed AFRC site, while wetlands are located to the east and west of the alternative remote MEP site (Figure 4-3).

Two wetland areas located east of the remote MEP alternative site are both classified as groundwater slope/Palustrine Emergent wetlands with depressional topography (USAF, 2005d). The northernmost wetland comprises approximately 4.5 acres while the wetland further to the south comprises approximately 3.7 acres. These two wetlands are isolated and are not considered a resource under the MA WPA (USAF, 2005d). The wetland west of the remote MEP alternative site is part of the Stony Brook wetland system that is located along the corridor around Stony Brook. The entire Stony Brook wetland system comprises approximately 32.4 acres and contains Palustrine forested, Shrub-Scrub and Emergent wetlands. Further west of the remote MEP alternative site there is also a small, approximately 1.2 acre replacement wetland that was constructed as mitigation for wetland impacts associated with fill and piping of a headwaters drainage ditch to Cooley Brook.

Figure 4-3: Westover ARB Water Resources



#### **4.7.1.2 Hydrogeology/Groundwater**

This section is drawn from the *Environmental Assessment: Explosive Ordinance Disposal Training Facility Munitions Storage Facility, and Munitions Maintenance and Inspection Facility, Westover Air Reserve Base, Massachusetts* (USAF, 2003a).

Groundwater in the project area is primarily contained in the shallow delta outwash plain aquifer that underlies Westover ARB. This unconfined aquifer lies above glacio-lacustrine fine-grained sediments (i.e., silts and clays). Within Westover ARB, the shallow aquifer thickness is 25 to 85 feet, and is thinner (approximately 25-40 feet) near the project area. The lacustrine deposits vary in thickness from 10 to 250 feet and are sometimes underlain by glacial till (0 to 20 feet thick) unconformably overlying Triassic bedrock. The Triassic bedrock comprises the uppermost confined aquifer. Groundwater within the Triassic bedrock aquifer occurs mainly in joints and fractures. The water table within the unconfined shallow aquifer ranges from 5 to 20 feet in depth and is significantly influenced by topography.

Very minor use is made of groundwater supplies at Westover ARB. The sediments could yield approximately 100 to 300 gallons per minute under normal pumping conditions. However, groundwater beneath the project area is not used for Westover ARB's drinking water, as this shallow aquifer is classified as a non-potential drinking water source area (GW-3 as defined in 310 Code of Massachusetts Regulations 40.0006). A deeper confined aquifer, about 150 feet below the surface, is used by nearby residences as a source of drinking water. This aquifer is separated from the shallow aquifer by a 60-foot aquitard of low-permeability clays.

#### **4.7.1.3 Floodplains**

The Federal Emergency Management Agency (FEMA) prepares Flood Insurance Rate Maps (FIRM) to establish actuarial rates for structures, based upon the risk of flooding. The location and extent of floodplains on Westover ARB have not been determined. The FEMA maps for surrounding communities that depict Stony Brook indicate that there are floodplains associated with the brook as it enters and exits the Base (USAF, 2005d). The FEMA boundary for AE flood zone (area inundated by 100-yr flooding for which base flood elevations (BFE) have been determined) is located more than 500 feet northwest of the remote MEP alternative site area, where Stony Brook exits the base. Flood zone X500 (area subject to inundation by a 100- to 500-year flood) is located approximately 500 feet north of the remote MEP alternative site area (MassGIS, 1997). The area outside the Base near the proposed AFRC site is designated as zone C, which is outside the 100- and 500-year floodplains.

### **4.7.2 Environmental Consequences**

#### **4.7.2.1 No Action Alternative**

No effects would be expected. Implementation of the No Action Alternative would not alter existing water resources on or near the base.

#### **4.7.2.2 Preferred Alternative**

**Surface Water/Wetlands** – Under the Preferred Alternative, negligible adverse effects on surface waters would be expected, and no effects on wetlands would be expected, as there are no wetlands in the vicinity of the proposed AFRC site. An increase in impervious surfaces (e.g., paved parking areas and building rooftops) is expected from implementation of the Proposed Action, but this increase would be accommodated by the storm water system in place, with minor improvements, such that current and post-development stormwater run-off at the site would be largely unchanged (see Section 4.12, *Utilities*). During site preparation, earthworks, and construction activities at the AFRC site, BMPs for erosion and sedimentation controls would ensure that storm water runoff would not cause or exacerbate erosion. The facility design plans have not been finalized yet, but the AMSA/OMS facility would likely include floor drains that convey flow through oil-water separators prior to entering the sanitary sewer. Each of these connections to the sanitary sewer would require review and permitting by the City of Chicopee to address pre-treatment limits in the existing NPDES permit. However, the potential for fuel and lubricant spills at these facilities suggests that there may be minor effects associated with the operation of the AMSA/OMS. It is expected that the existing storm water conveyance system would largely be able to accommodate the operation of the new AFRC and AMSA/OMS facilities, with some potential improvements. Final facility designs will dictate the appropriate storm water management approach.

The Westover ARB SWPPP and Erosion and Sedimentation Control Manuals would guide the planning and construction of the site to minimize any potential effects on existing water quality of area surface waters. According to NPDES regulations, prior to construction activities a tailored, site specific SWPPP describing specific measures that would be taken during the construction of the preferred alternative site facilities would be prepared and adhered to.

**Hydrology/Groundwater** – Negligible adverse impacts would be expected. Leaks from vehicles and vehicle maintenance operations could pose a threat to ground water sources at Westover ARB. However, the potential for spills and leaks would be minimized by existing on-site clean-up procedures and equipment, the installation of oil-water separators, and adherence to safety procedures for vehicle maintenance and the operation of equipment. In addition, vehicle operations and maintenance involve small amounts of fuels, oils, and lubricants, thus substantially reducing the potential for larger spills or leaks. There is anecdotal evidence of asbestos contamination in the soils of the proposed AFRC site from previous buildings on the site that were demolished, and there may potentially be transite (asbestos cement) pipe still buried on the site. Any hazardous substances found would be excavated and properly disposed of during site preparation and construction to prevent potential contamination of ground water.

**Floodplains** – Floodplains have not been determined for all of Westover ARB; therefore, impacts of the Proposed Action to the floodplains cannot be fully analyzed. Bordering Land Subject to Flooding (BLSF) are areas with low, flat topography that are adjacent to creeks, rivers, streams, ponds, or lakes, and are subject to inundation by rising floodwaters. The headwaters of Willimansett Brook are approximately 3,000 feet down gradient to the

southwest of the preferred AFRC site. No BLSF was located within the project area for Williamsett Brook, an intermittent stream, during a 2004 wetland delineation at Westover ARB (USAF, 2005e).

#### **4.7.2.3 Remote MEP Site Alternative**

**Surface Water/Wetlands** – Under the Remote MEP Site Alternative, negligible to minor adverse effects on surface waters and wetlands would be expected. The wetlands to the east of the remote MEP alternative site are upslope from the MEP area and would not be impacted. The 4-acre MEP area would be paved and because the site drains to Stony Brook additional storm water control measures might be necessary. However, the remote MEP alternative site lies outside the 200-foot riverfront buffer and the 100-foot wetland buffer and has been sited to maximize the distance from Stony Brook and the surrounding wetlands in an effort to minimize any potential impact from storm water runoff. With the implementation of both storm water controls as necessary under an approved storm water management plan and pollution prevention measures, such as using drip trays and mats, it is not anticipated that drainage during the operation of the remote MEP area would impact Stony Brook or the surrounding wetlands. However, the potential for fuel and lubricant drips or leaks at this facility suggests that there may be some minor effects with its operation.

The Westover ARB SWPPP and Erosion and Sedimentation Control Manuals would guide the planning and construction of the remote MEP alternative site to minimize any potential effects on existing water quality of area surface waters. According to NPDES regulations, prior to construction activities a tailored, site specific SWPPP describing specific measures that would be taken during the construction of the remote MEP alternative site would be prepared and adhered to.

**Hydrology/Groundwater** – Negligible adverse impacts would be expected. Oil, fuel, and antifreeze leaks from vehicles stored at the site could pose a threat to ground water sources at Westover ARB. However, leaks and impacts would be minimized through BMPs such as the use of drip trays, mats, and the regular removal of vehicle fluids during long-term storage of vehicles. The MEP would be paved and leaks are easier to detect and clean up on paved surfaces than on crushed stone or gravel.

**Floodplains** – There are no floodplains mapped for Westover ARB; therefore, impacts of the remote MEP alternative cannot be fully analyzed. The topography of the remote MEP site is flat and is relatively close to Stony Brook. However, no BLSF was located within the project area during the 2004 wetlands delineation at Westover ARB (USAF, 2005e).

## **4.8 BIOLOGICAL RESOURCES**

### **4.8.1 Affected Environment**

Unless otherwise noted, this section is drawn from the September 2005 *Integrated Natural Resources Management Plan* for the Westover ARB (USAF, 2005d).

#### **4.8.1.1 Vegetation**

Westover ARB lies within the Eastern Broadleaf Forest (Oceanic) Province characterized by temperate deciduous forests dominated by tall, broadleaf trees that provide a continuous and dense canopy in summer, but shed their leaves completely in winter.

A survey of the botanical resources present on Westover ARB conducted in 1994 reported that the major native-plant communities on the base are deciduous woodlands, native grasslands, and open wetlands. The survey also noted that there are approximately 60 acres of pine plantations, and large areas of alien-dominated grasslands and weedy barren areas. The survey identified 463 species, of which 354 are native and 81 are alien. However, the survey noted that the list of species documented was approximately 80 to 90 percent complete, and that the total flora could be in the range of 450 to 500 species.

The forested areas are primarily in the northern and eastern portions of Westover ARB, with a small amount of wooded acreage along and adjacent to Willimansett Brook in the far western portion of the Base. The deciduous woods, primarily in the northern and eastern portions of the Base, are dominated by mixtures of white oak (*Quercus alba*), northern red oak (*Quercus rubra*), black oak (*Quercus velutina*), scarlet oak (*Quercus coccinea*), and red maple (*Acer rubrum*).

The coniferous woods, primarily found in the north and northeastern portions of the Base, are commercial planted pine plantations comprised mainly of red pine (*Pinus resinosa*), scotch pine (*Pinus sylvestris*), and white pine (*Pinus strobus*). Documents on these plantings are lacking; however, these trees were probably planted for visual screening, aquifer enhancement, aesthetics, and wind screening.

Most of the western portion of the base, including the preferred AFRC site, is urbanized, and the original vegetation has been removed or significantly altered by development, construction, landscaping, and other disturbances. Turf grasses and various broad-leaf weeds are the dominant vegetation types within the improved areas of Westover ARB. Grass varieties consist of common introduced species. There are more than 1,300 trees and 37 types of tree species in the developed/urban portion of Westover ARB. However, eight tree species (crabapple [*Pyrus sp.*], red oak [*Quercus rubra*], scotch pine [*Pinus sylvestris*], northern white cedar [*Thuja occidentalis*], eastern red cedar [*Juniperus virginiana*], red maple [*Acer rubrum*], Norway spruce [*Picea abies*], and white oak [*Quercus alba*]) dominate; making up more than 76 percent of the total number of urban trees.

Westover ARB has one of the largest contiguous grasslands within the Connecticut River watershed. These open grasslands, found throughout southern, central, and northern portions of the base, are mowed with varying frequency and differ greatly in composition. Some are dominated by native species of grasses and herbs, while others are dominated almost entirely by European pasture grasses.

The grasslands in the northern portion of the base, including the remote MEP alternative area, are dominated by native species. They are all quite dry, and are dominated by tussock-forming grasses, such as little bluestem

(*Schizachyrium scoparium*), common oatgrass (*Danthonia spicata*), linear-leaved panic grass (*Panicum linearifolium*), red fescue (*Festuca rubra*), hairgrass (*Deschampsia flexuosa*), and purple-love grass (*Eragrostis spectabilis*). Often these grasslands have a substantial sedge component that includes both creeping species, such as Pennsylvania sedge (*Carex pennsylvanica*) and Seventh Avenue sedge (*Carex vestita*); and tussock-forming species, such as wrinkled-seed sedge (*Carex rugosperma*), whitened sedge (*Carex albicans*), short-headed sedge (*Carex brevior*), Muhlenberg's sedge (*Carex muhlenbergii*), and pointed-broom sedge (*Carex scoparia*).

#### **4.8.1.2 Wildlife**

Although much of the native vegetation supported at Westover ARB has been disturbed or replaced with managed landscapes, the base still supports sizable areas of open grasslands, wooded and riparian areas, and wetlands, which make the base an attractive habitat to many animal species. Bird surveys have reported that more than 70 different bird species can be found inhabiting Westover ARB either temporarily or permanently. The most abundant native birds in the area include the mourning dove (*Zenaida macroura*), eastern king bird (*Tyrannus tyrannus*), blue jay (*Cyanocitta cristata*), American crow (*Corvus brachyrhynchos*), American robin (*Turdus migratorius*), killdeer (*Charadrius vociferus*), red-winged blackbird (*Agelaius phoeniceus*), black-capped chickadee (*Poecile atricapilla*), bobolink (*Dolichonyx oryzivorus*), eastern phoebe (*Sayornis phoebe*), and brown thrasher (*Toxostoma rufum*). Common seasonal granivores (i.e., seed eaters) present on the Base include the eastern meadowlark (*Sturnella magna*), horned-lark (*Eremophila alpestris*), field sparrow (*Spizella pusilla*), and Savannah sparrow (*Passerculus sandwichensis*). European starlings (*Sturnus vulgaris*), house sparrows (*Passer domesticus*), rock doves (*Columba livia*), house finches (*Carpodacus mexicanus*), and miscellaneous blackbirds are also common. Raptors frequently observed on base, especially during spring and fall migrations, include red-tailed hawk (*Buteo jamaicensis*), broad-winged hawk (*Buteo platypterus*), red-shouldered hawk (*Buteo lineatus*), rough-legged hawk (*Buteo lagopus*), American kestrel (*Falco sparverius*), turkey vulture (*Cathartes aura*), eastern screech owl (*Otus asio*), and barred owl (*Strix varia*). Less common species such as Cooper's hawk (*Accipiter cooperii*) and snowy owl (*Nyctea scandiaca*) have also been documented on the base. Wading birds include the great blue heron (*Ardea herodias*), greater yellowlegs (*Tringa melanoleuca*), white-rumped sandpiper (*Calidris fuscicollis*), and solitary sandpiper (*Tringa solitaria*). Waterfowl species include the mallard (*Anas platyrhynchos*), Canada goose (*Branta canadensis*), black duck (*Anas rubripes*), and wood duck (*Aix sponsa*). The herring gull (*Larus argentatus*), ring-billed gull (*Larus delawarensis*), and greater black-backed gull (*Larus marinus*) are also present.

A variety of mammals also inhabit or use the habitat that is provided. In addition, feral and domestic cats are present. Common mammalian species within the local area and observed on Westover ARB include white-tailed deer (*Odocoileus virginianus*), moose (*Alces alces*), coyote (*Canis latrans*), red fox (*Vulpes vulpes*), gray fox (*Urocyon cinereoargenteus*), fisher (*Martes pennanti*), bobcat (*Lynx rufus*), mink (*Mustela vison*), and river otter (*Lontra canadensis*), black bear (*Ursus americanus*), raccoon (*Procyon lotor*) and striped skunk (*Mephitis mephitis*). Rodents and other small mammals include beaver (*Castor canadensis*), muskrat (*Ondatra zibethicus*),

porcupine (*Erethizon dorsatum*), woodchuck (*Marmota monax*), eastern gray squirrel (*Sciurus carolinensis*), southern flying squirrel (*Glaucomys volans*), eastern chipmunk (*Tamias striatus*), eastern cottontail (*Sylvilagus floridanus*), northern short-tailed shrew (*Blarina brevicauda*), and white-footed mouse (*Peromyscus leucopus*).

Previous surveys have identified 11 species of amphibians and 7 species of reptiles on Westover ARB. However, the total number of herptile (i.e., reptile and amphibian) species was believed to be higher because of the habitat potential of the base and the limitations of the survey. Common amphibian species identified on Westover ARB include the wood frog (*Rana sylvatica*), bullfrog (*Rana catesbeiana*), gray treefrog (*Hyla versicolor*), spring peeper (*Pseudacris crucifer*), green frog (*Rana clamitans*), American toad (*Bufo americanus*), Fowler's toad (*Bufo fowleri*), redback salamander (*Plethodon cinereus*), and eastern newt (*Notophthalmus viridescens*). Common reptilian species include the common garter snake (*Thamnophis sirtalis*), northern ringneck snake (*Diadophis punctatus edwardsii*), northern black racer (*Coluber constrictor constrictor*), northern water snake (*Nerodia sipedon*), common snapping turtle (*Chelydra serpentina serpentina*), and eastern painted turtle (*Chrysemys picta picta*).

A 1999 fisheries survey documented no fish species within Willamansett Brook and 10 species within Stony Brook. See Table 4-4 for a listing of the fish found during the survey.

**Table 4-4: Fish Species Collected from Stony Brook during May 1999 Aquatic Survey**

Scientific Name	Common Name	Number
<i>Ameriurus natalis</i>	Yellow Bullhead	1
<i>Catostomus commersoni</i>	White Sucker	1
<i>Esox niger</i>	Chain Pickerel	1
<i>Ictalurus nebulosus</i>	Brown Bullhead	1
<i>Lepomis gibbosus</i>	Pumpkinseed Sunfish	1
<i>Lepomis macrochirus</i>	Bluegill	2
<i>Micropterus salmoides</i>	Largemouth Bass	2
<i>Notemigonus crysoleucus</i>	Golden Shiner	16
<i>Perca flavescens</i>	Yellow Perch	1
<i>Salvelinus fontinalis</i>	Eastern Brook Trout	6

Grassland communities, such as those in the area of the remote MEP alternative site, are the predominate habitat on the base and support numerous ground-nesting birds, such as the eastern meadowlark, Savannah sparrow, and horned lark. Westover ARB supports the largest populations of the state-listed upland sandpiper and grasshopper sparrow in the six-state New England region (See section 4.8.1.3). The Massachusetts Division of Fisheries and Wildlife (MA DFW) has intermittently surveyed the grassland communities on Westover ARB from 1987 through 1997 to census the grassland bird populations on the Base. Table 4-5 presents the data gathered by MA DFW on

the grassland bird populations on Westover ARB. In addition, the grassland habitat also supports large populations of small mammals, which provide an abundant food supply for foraging raptors and carnivorous mammalian species.

**Table 4-5: Westover ARB Grassland Bird Species Census Data (1987 to 1997)**

Species	Year						
	1987	1988	1989	1993	1994	1995	1997
Horned Lark	10	38	90	77	123	117	95
Bobolink	6	12	48	54	57	86	81
Eastern Meadowlark	41	31	50	89	90	111	83
Savannah Sparrow	23	35	40	59	87	92	81
Vesper Sparrow	NDR	NDR	NDR	3	1	3	0
Killdeer	NDR	NDR	NDR	16	38	12	12
Red-Winged Blackbird	NDR	NDR	NDR	NDR	NDR	14	28

Notes: NDR - no data recorded.

#### **4.8.1.3 Sensitive Species**

The U.S. Fish and Wildlife Service (USFWS) has responsibility for the listing of threatened and endangered species, and they make determination as to whether formal Section 7 consultation under the ESA is necessary in regards to a Proposed Action. Formal Section 7 consultations are required in the event that there is a possibility of an adverse effect on threatened or endangered species. No federally-listed threatened or endangered species have been found on Westover ARB. However, several state-listed species do occur on the base. Table 4-6 shows the protected species that occur on the base or that may occur nearby. Figure 4-4 shows both the sensitive species habitat on the base as well as the documented locations of some sensitive species.

**Table 4-6: Threatened and Endangered Species that have been Documented on  
or that Might Occur in the Vicinity of Westover ARB**

Common Name	Scientific Name	Status <sup>a</sup>		Presence on Westover ARB <sup>b</sup>
		Federal	State	
<b>Mammals</b>				
Northern water shrew	<i>Sorex palustris</i>	NL	SC	historic range
Southern bog lemming	<i>Synaptomys cooperi</i>	NL	SC	historic range
<b>Birds</b>				
Loggerhead shrike	<i>Lanius ludovicianus</i>	NL	E	migrates through
Upland sandpiper	<i>Bartramia longicauda</i>	NL	E	occurs
Grasshopper sparrow	<i>Ammodramus savannarum</i>	NL	T	occurs
Northern harrier	<i>Circus cyaneus</i>	NL	T	migrates through
American peregrine falcon	<i>Falco peregrinus anatum</i>	DL <sup>c</sup>	E	migrates through
Vesper sparrow	<i>Poocetes gramineus</i>	NL	T	occurs
Blackpoll warbler	<i>Dendroica striata</i>	NL	SC	migrates through
Short-eared owl	<i>Asio flammeus</i>	NL	E	occurs
Sharp-shinned hawk	<i>Accipiter striatus</i>	NL	SC	migrates through
<b>Amphibians</b>				
Eastern spadefoot toad	<i>Scaphiopus holbrookii</i>	NL	T	historic range
Blue-spotted salamander	<i>Ambystoma laterale</i>	NL	SC	occurs
Four-toed salamander	<i>Hemidactylium scutatum</i>	NL	SC	occurs
<b>Reptiles</b>				
Spotted turtle	<i>Clemmys guttata</i>	NL	SC	occurs
Wood turtle	<i>Clemmys insculpta</i>	NL	SC	historic range
Eastern box turtle	<i>Terrapene carolina</i>	NL	SC	historic range
<b>Insects</b>				
Phyllira tiger moth	<i>Grammia phyllira</i>	NL	E	occurs
Pine Barrens zanclognatha moth	<i>Zanclognatha martha</i>	NL	T	occurs
<b>Plants</b>				
Hartford fern (or climbing fern)	<i>Lygodium palmatum</i>	NL	SC	occurs
Wild lupine	<i>Lupinus perennis</i>	NL	S	occurs
Small whorled pogonia	<i>Isotria medeoloides</i>	T	E	occurs in Hampden County

Notes:

<sup>a</sup> T = Threatened; R = Rare; E = Endangered; S = Scarce; NL = Not Listed; WL = Watch List; SC = Special Concern; DL = Delisted

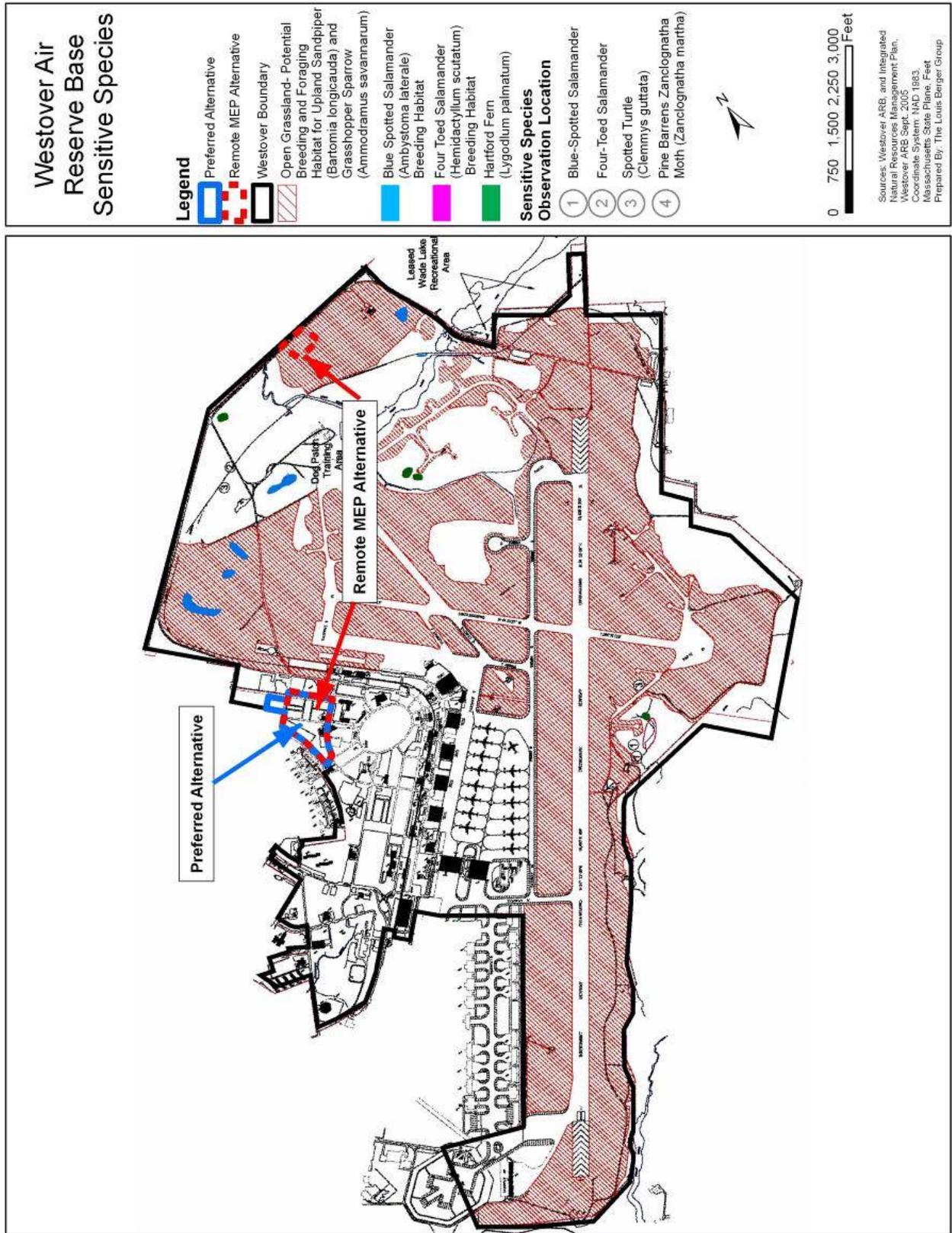
<sup>b</sup> Occurs - refers to a species documented as inhabiting or occurring on Westover ARB on a continual basis.

Migrates through - refers to a species inhabiting Westover ARB on an indiscriminate basis.

Historic range - refers to a species with potential habitat on Westover ARB, and where historical information indicates that the species previously inhabited or migrated through the area.

<sup>c</sup> On August 25, 1999, the American peregrine falcon, *Falco peregrinus anatum*, was designated as Delisted Taxon, Recovered, Being Monitored in its Entire Range by the USFWS.

Figure 4-4: Habitat and Documented Locations of Sensitive Species on Westover ARB



State-listed species are not known to occur on the Preferred Alternative site other than possibly transient bird species. However, a sensitive species of grassland bird, the grasshopper sparrow (*Ammodramus savannarum*), is known to occur at or near the Remote MEP Alternative site. The grasshopper sparrow is Massachusetts state-listed as threatened. The upland sandpiper (*Bartramia longicauda*), which is Massachusetts state-listed as endangered, is found elsewhere on Westover ARB, but could be present at the Remote MEP Alternative site in the future. Neither of these species is federally listed.

**Grasshopper Sparrow.** The grasshopper sparrow is a widespread species of sparrow with populations in North, Central, and South America. It inhabits sandplain grasslands, pastures, hayfields, and airfields where it feeds primarily on insects in summer (preferring grasshoppers [*Orthoptera*]), and primarily on seeds, especially panic grass (*Panicum* spp.) and sedges (*Cyperaceae*), in winter. It is a small- to medium-sized sparrow (10.8–11.5 cm, mass 14.5–20 g), with a narrow, short tail and a decidedly flat-headed appearance. Adult birds have an unstreaked or faintly streaked, buff-colored throat and breast; brown to reddish upper parts with intervening gray coloration; a pale, cream-colored strip flanked by lateral, dark brown strips on the head; and a yellowish area extending from the bill to below the eye. Nests are well-concealed, and consist of a cup of grass lined with fine grass and occasionally hair. Clutch size consists of three to six eggs that are white with a slight green or brown tinge and reddish or brown spots. The female alone incubates for a period of 11 to 12 days, and young leave the nest 9 days after hatching.

The grasshopper sparrow has been listed as threatened in Massachusetts due to declining populations resulting from the loss of grassland habitat within the state. However, within Westover ARB grasshopper sparrows have rebounded from a low of 47 in 1988 to a high of 212 in 2005 (French, 2005).

The remote MEP alternative site (Figure 3-1) is a 4-acre site within a much larger, approximately 27-acre grassland area. Much of the area is currently mowed every other year prior to the Westover Air Show and is used as a parking area for cars during the Air Show. This site is an annual breeding habitat for the state listed grasshopper sparrow (from April-August) and may be used as breeding habitat for the state listed upland sandpiper. In the June 2001 survey, 7 singing male grasshopper sparrows were counted in the entire field; In the June 2003 survey, 12 singing males were counted in the entire field; In the 2006 survey, 5 singing males were counted, again over the entire grassland area (Milroy, 2006a).

**Upland Sandpiper.** The upland sandpiper is a slender, moderate-sized shorebird (overall length 280–320 mm; mass 97–226 g) with a small head; large, eyes; short and thick dark brown bill long; thin neck; long, yellowish legs; and a relatively long tail. They feed on both insects and grass grain associated with large, open grassy fields. In Massachusetts, the upland sandpiper inhabits open expanses of grassy fields, hay fields, and mown grassy strips adjacent to runways and taxiways of airports and military bases. Both sexes incubate four camouflaged eggs which are laid in a grass-lined nest on the ground for a period of 21 to 28 days. Young birds fledge 32 to 34 days after hatching. Tall grass areas are preferred for nesting, but the nests themselves are built in sparse vegetation that is from 4 to 12 inches tall. Therefore, optimum habitat for nesting upland sandpiper consists of separate areas

of short and tall vegetation. Following the breeding season, the upland sandpipers gather into flocks before departing to their wintering grounds in South America. The upland sandpiper migrates from its wintering habitat in South America during mid-April to early May to breed in Massachusetts. It breeds across North America from Maine to central Canada and Alaska, and from Maryland to Oklahoma and Colorado.

Upland sandpipers are state-listed as endangered in Massachusetts because of their rarity, declining population, and the continuing loss of open grassland habitat due to urban development and the succession of open lands to shrublands and forests. The upland sandpiper is currently experiencing a population decline in the USFWS Northeast Region 5 of the U.S. However, within Westover ARB upland sandpipers have rebounded from a low of 23 in 1988 to a high of 154 in 1999 (Table 4-7). Since 1999 the population has been stable at between 140-150 individuals (French, 2005). For the two years (2001 and 2006) for which there are site-specific (vice base-wide) survey data for the preferred MEP area site, there were no sightings of upland sandpipers.

Westover ARB supports the largest populations of upland sandpiper and grasshopper sparrow in the six-state New England region. Table 4-7 shows the roughly biannual census survey data collected for these two species at Westover ARB 1987 to 2005 by MADFW (USAF, 2005d and French, 2005). Both populations have been rising steadily over the survey period, and in the 2005 survey there were 140 upland sandpipers counted and 212 grasshopper sparrows counted, basewide.

**Table 4-7: Westover ARB Grassland Bird Species Census Data (1987 to 2005)**

Species	1987	1988	1989	1993	1994	1995	1997	1999	2001	2003	2005
Upland Sandpiper	25	23	41	55	101	115	118	154	140	150	140
Grasshopper Sparrow	55	47	74	99	168	170	152	169	193	132	212

Source: USAF, 2005d (1987-1997 data); French, 2005 (1999-2005 data)

#### **4.8.1.4 Wetlands**

As noted in Section 4.8.1.1 there are no wetlands in the vicinity of the preferred alternative AFRC complex site, while wetlands are located to the east and west of the remote MEP alternative site (Figure 4-3).

The two wetlands immediately to the east of the remote MEP alternative site are both classified as Palustrine Emergent wetlands with depressional topography (USAF, 2005d). Bristly dewberry, sensitive fern, *Spirea*, common reed, soft rush, and patches of cattail dominate the northern most wetlands east of the remote MEP alternative area. Red maple and gray birch dominate the wooded fringe of the southern most wetlands east of the remote MEP alternative area (USAF, 2005d). Silky dogwood, northern spicebush, and northern arrow-wood are the dominant shrubs. The herbaceous layer in the open meadow is dominated by sensitive fern, bristly dewberry, mowed spirea and sheep laurel, and occasional patches of cinnamon fern, royal fern, and cranberry (USAF, 2005d).

## **4.8.2 Environmental Consequences**

### **4.8.2.1 No Action Alternative**

Under the No Action Alternative, no effects on biological resources would occur.

### **4.8.2.2 Preferred Alternative**

Under the Preferred Alternative, negligible adverse effects on biological resources are anticipated. No federal threatened or endangered species are known to occur on Westover ARB and no state-listed species are known to occur in the area of the preferred alternative site for the AFRC complex, except for possible transient bird species. There are no wetlands in the vicinity of the preferred alternative. The footprint of the AFRC, AMSA/OMS, and associated MEP and POV parking areas at the preferred alternative site would require the removal of some scattered mature trees; however, efforts would be made to preserve as many trees as possible if site preparation and construction can occur without causing potential damage to the root systems. The USFWS was contacted via letter dated 22 November 2006 to request confirmation that no federally listed threatened or endangered species occur in the proposed project area, and that the proposed project would not impact any federally listed species. By letter dated 28 December 2006, the USFWS confirmed that no federally listed or proposed threatened or endangered species or critical habitat is known to occur in the project area. A copy of this correspondence is in Appendix A.

The Massachusetts Division of Fisheries and Wildlife reviewed the EA and determined that the preferred alternative is not within endangered species habitat. This determination was received by letter dated 5 January 2007. A copy of this correspondence is in Appendix A.

The Westover ARB SWPPP and Erosion and Sedimentation Control Manuals would guide planning and construction to minimize any potential effects from erosion or sedimentation during construction.

### **4.8.2.3 Remote MEP Site Alternative**

**Vegetation/Wildlife** – Negligible to minor impacts to vegetation and wildlife would be expected under the Remote MEP Site Alternative. The impacts for the location of the AFRC and associated facilities would be the same as for the Preferred Alternative. For the MEP area, the total area of grassland habitat that would be disturbed under the Remote MEP Site Alternative would be minimal relative to the grassland resources available to grassland species within Westover ARB (Figure 4-4). The remote MEP area would encompass approximately 4 acres, which would be a small portion of the entire grasslands habitat found at the Remote MEP site area. The loss of some of this habitat would also likely be offset by the net gain of grassland habitat in other areas of the base where additional grassland is being created from forestland and other cover types.

**Sensitive Species** – The impacts for the location of the AFRC and associated facilities would be the same as for the Preferred Alternative. While Westover ARB supports the largest populations of upland sandpiper and grasshopper sparrow in the six-state New England region and is considered the most important threatened and

endangered species resource on the ARB, the total area to be disturbed at the Remote MEP Site Alternative site is very limited (4 acres), relative to all the grassland resources available to these species within Westover ARB (Figure 4-4). Therefore, negligible to minor impacts to sensitive species would be expected to result if the Remote MEP Site Alternative is implemented. Upland sandpipers may be occasional breeders in the entire grassland area surrounding the Remote MEP Site Alternative site (which totals approximately 27 acres). The larger grassland area also has provided breeding habitat for small numbers of male grasshopper sparrows, according to recent survey data, as discussed in Section 4.8.1.3. However, given the small size of disturbance area under this alternative (4 acres), the loss of these 4 acres located immediately along Perimeter Road would likely displace a negligible number - if any - grasshopper sparrows and upland sandpipers. This habitat loss would also likely be more than offset by the net gain of grassland habitat in other areas of the base where additional grassland is being created from forestland and other cover types. Negligible, short-term impacts from MEP construction would likely be avoided if construction takes place outside of the April-August breeding season. According to the Integrated Natural Resources Management Plan (USAF, 2005d) (p. 4-19), “*field training, airshows, or other potentially destructive activities in grasslands will not be conducted from April through July, absent mission-required emergency conditions.*”

**Wetlands** – Under the Remote MEP Site Alternative, negligible to minor adverse effects on wetlands would be expected. Similar to the Preferred Alternative, there are no wetlands in the vicinity of the proposed AFRC location. In addition, no wetlands would be filled at the remote MEP area and the footprint of the MEP area lies outside the 200-foot river front buffer and the 100-foot wetland buffers along and near Stony Brook. Additionally, the Remote MEP Site Alternative area was sited to maximize the distance from Stony Brook and the surrounding wetlands to minimize any potential impact from storm water runoff (see Section 4.8.2.2).

The Westover ARB SWPPP and Erosion and Sedimentation Control Manuals would guide planning and construction to minimize any potential effects from erosion or sedimentation during the construction of the remote MEP area.

#### **4.9 CULTURAL RESOURCES**

This section assesses impacts on buildings, sites, structures, districts, and objects eligible for, or included in, the National Register of Historic Places (NRHP); cultural items as defined in the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990; Native American sacred sites for which access is protected under the American Indian Religious Freedom Act (AIRFA) of 1978; archaeological resources as defined by the Archaeological Resources Protection Act of 1979; and archaeological artifact collections and associated records as defined by 36 CFR Part 79.

This section is drawn from review and research using the following primary references: the Westover ARB *Integrated Cultural Resources Management Plan* (ICRMP) (USAF, 2004c), the *Area Development Plan for the Historic Core* (USAF, 2000a), and the *Joint Land Use Survey* (Pioneer Valley Planning Commission, 2004).

#### **4.9.1 Affected Environment**

The ROI is the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The cultural resources ROI considered for this project includes the areas immediately surrounding the Preferred AFRC complex site and the Remote MEP Alternative site, taking into consideration the immediately surrounding built environment within the viewshed of the proposed undertakings.

##### ***4.9.1.1 Prehistoric and Historic Background***

Human occupation of the Westover ARB area has been ongoing for at least the past 12,000 years. The base itself began as the Northeast Air Base during World War II. In 1939, 5,000 acres of agricultural land was acquired by the U.S. Government outside of Chicopee. Work Progress Administration (WPA) and Civilian Conservation Corps (CCC) workers cleared the land and the Army Corps of Engineers and Quartermaster Corps built the base, which was dedicated in April 1940. During the war, the base served as the training center for anti-submarine, engineering, and chemical platoons and for bomber and fighter groups. Westover ARB also served as a prisoner of war camp for captured German soldiers who were housed in a compound built in 1944 in the mid-western part of the base between the Industrial and James Street gates.

In February 1946, Westover became an Air Transport Command (ATC) base, and the base became the terminus for air routes around the world. C-54 and C-47 transport planes shipped supplies and reinforcements to deployed armed services and returned with wounded and discharged troops. Westover was also the launching airfield for the historic Berlin Airlift for nearly a year during the Russian blockade. Between 1947 and 1955, Westover ARB was the largest freight and passenger terminal of the Military Air Transport System (MATS). In 1955 Westover became a Strategic Air Command (SAC) base, and in the late 1950s became the Eighth Air Force Headquarters. Nuclear weapons were stored in the Stony Brook section of the base and planes loaded with these devices were on 24-hour alert. The base increased in size between 1957 and 1958, acquiring acreage to the north.

In 1969, SAC crews were deployed to Vietnam on bombing missions. By 1970, President Nixon deactivated the Eighth Air Force and in 1973 nearly 3,000 acres of the Westover ARB was sold. A year later the remainder of the base was turned over to the Air Force Reserve.

Today, Westover ARB operates on just over 2,500 acres and is the largest Air Force Reserve Base in the country (USAF, 2004c).

##### ***4.9.1.2 Status of Cultural Resource Inventories and Section 106 Consultations***

A series of cultural resource surveys have been completed on the base since 1981, including an archaeological reconnaissance survey of the entire base, and a second localized, intensive survey. ICRMPs were completed in 1995 and 2004, and the Area Development Plan for the Historic Core was completed in 2000. There are four recorded prehistoric and six historic archaeological sites within or immediately adjacent to Westover ARB. Four

of these sites have been submitted to the MA SHPO for eligibility determinations; however, only the Small Arms Range Parcel site has been tested (and determined not significant), and only one site is considered eligible for the NRHP (the Westover-Stony Brook site). These archaeological sites are located outside of the developed core of the base. The ICRMP outlines seven areas at Westover ARB that are considered archaeologically sensitive based on known sites that are potentially significant or areas that are defined largely on the basis of their undisturbed nature and potential for undocumented resources. The sensitive areas are around Cooley Brook, Granby Road/Arms Range, Tilley Street, Stony Brook, and Willimansett Brook.

There are 25 World War II-era buildings and objects and three Cold War-era buildings identified as potentially eligible for the NRHP at Westover ARB. The historic core of the base, centered on the ellipse, is a potential historic district with as many as thirteen contributing buildings, most of which are influenced by the Georgian architectural style. There are no formally designated boundaries for the historic core and it does not have formal or proposed status as a potential historic district. However, the core area has been roughly defined for base planning purposes, and is shown on Figure 4-5 along with identified eligible properties.

#### ***4.9.1.3 Native American Resources***

To date, no traditional cultural properties or Native American sacred sites have been recorded at Westover ARB. Previously, there have been no known American Indian concerns related to activities at the base and Westover has previously contacted the Massachusetts Commission on Indian Affairs to identify any concerns. The current Westover ARB ICRMP contains a complete list of procedures relating to Native American patrimony which would be implemented in the event of an unanticipated discovery.

### **4.9.2 Environmental Consequences**

#### ***4.9.2.1 No Action Alternative***

Under the No Action Alternative there would be no effects on cultural resources, and no alterations to any existing cultural resources would occur.

#### ***4.9.2.2 Preferred Alternative***

Implementation of the proposed realignment alternative has been reviewed against the baseline knowledge of NRHP eligible resources present.

The preferred AFRC complex site includes the construction of three new buildings: a training facility, storage facility, and maintenance facility; MEP parking areas, and POV parking areas. Implementation of these actions would require the demolition of buildings 3284, 3286, 3287, 3288, 3289, and 3290, all situated in the corner east of Seawolf Avenue and south of Burke Street (see Figure 2-2). These two-story buildings were constructed in 1962 as base housing, and have since been converted into administrative office use. None of these buildings are NRHP eligible (USAF, 2004c). The preferred site is located just northwest of the historic core. For the purposes of the ICRMP and Area Development Plan, the historic core is limited to the ellipse and those buildings

immediately surrounding it. The majority of the eligible buildings are situated along the south side of the ellipse, along Hangar Avenue. The location and construction of the proposed AFRC would be within the viewshed of the historic core, but would likely have only negligible visual effects, as there are other non-contributing and non-historic buildings within the historic core viewshed. Westover ARB has an Area Development Plan for the historic core that outlines significant design features of the historic buildings. The design of new buildings within the viewshed of the historic core could include elements that compliment the historic character of the nearby buildings, including, but not limited to, a similar sense of scale and massing, incorporation of sympathetic decorative details and the use of similar materials. Design and material considerations that are economically feasible and that would minimize any adverse effects to the historic core would be contemplated.

The MEP area would encompass the footprint of six former U.S. Marine Corps housing units, located along Cowan Avenue (see Figure 2-2). These buildings, constructed in 1962 as two-story base housing, are not NRHP eligible (USAF, 2004c) and were previously slated for demolition by the USMC. No adverse effects on potentially eligible historic resources are expected as a result of implementation of the preferred alternative.

The Army consulted with the MA SHPO by letter dated 22 November 2006 to request concurrence with the finding that under both the Preferred Alternative site and the Remote MEP Alternative there would be no adverse effects expected on archaeological or historic resources. By letter dated 28 December 2006, the MA SHPO requested that the City of Chicopee, MA Historical Commission be consulted before the MA SHPO would reach a determination. The commission was consulted and by letter dated 9 January 2007 stated its support for the project and indicated no concerns in regards to possible effects on archaeological or historic resources. By letter dated 1 February 2007, the MA SHPO confirmed the Army's determination that the proposed project would have no adverse effects. Copies of this correspondence are in Appendix A.



#### **4.9.2.3 Remote MEP Site Alternative**

Impacts for the location of the AFRC and associated facilities would be the same as for the Preferred Alternative. Under the Remote MEP Site Alternative, the MEP would be located at a site along the south side of Perimeter Road at the far northern edge of the base. This remote site is not located near any NRHP eligible historic resources, and therefore would not have an effect on any eligible structures. According to the ICRMP, the MEP site general area is located near a broadly defined potentially significant archaeological area that follows along Stony Brook. However, the identified MEP site under this alternative is a 4-acre parcel located outside of areas along Stony Brook. The ICRMP outlines standard operating procedures for inadvertent discoveries as a result of construction, bulldozing, or other ground disturbing activities that may reveal cultural resources. Established procedures would be executed in the event that cultural deposits are found during construction.

### **4.10 SOCIOECONOMICS**

The Affected Environment and Environmental Consequences sections for the Socioeconomics resource area of this EA are presented in limited detail. This reflects the fact that nearly all of the estimated incoming personnel under the proposed action are reservists (966 of 1,037) that will only report to the new AFRC periodically (on average one weekend per month), and that most incoming personnel are relocating from nearby facilities, within the ROI. Topics which are normally addressed under a Socioeconomics resource area, but which are not being discussed in this EA, or are discussed only briefly, include *Housing*, *Quality of Life*, and *Protection of Children*.

#### **4.10.1 Affected Environment**

The socioeconomic ROI for Westover ARB is the counties of Hampden and Hampshire, MA. These counties comprise the area in which the predominant socioeconomic effects of the Proposed Action would take place. The geographical extent of the ROI is based on the residential distribution of the installation's military, civilian, and contracting personnel, and the location of businesses that provide goods and services to the installation and its employees.

The baseline year for the socioeconomic analysis is 2006, although much of the economic and demographic data for the ROI are only available through the years 2004 and 2005. The descriptions of the affected environment are based on the most recent data available to accurately reflect the current economic and social conditions of the ROI. Due to the fact that many of the estimated incoming personnel will not be coming from areas outside the ROI, this section will only briefly overview regional economic activity and demographic data and trends.

##### **4.10.1.1 Economic Development**

###### *4.10.1.1.1 Regional Economic Activity*

Westover ARB is situated about 7 miles northeast of downtown Springfield, MA. The ROI's regional economy is dominated by non-farm industries such as retail, health care and social services, manufacturing, and accommodation and food services. These sectors account for just over 50% of jobs in the two ROI counties. The

construction, finance and insurance, public administration, and transportation and warehousing sectors represent moderate contributions (17.4%) to Hampden County's local economy. In Hampshire County, retail, educational, health care, and government account for 53% of jobs. Farm jobs in the ROI contributed only 1,019 out of the 330,162 jobs recorded in 2004 (USBEA, 2004a).

At an average of 4.8% in 2005, the unemployment rate for the ROI is below that of the national unemployment rate during the same period of 5.1%. It is also slightly below the Massachusetts unemployment rate of 5.0%. The ROI annual unemployment rate has increased by more than 72% since 2000 (USBLS, 2005 and Stats Indiana, 2006a).

**4.10.1.1.2 Installation Contribution to the Local Economy**

The Westover ARB workforce consists of about 254 full-time military personnel, about 4,263 reservists, and about 576 full-time civilian employees (USAF, 2005a). Westover ARB expenditures on goods and services (excluding salaries) totaled \$33,975,157, between October 2004 and the end of September 2005. Total salary expenditures during this same period were \$104,517,861 which includes \$51,516,827 for military personnel, \$50,485,567 for civilian personnel, and \$2,515,467 for contractors. The creation of indirect jobs during this period led to an additional \$41,013,150, bringing the total regional economic impact to \$179,506,168 (Westover ARB, 2006a and 2006b). These figures are not completely comprehensive and do not fully reflect the economic contributions to the area economy made by non-Air Force units that are currently based at Westover ARB.

**4.10.1.2 Demographics**

U.S. Census Bureau estimates projected 614,930 inhabitants in 2005 for the ROI. Hampden County is the 8<sup>th</sup> most populous county in Massachusetts and Hampshire County is the 10<sup>th</sup> most populous. On average, the ROI has experienced a modest 6.4% growth rate over the past three decades (Stats Indiana, 2006b). Population data for the ROI, Massachusetts, and the U.S. overall are provided in Table 4-8 for comparison purposes.

**Table 4-8: ROI Population Trends, 1980 -2005**

<b>Location</b>	<b>1980</b>	<b>1990</b>	<b>2000</b>	<b>(projected) 2005</b>
Hampden County	443,018	456,310	456,228	461,591
Hampshire County	138,813	146,568	152,251	153,339
Total ROI	581,831	602,878	608,479	614,930
Massachusetts	5,737,093	6,016,425	6,349,097	6,398,743
United States	226,542,250	248,790,925	281,421,906	293,655,404

(Stats Indiana, 2006b)

**4.10.1.3 Housing**

Characteristics of the ROI housing stock are summarized in Table 4-9. The housing units identified in the table include all structure types (e.g., single-family homes, duplexes, condominiums, apartments, and mobile homes).

**Table 4-9: ROI Housing Characteristics (2000 Census)**

	<b>Hampden County</b>	<b>Hampshire County</b>
<b>Total Housing Units</b>	185,876	58,644
<b>Occupied Housing Units</b>	175,288	55,991
<b>Owner-occupied</b>	108,517	36,368
<b>Renter-occupied</b>	66,771	19,623
<b>Vacant Housing Units</b>	10,588	2,653
<b>Vacant for Seasonal, Recreational, or Occasional Use</b>	1,735	973
<b>Median Home Value (Owner-occupied)</b>	\$113,700	\$142,600

(Stats Indiana, 2006c; US Census, 2000)

As shown in Table 4-9, the 2000 median value of owner-occupied housing units in Hampshire County exceeds the national median value of \$119,600 by over \$22,000. Conversely, the median home value in Hampden County is slightly less than the national median (US Census, 2000). All military personnel at Westover ARB reside off-base. There are temporary lodging facilities available for part-time reservists and visitors who serve on weekends (Milroy, 2006b).

#### **4.10.1.4 Environmental Justice**

On February 11, 1994, President Clinton issued Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*. The Executive Order is designed to focus the attention of federal agencies on the human health and environmental conditions in minority communities and low-income communities. Environmental justice analyses are performed to identify potential disproportionately high and adverse impacts from proposed actions and to identify alternatives that might mitigate these impacts. Data from the U.S Department of Commerce 2000 Census of Population and Housing were used for this environmental justice analysis. Minority populations included in the census are identified as Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and other Pacific Islander, Hispanic, of two or more races, and other. Poverty status, used in this EA to define low-income status, is reported as the number of persons with income below poverty level. The 2000 Census defines the poverty level as \$8,794 of annual income, or less, for an individual, and \$17,603 of annual income, or less, for a family of four.

In 2004, the median household income was \$39,910 for Hampden County residents compared to \$46,681 for Hampshire County and \$52,713 for Massachusetts. The average poverty rate for the ROI in 2003 was 11.9%, which is less than the national poverty rate of 12.5%, but higher than the Massachusetts state-wide poverty rate of 9.5%. In 2000, the ROI's population was comprised of the following ethnic groups: 88% white, 7.7% black, and 13.7% Hispanic. Note that these figures do not add to exactly 100% because Hispanics may be counted as white,

black, and/or Hispanic under U.S. Census Bureau data, and hence there is a level of “double-classification.” The elderly accounted for 13.5% of the ROI’s population (Stats Indiana, 2006b).

#### **4.10.2 Environmental Consequences**

*EIFS Model Methodology.* The economic effects of implementing the proposed action were estimated using the Economic Impact Forecast System (EIFS) model, a computer-based economic tool that calculates multipliers to estimate the direct and indirect effects resulting from a given action. Changes in spending and employment associated with the proposed action represent the direct effects of the action. These include direct construction expenditures and increases in area employment and salaries as a direct result of the proposed action. Indirect expenditures include secondary and tertiary expenditures (for example, expenditures by construction crews, purchases of good and services by subcontractors, expenditures by incoming personnel on items such as food, housing, transportation, clothing, and entertainment). Based on the input data and calculated multipliers, the model estimates changes in sales volume, income, employment, and population within the ROI, accounting for the direct and indirect effects of the proposed action. A brief summary of the economic modeling methodology is provided in the following paragraph, with additional methodology detail and the model input and output tables provided in Appendix B.

For purposes of this analysis, a change is considered significant if it falls outside the historical range of ROI economic variation. To determine the historical range of economic variation, the EIFS model calculates a rational threshold value (RTV) profile for the ROI. This analytical process uses historical data for the ROI and calculates fluctuations in sales volume, income, employment, and population patterns. The historical extremes for the ROI become the thresholds of significance (i.e., the RTVs) for social and economic change. If the estimated effect of a proposed action falls above the positive RTV or below the negative RTV, the effect is considered to be significant.

##### **4.10.2.1 No Action Alternative**

###### *4.10.2.1.1 Economic Development*

No direct or indirect effects would be expected. Under the No Action Alternative, the installation working population and installation expenditures would remain unchanged from baseline levels and no new construction associated with the Proposed Action would take place. Therefore, economic activity levels would be the same as under the baseline conditions.

###### *4.10.2.1.2 Demographics*

No direct or indirect effects would be expected. Under the No Action Alternative, the installation working population would remain unchanged from baseline levels and no new construction associated with the Proposed Action would take place. Therefore, the ROI population growth would be the same as under baseline conditions.

###### *4.10.2.1.3 Housing*

No direct or indirect effects would be expected. Under the No Action Alternative, the installation working population would remain unchanged from baseline levels. Therefore, the demand for housing units would be the same as under baseline conditions and no effects would be expected.

#### *4.10.2.1.4 Environmental Justice*

No effects would be expected. The No Action Alternative would have no effects on any demographic group residing or working in the economic ROI. Therefore, there would be no disproportionately high and/or adverse impacts on minority populations or low income populations. Hence, the No Action Alternative Action for Westover ARB would not result in any environmental justice impacts.

#### **4.10.2.2 Preferred Alternative**

##### *4.10.2.2.1 Economic Development*

Minor direct and indirect beneficial effects would be expected under the Proposed Action.

The total number of incoming personnel (those personnel with units that are not already located at Westover ARB) would be 1,037, of which 71 would be full-time personnel and 966 would be part-time reservists. It is conservatively assumed that all of the 71 full-time personnel would relocate from areas outside the ROI to within it, although it is very likely that many, if not most personnel may choose to not relocate and would instead commute. In addition, it is also likely that a number of the current Devens RFTA-based personnel already reside within the ROI (Hampden and Hampshire Counties, MA), and would merely change their commuting patterns. The assumed relocations are not likely to cause any significant direct or indirect effects, and only negligible beneficial effects on the local economy would be expected as a result of relocations. These small beneficial effects would be in terms of increased sales volumes, increased income, and increased employment to add to the base of 330,162 jobs within the ROI.

Construction expenditures on goods and services, equipment, and salaries under the Proposed Action are expected to be the major contributor to increased sales and employment, due to the associated increase in expenditures on labor and materials during the construction period, although this would be of a short-term nature. These effects are assessed to be minor direct and indirect beneficial effects of the Proposed Action.

The Proposed Action would generate an estimated 234 direct and 366 induced jobs for a total of 600 jobs created within the ROI. This increase in employment would represent a 0.19% increase in the region's employment levels, and would fall far below the positive RTV of 3.44%. It should be noted that employment associated with construction activities would be temporary in nature and would not extend beyond 2011. The Proposed Action would also generate minor positive changes to other economic measures in the area, including a 0.48% increase in sales volume, and a 0.15% increase in regional personal income. Again, these changes are very minor and do not exceed the positive RTVs for their respective categories. Table 4-10 provides the input used for the EIFS Model.

**Table 4-10: Forecast Input for the EIFS Model**

<b>EIFS REPORT Westover ARB</b>	
<b>FORECAST INPUT</b>	
Change In Local Expenditures	\$44,405,000
Change In Civilian Employment	28
Average Standard Composite Pay of Affected Civilian	\$84,143 <sup>5</sup>
Percent Expected to Relocate	100%
Change In Military Employment	43
Average Standard Composite Pay of Affected Military	\$89,966 <sup>6</sup>
Percent of Military Living On-base	0%
Employment Multiplier	3.24
Income Multiplier	3.24

*4.10.2.2.2 Demographics*

Negligible direct and indirect effects would be expected. Under the Proposed Action, incoming military and civilian personnel and their dependents would increase the ROI population by a very small degree – by an estimated 177 out of a total ROI population of 614,930.<sup>7</sup> This increase would not fall below the negative RTV value or exceed the positive RTV value. Therefore no significant effects would be expected.

*4.10.2.2.3 Housing*

Negligible adverse direct and indirect effects would be expected. Under the proposed action, there would be a negligible increase in the demand for housing. Since all installation personnel live off-base, the housing market within the ROI would have to absorb this additional demand. This is not likely to have any more than a negligible impact, given the assumed relocation of 71 personnel and the estimated (Table 4-9) vacant housing units within the ROI of 13,241.

*4.10.2.2.4 Environmental Justice*

No effects would be expected. The proposed action would not result in adverse impacts on any demographic group residing or working within the economic ROI. Therefore, there would be no disproportionately high and/or adverse impacts on minority populations or low income populations.

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<sup>5</sup> Civilian average income is an estimate based on total civilian payroll expenditure divided by civilian personnel population on the installation. This figure includes salaries and benefits. (Westover ARB 2006b).

<sup>6</sup> Military average income is an estimate based on an average between enlisted personnel (\$58,761) and Officer personnel (\$121,171). This figure includes salaries and benefits. (Westover ARB, 2006c).

<sup>7</sup> The 177 estimated increase in population is based on the assumption that all 71 full-time personnel will relocate to the Westover ARB area and the Massachusetts average household size of 2.51 in 2000.

### ***4.10.2.3 Remote MEP Site Alternative***

Under the Remote MEP Alternative, direct and indirect effects on socioeconomic resources would be identical to those identified under the Preferred Alternative.

## **4.11 TRANSPORTATION**

This section describes the general traffic conditions within the affected environment in terms of access and circulation, and assesses any impacts related to these issues.

### **4.11.1 Affected Environment**

#### ***4.11.1.1 Roadways and Traffic***

Westover ARB is located north of Springfield, Massachusetts and can be accessed through a network of interstate and state highway systems. State Route 33 is the main thoroughfare providing access to Westover ARB and is located less than 1 mile west of the Base. Approximately 2 miles southwest of the Base, State Route 33 intersects with Interstate 90 (the Massachusetts Turnpike), an east-west route between Boston and New York State. Interstate 91 runs north-south approximately 5 miles west of the Base. In 2001, State Route 33 had an annual average daily traffic (AADT) count of 30,300 vehicles (Massachusetts Highway Department, 2006). The State Transportation Improvement Program (STIP) shows no major transportation projects planned for the area surrounding Westover ARB (USAF, 2005a). Figure 2-1 is a general area map. Figure 4-6 is a general base transportation map listing primary streets and gates.

Westover ARB is accessed through the surrounding street network. The James Street Gate is accessed via James Street by traveling east from State Route 33. In 2002, James Street had an AADT count of 9,900 vehicles. On the southwest portion of the base, the Industrial Gate is accessed via Westover Road and Pendleton Avenue, traveling east off of Route 33.

The James Street Gate is located on the western border of the base on James Street and opens onto a very formal elliptical road system. Originally, this gate was intended to be the main access onto the base; however, recent development along Patriot Avenue has been shifting the population base away from this entrance and towards the Industrial Gate. The Westover ARB General Plan indicates that future development will be shifted towards the ellipse area (Ellipse Drive) and the James Street Gate (USAF, 2005a). There are plans to upgrade the James Street Gate to better meet mission and updated security requirements.

Industrial Gate provides access to the southwest portion of the base via Patriot Avenue (Westover Road). The gate was upgraded in December 2005. The upgrade includes a new entry control complex with a vehicle inspection facility, a pass and registration office, a gate shack, and a pop-up barrier system (USAF, 2005a).

According to data available from 2003, there are approximately 1,450 vehicles that currently enter the base on a daily basis and there are no delays experienced at the James Street Gate entrance (USAF, 2003a).

The Westover ARB road network is comprised of primary, secondary, and tertiary roads. The road network was originally designed around Ellipse Drive as the primary road with the main access point at James Street Gate, and Eagle Drive and Patriot Avenue as secondary streets feeding the tertiary streets (USAF, 2005a). However, recent development has been concentrating closer to the Industrial Gate area, along Patriot Avenue. This is altering the use of the roads, and Patriot Avenue has become more of a primary road onto and within the base.

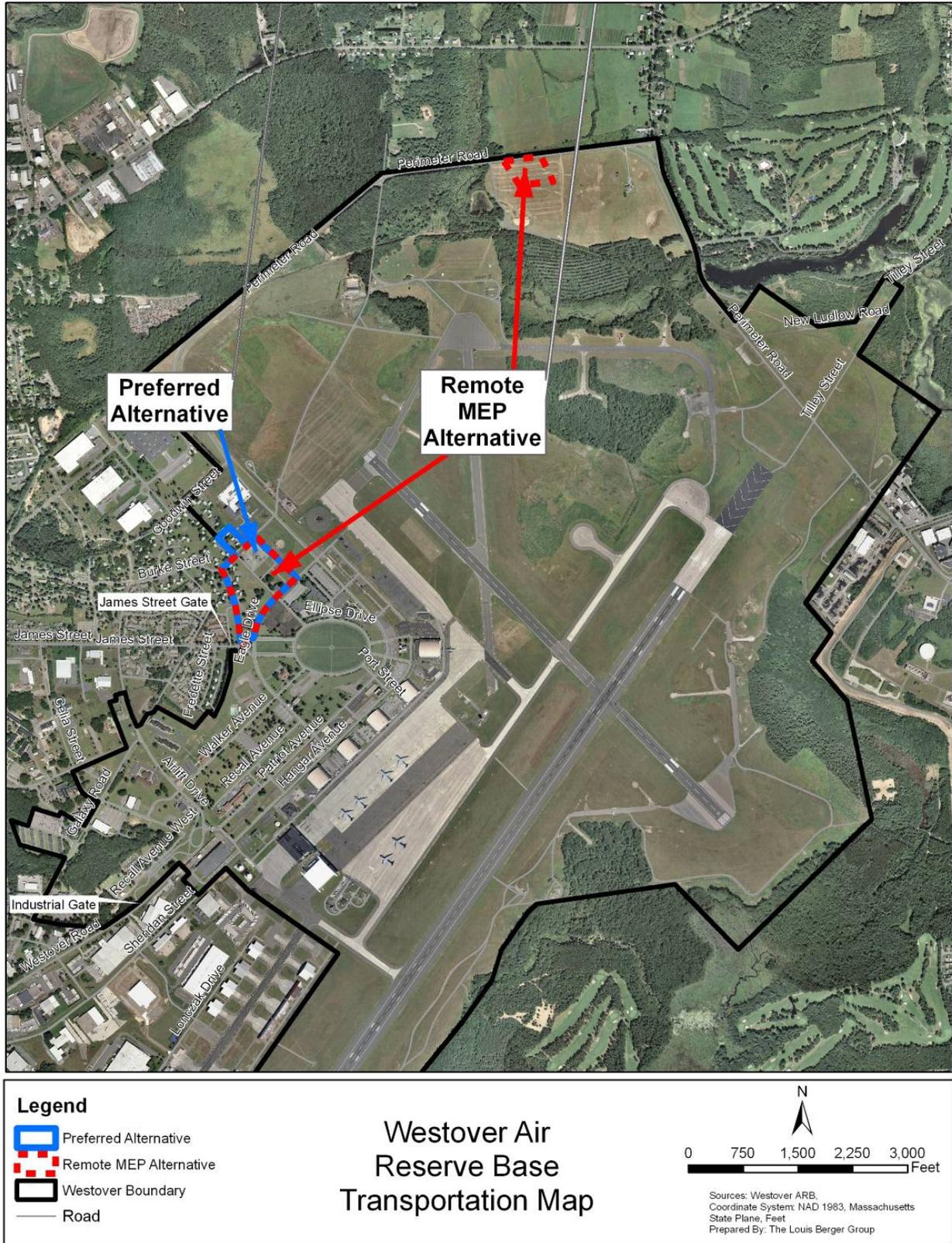
#### ***4.11.1.2 Installation Transportation***

There is no formal internal shuttle service on-base.

#### ***4.11.1.3 Public Transportation***

Westover ARB is accessible by public transportation service provided by the Pioneer Valley Transit Authority (PVTA). Route G19 provides service between other areas in Chicopee, Springfield and South Hadley. There is one stop that provides convenient access to the Base on Westover Road by the Industrial Gate.

Figure 4-6: Westover ARB Transportation Map



#### **4.11.2 Environmental Consequences**

The following criteria have been developed to assess the transportation impacts of the proposed action:

Negligible – Current traffic patterns and trends would prevail. There would be no change to traffic operations as a result of the action.

Minor – Short-term alteration of traffic patterns and trends would result from the action. Minor delays and queuing may occur, but intersections and gates affected would not reach capacity.

Moderate – Short- or long-term changes to traffic patterns and trends would result from the action. Affected intersections and gates may reach capacity, but this change would be temporary or managed through improvements.

Major – Traffic patterns would be permanently altered from the action. Intersections and gates would reach capacity and extensive delays would develop.

##### ***4.11.2.1 No Action Alternative***

Under the No Action Alternative the proposed facilities would not be constructed and the proposed personnel realignments would not occur. Accordingly there would be no changes to the existing transportation infrastructure at Westover ARB or in surrounding areas and there would be no impacts.

##### ***4.11.2.2 Preferred Alternative***

**Roadways and Traffic** - Minor effects would be expected on the area transportation infrastructure based on the number of trips that would be expected to be generated in addition to current volumes. The number of projected additional vehicles generated on area roads as a result of the Proposed Action would not be expected to have greater than negligible to minor effects on area roads, given the current AADTs for likely area roads that realigned personnel would use.

Estimates of the number of additional trips generated as a result of implementation of the Proposed Action were prepared using the procedures established by the Institute of Transportation Engineers (ITE) in its Trip Generation Handbook (2<sup>nd</sup> Edition) and its associated Trip Generation rates (7<sup>th</sup> Edition). The trip generation rates reflect civilian transportation patterns; however, there are similarities to military bases and therefore the rates are used as an accepted methodological approach, and are used at a number of military bases to assess potential impacts to transportation. Based on a survey of developments with different designated land uses incorporated within the handbook, the trips generated within each land use type were associated with an independent variable (square footage of facilities, number of personnel) and time period of analysis (AM and PM peak on weekdays; peak hour on Saturday and Sunday) through a regression analysis.

The trip rates used in this analysis reflect a higher concentration of trips in the AM and PM peak hours than in civilian transportation patterns and also reflect an assumption that 5% of the AFRC personnel carpool to work. The AM peak hour volumes represent a notional single peak hour that could be 7:00-8:00 AM or 7:30-8:30 AM and reflect the conditions at a peak hour in the morning. The PM peak hour volumes represent a similar situation in the afternoon.

Under the proposed action a total of 1,037 additional personnel would be assigned to the base. Of these, 966 are part-time reservists, of which one-third or 322 would be reporting to the base on a given reserve drill weekend, and 71 are full-time military or civilian personnel that would be reporting to the base daily on weekdays. For analytical purposes, certain assumptions were made to estimate the distribution of personnel coming to the base on a typical weekday and weekend day. These assumptions are listed below.

- Three drill weekends a month, which would result in an additional 322 reserve personnel accessing the base on any given weekend.
- 50/50 split between personnel accessing the base via Industrial Gate and James Street Gate.
- 5% of personnel would car-pool.
- All additional personnel accessing the base (weekdays and weekends) would be DoD-decaled.
- AFRC facility modeled as an office building-type facility, for the purposes of modeling estimated number of vehicle trips.

Using the trip generation procedures outlined by the ITE, the additional vehicle trips that would be generated by the project were estimated for a typical weekday and a typical weekend day. The additional trips associated with the inbound personnel are presented in Table 4-11. As the table shows, the Base would receive an estimated 54 additional incoming trips during the AM peak hour and 51 additional outgoing trips during the PM peak hour on an average weekday. On an average drill weekend day there would be an estimated 244 additional incoming trips and an estimated 233 additional outgoing trips generated in the AM peak hour and PM peak hour, respectively, as a result of the Proposed Action.

At the gates, the trips that have the potential to cause queuing and delay problems are the inbound trips, due to the need for vehicle and/or identification checks. The proposed action would cause an additional 54 vehicles to enter the gates during the AM peak hour and 9 in the PM peak hour on an average weekday. On an average drill weekend day, there would be an additional 244 vehicles entering the gates during the AM peak hour and 41 vehicles entering during the PM peak hour (see Table 4-11).

No information was available on the current levels and distribution of vehicles entering and leaving the base at each gate. However, assuming a 50/50 split for the additional trips associated with the Proposed Action, it would

be expected that each gate (Industrial and James Street) would receive 27 additional vehicles on a weekday and 122 additional vehicles on a weekend during the AM peak hour. For military installation gates, the Military Traffic Management Command (MTMC) assumes for capacity purposes that each gate has a processing rate of 350 vehicles per hour per military police (MP) guard, assuming that 100% of the traffic is DoD-decaled or otherwise badged. Applying this rate, the additional traffic generated as a result of the Proposed Action accounts for approximately 35% of the hourly processing capacity of a single MP checking decals on a weekend. An additional MP would increase the processing capacity to 525 vehicles per hour. Without more recent, accurate data on the current number of vehicles processed per gate per hour, the potential for delays or increases in delays as a result of the Proposed Action cannot be assessed at this time.

**Table 4-11: Estimated Additional Trips Generated by the Proposed Action**

Project Description	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
<b>Weekday</b> – Armed Forces Reserve Center	54	7	61	9	51	60
<b>Weekend</b> – Armed Forces Reserve Center	244	30	274	41	233	274

**Installation Transportation and Public Transportation** – Negligible impacts would be expected, as the Proposed Action would direct virtually all additional traffic to a base area that has a well-developed, existing traffic infrastructure and a well-organized system of base primary, secondary, and tertiary roads.

#### **4.11.2.3 Remote MEP Site Alternative**

Impacts under the remote MEP alternative would be identical to those under the Preferred Alignment Alternative. Vehicle trips associated with the routine movement of vehicles between the OMS/AMSA and the remote MEP site would be internal to the base and therefore would not have an impact on the gates or regional transportation infrastructure.

## **4.12 UTILITIES**

### **4.12.1 Affected Environment**

The ROI is defined as utility services at Westover ARB and any potential affects on public utility service providers in the area. Local municipal and commercial utility companies provide all major utilities at Westover ARB. The utility systems at Westover ARB are in good condition and have sufficient capacity to meet current and foreseeable mission needs. Much of the following baseline utilities resource section is drawn from data and conclusions found in the 2005 *Westover ARB General Plan* (USAF, 2005a).

#### **4.12.1.1 Potable Water Supply**

The City of Chicopee provides potable water to Westover ARB through a connection on Moody Street in Ludlow, MA. Water enters the base distribution center via a 16-inch water main. A 500,000-gallon elevated storage tank is used to maintain pressure and flow in the event of fire-fighting activities. In addition to the main feed, emergency water supply may also come on base through an 8-inch line that is valved to the main distribution system near the James Street Gate.

Water usage at Westover ARB increased in 1991 with Desert Storm, and has remained higher than previous years due to the base's new focus as a stage operation site. In the six-year period from FY85-90, water usage averaged 57.9 million gallons per year (gpy). In the four-year period including and after Desert Storm (FY91-94), usage increased by 66% to an average of 96.2 million gpy. Water consumption has decreased dramatically since the installation of the new water system in 1994 and water usage for FY04 was down to 44.7 million gpy.

#### **4.12.1.2 Sanitary Sewer Service**

The City of Chicopee owns the sanitary sewer lines on base except for sewer lines within 5 feet of base facilities; the base owns the lines from the 5-foot line to the buildings. The entire system is gravity fed, connecting to the City of Chicopee system via an 18-inch main. Sewage usage also increased with the increase in base activity during Desert Storm. The average usage from FY85-90 was 57.2 million gpy. Usage increased by 50% in the period from FY91-94 to 85.7 million gpy. Thereafter sanitary sewer service use levels declined substantially, and were at 46.1 million gpy in FY04, following the trends of other utility use levels on base.

#### **4.12.1.3 Electrical Service and Distribution**

Chicopee Electric Lighting supplies electricity to the base and the on-base electrical system underwent a complete refurbishment in 1993. An upgrade to the main base feeder was scheduled to replace the original dual feed and to allow the entire base system to be improved from 4,800 to 13,800 volt service. However, there is no need at this time to upgrade to 13,800 volts. The existing electrical system is generally in good condition, easily meets current demands, and has adequate capacity to meet future energy needs.

#### **4.12.1.4 Storm Water System**

While the storm drainage system is in relatively good condition, there are areas on base that require attention. Maintenance and repair is expected to continue on older base concrete curb inlets that have been damaged over the years by snow plows and erosion and that also have reduced inlet capacities due to pavement overlays. To comply with NPDES requirements, oil/water separators are installed as part of the storm drainage system.

Westover ARB maintains a comprehensive *Storm Water Pollution Prevention Plan* (SWPPP) that is regularly reviewed and updated. The SWPPP describes BMPs and other site-specific measures such as protection of storm drain inlets and outlets, construction of sediment traps, and the use of swales to divert and slow runoff as well as a variety of base-wide BMPs. The base storm water management program includes regular audit and compliance

reviews, sampling and monitoring of storm water across a wide array of water quality parameters, periodic updates of the SWPPP. In addition, Westover ARB maintains a current and comprehensive *Erosion and Sedimentation Control Manual*.

#### **4.12.2 Environmental Consequences**

##### ***4.12.2.1 No Action Alternative***

Under the No Action Alternative, no effects on utilities would be expected.

##### ***4.12.2.2 Preferred Alternative***

Overall effects on utilities as a result of the Preferred Alternative are expected to be negligible since utility services are considered to be adequate for current and future usage demands. Under the Preferred Alternative, current utility lines would need to be adjusted and reconnected for the proposed AFRC complex. Some minor utility line relocations are expected as well to support the site-specific building footprints and expected utility demand levels. Short-term minor disruptions are possible during utility line extension and adjustment activities.

A back-up generator (likely diesel-powered) and supporting Above-ground Storage Tank (AST) would be expected to be installed at the new AFRC building to provide uninterrupted power during outages. Detailed specifications on back-up generator, fuel type(s), and AST have not yet been finalized. Any new AST would be appropriately sited and permitted, and a new or revised Spill Prevention Control and Countermeasures plan would be prepared if tank size triggers that regulatory requirement.

Existing storm water conveyances at the preferred AFRC complex site are in place and have supported previous and current site run-off. Under the Preferred Alternative, there would be a minor increase in impervious surfaces at the preferred AFRC complex site. However, the site allows for buffers and grassed areas within and around portions of the complex. These areas would reduce storm water run-off by absorbing some run-off and reducing run-off velocity from hardscape areas. The site previously had structures sited on it and the existing storm water drain and conveyance system was adequate to support these facilities. The amount of stormwater runoff currently and post-construction would be expected to be unchanged. Due to the minor increase in impervious cover (parking areas) and the addition of new AFRC complex structures and associated run-off, some improvements to the existing stormwater system are anticipated to be necessary to ensure that this is the case. Some current stormwater pipes may be replaced with larger diameter pipes to increase capacity. Depending on final detailed building plans, an underground stormwater leach field may be considered to further expand the site's capacity to manage stormwater run-off (Westover ARB, 2006d).

The Westover ARB SWPPP and Erosion and Sedimentation Control Manuals would guide planning and construction of the Preferred Alternative sites and facilities to minimize any potential effects on existing storm water management systems or on water quality of area surface waters. Prior to construction activities, the Army (as tenant), Westover ARB, or the construction contractor would submit an NOI under proper NPDES procedures,

and would prepare a tailored, site-specific SWPPP describing specific measures that would be taken during construction of the AFRC complex and MEP vehicle storage areas.

#### **4.12.2.3 Remote MEP Site Alternative**

Impacts for the location of the AFRC and associated facilities would be similar to those of the Preferred Alternative. For the MEP area under the Remote MEP Site Alternative, utility lines (likely limited to electrical service) would need to be extended to service the site for the provision of lighting at the site. Under the Remote MEP Site Alternative, the 4-acre MEP area would be paved and because the site drains to Stony Brook, additional storm water control measures might be necessary. However, the remote MEP area has been sited to maximize distances from area wetlands and to greatly reduce the potential for storm water run-off to impact base surface waters.

### **4.13 HAZARDOUS AND TOXIC SUBSTANCES**

Hazardous materials are substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may present a substantial danger to public health or the environment if released. These typically include reactive materials such as explosives, ignitables, toxics (such as pesticides), and corrosives (such as battery acid). When improperly stored, transported, or otherwise managed, hazardous materials can significantly affect human health and safety and the environment.

#### **4.13.1 Affected Environment**

Hazardous materials waste at Westover ARB are managed in accordance with the DoD Directive 4210.15 (*Hazardous Materials Pollution Prevention*), AFI 32-7086 (*Hazardous Materials Management*), and AFI 32-7080 (*Pollution Prevention Program*), which incorporate all requirements of federal regulations, DoD Directives, and AFIs for the reduction of hazardous material uses and purchases. EO 12088, *Federal Compliance with Pollution Control Standards*, requires that necessary actions are taken for the prevention, management, and abatement of environmental pollution from hazardous materials due to federal facility activities (USAF, 2003a). Westover ARB has a comprehensive *Hazardous Material Emergency Planning and Response Plan*, which was updated in October, 2005 (USAF, 2005c). The Plan includes details on base safety planning, personnel training, and detailed emergency response procedures. The Westover ARB *Hazardous Waste Management Plan* (USAF, 2003b) describes base-wide hazardous waste policies and procedures, training, emergency response, reporting requirements, and waste stream analyses.

##### **4.13.1.1 Uses of Hazardous Materials**

Westover ARB is a large quantity generator (LQG) of hazardous waste, which is defined under RCRA as a facility or group of facilities that generate greater than 1,000 kilograms (kg) of hazardous waste per month. The EPA generator identification number for Westover ARB is MA0570024026 (USAF, 2003a).

The current AFRC and OMS located at Westover ARB generate small amounts of hazardous wastes. The OMS is a small quantity hazardous waste generator (SQG), with identification number MV4135931678. Vehicle maintenance activities use hazardous materials and generate small quantities of hazardous wastes. Materials include vehicle maintenance liquids, such as fuels (gasoline and diesel), oils, lubricants, hydraulic fluids, cleaning solvents, painting supplies, kerosene, used batteries, anti-freeze, brake pads and materials, and used rags. Hazardous materials and flammables are stored on-site in storage cabinets and in a triple-bay chemical storage shed. The OMS has a vehicle wash-rack which directs wash water through an oil-water separator into the sanitary sewer system (U.S. Army, 2005).

#### ***4.13.1.2 Storage and Handling Areas***

Hazardous wastes are generated at Westover ARB during routine operations and maintenance activities. Westover ARB currently operates as a generator of hazardous waste and is not permitted as a Transportation, Storage, or Disposal (TSD) facility or for the on-site disposal of hazardous waste. Hazardous wastes are transported by approved carriers to licensed treatment or disposal facilities in accordance with regulatory requirements. The base has 16 satellite points (where small quantities of waste may be stored until the containers are full) and 2 accumulation points (an above ground waste oil tank in Hangar 5 and an accumulation point for other wastes in Bldg 1301) where wastes may be stored for up to 90 days before being transported off base for proper disposal through the Defense Reuse and Marketing Organization (DRMO), usually the DRMO in Groton, Connecticut (Walker, 2001 cited in USAF, 2003a).

#### ***4.13.1.3 Site Contamination Cleanup***

Westover ARB contains a number of IRP sites in various stages of closure, remediation, and monitoring status. The *Westover ARB General Plan* includes details on the status of IRP sites and on-going monitoring activities. Figure 4-7 is a Westover ARB Hazardous Materials sites map.

### **4.13.2 Environmental Consequences**

#### ***4.13.2.1 No Action Alternative***

No effects would be expected. Under the No Action Alternative, the proposed new facilities would not be constructed.

#### ***4.13.2.2 Preferred Alternative***

**AFRC Building** – The proposed AFRC would consist primarily of office space and administrative service areas. There would be minimal use of hazardous materials, such as janitorial products and printing supplies. Any hazardous materials will be handled and stored in accordance with applicable regulations and label precautions.

Negligible long-term adverse effects would be expected. Because of the minimal use of hazardous materials and minimal waste generation in this proposed facility, there would be negligible long-term adverse impacts related to hazardous or toxic substances from the proposed facility's operation.

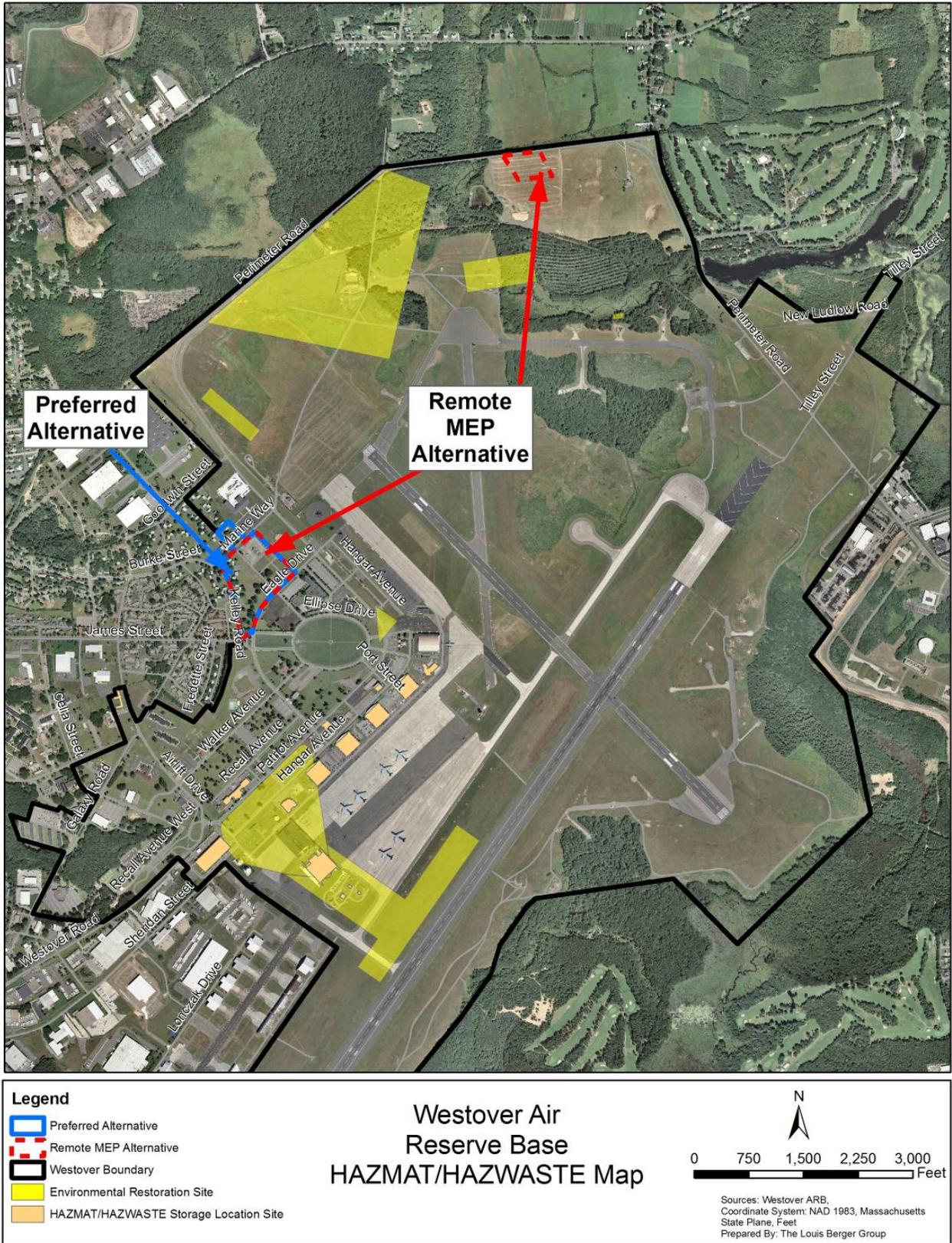
Soils testing would occur prior to site preparation and construction, to determine the presence and extent of possible transite (Asbestos-containing materials) piping that underlies portions of the AFRC site, and potential asbestos contamination in surface soils due to older structures that were previously demolished. In addition, the 1962-era structures at the site contain both ACM and lead-based paint (LBP). A recent survey of these structures confirmed the presence of both LBP and ACM. ACM was identified in portions of floor tiles, window caulk, joint compound, electrical wiring, and roof shingles. In addition, small amounts of other hazardous materials were identified as present, including polychlorinated biphenyls (PCBs) (in light ballasts and transformers), mercury (in thermostats, wall switches, and fluorescent bulbs), and batteries in emergency lights (U.S. Army, 2006e). During demolition, such materials would be removed from the site and disposed of in accordance with applicable environmental and safety regulations.

The AFRC would likely include an emergency generator and associated AST (likely diesel). An updated SPCC plan would be necessary to address any new ASTs.

**AMSA/OMS Facility** – This proposed facility would include a vehicle maintenance shop, with service bays and a controlled waste storage area. Maintenance activities require the use of several types of hazardous materials, as listed in 4.13.1.1. These materials are currently in use at Westover ARB and addressed in base regulations and directives. A number of waste minimization measures and practices are typically included in an AMSA/OMS facility, including aqueous (water-based) parts washers, thereby reducing the amount of solvent use considerably; paint booth strippers that employ sponge pellets or other recycled materials for paint removal; oily rags cleaning, and best management practices to minimize the amounts of hazardous materials stored, used, or disposed of. All hazardous materials would be handled and stored in appropriate HAZMAT cabinets or containers in accordance with applicable regulations and label precautions. Facility design plans have not yet been finalized, but would include floor drains that convey flow through oil-water separators. Any discharges to the local sanitary sewer system would require review and permitting by the City of Chicopee.

The facility would require a new RCRA Hazardous Waste Generator Permit. Based on the types and levels of hazardous materials expected to be handled and generated, an SQG permit is expected (U.S. Army, 2005). In addition an updated SPCC would be necessary to address any new ASTs and/or USTs that are proposed for installation.

Figure 4-7: Westover ARB Hazardous Materials Sites



Negligible long-term adverse effects would be expected. The consolidation of vehicle maintenance activities at a single site could cause minor increases in the amounts of hazardous materials used and disposed. However, a number of maintenance efficiencies and functional improvements in operations would also be expected to be realized with the establishment of a single, integrated facility. Due to ongoing vehicle maintenance activities, it would be expected that this facility would generate relatively small amounts of hazardous wastes regularly, such as used oil, discarded chemicals, used antifreeze, used batteries, spill residues, and contaminated rags and absorbents. With the use of an aqueous parts washer, there would be very little spent solvent generated at this facility. Used oil would be stored in an approved tank(s) with appropriate safety and containment. Other hazardous wastes would be stored in a satellite accumulation area in containers and with labels as required by applicable regulations, and transported to a permitted hazardous waste storage facility within the allotted time frame for proper disposal or recycling. Any spills or releases of hazardous wastes would be handled according to existing base safety regulations and plans.

The generation of hazardous waste at this new facility would likely result in minor short-term and long-term adverse impacts, based on the potential for small spills and the slight increase in Westover ARB's overall use of hazardous materials and disposal of hazardous waste.

**MEP** – The MEP area is currently the location of six former USMC housing and administrative buildings (two-story wood frame structures) that were constructed in 1962. It is assumed that these structures contain ACM and LBP. During demolition, such materials would be removed from the site and disposed of in accordance with applicable environmental and safety regulations.

Long-term impacts are expected to be negligible, and limited to very small quantities of vehicle fluids. The possibility for even these very small amounts of materials to migrate off-site or impact area natural resources would be reduced to virtually none by the use of standard BMPs, such as the use of drip trays and mats.

None of the proposed locations for the AFRC, AMSA/OMS, or MEP are located in close proximity to an IRP site.

#### ***4.13.2.3 Remote MEP Site Alternative***

Impacts would be identical to those under the Preferred Alternative, for the AFRC and associated facilities. For the remote MEP site, no buildings would need to be demolished and the site is vacant land that is free from contamination issues; therefore, it is expected that no hazardous waste would be generated from demolition and site preparation activities. Long-term effects would be identical as those identified for the Preferred Alternative.

### **4.14 CUMULATIVE EFFECTS SUMMARY**

A cumulative impact is defined as “the impacts on the environment that result from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertake such other actions” (40 CFR 1508.7). The section goes on to note:

“such impacts can result from individually minor but collectively significant actions taking place over a period of time.” Cumulative impacts associated with implementation of the realignment (preferred) alternative would include any impacts from other on-going actions that would be incremental to the impacts of constructing the proposed AFRC complex and realigning units to Westover ARB.

#### **4.14.1 Affected Environment**

A number of potential future projects have been identified on Westover ARB. These projects are under consideration and their implementation would be subject to availability of funding, scheduling, and alterations in military unit structure, tempo of operations, and other factors. The Westover ARB General Plan and the Joint Land Use Plan both discuss potential future projects and planning standards that are applied to the consideration of such projects, including siting, design, and compatibility with area land uses. Potential future projects include new ordnance storage areas in the northern portion of the base, a new centralized lodging and dining facility in the Ellipse area, and a new 439<sup>th</sup> Airlift Wing HQ, also in the Ellipse area.

An action of direct relevance to this EA (and discussed in a number of resource areas), is the pending conveyance of approximately 30 acres of former U.S. Navy former housing to the City of Chicopee. This parcel of land is located directly west of the Westover ARB fenceline along Cowan Avenue. The proximity of the parcel to the base, the condition of the housing, and the availability of funds will determine the ultimate redevelopment of this property, although there are indications that light industrial use would be preferred by the City of Chicopee (City of Chicopee, 2006 and U.S. Navy, 2004).

#### **4.14.2 Environmental Consequences**

##### ***4.14.2.1 No Action Alternative***

Implementation of the No Action Alternative would avoid new impacts that could interact with the impacts of other past, present, or reasonably foreseeable actions. Therefore, there would be no cumulative impacts associated with the No Action Alternative.

##### ***4.14.2.2 Preferred Alternative***

Implementation of other projects under consideration would be expected to have a range of minor effects, both adverse and beneficial, on base operations, including security, traffic flow, parking facilities, infrastructure, constraints, environmental resources, habitat, and other resources. A detailed analysis of these potential effects is not possible at this time, due to the lack of specific proposals and final siting decisions. However, it is likely that new ordnance storage bunkers would impose safety constraints arcs on some additional areas of the base, thus restricting their future use for other purposes. Development in the historic core ellipse area would, over time, reduce the amount of area available for development and impose greater burdens on base infrastructure. At the same time, these and other future developments would be a key part in realization of the ‘urban campus setting’ in the ellipse area, and would largely be consistent with the historic core. Furthermore, the new facilities

contemplated would presumably enhance the efficiency of base operations, improve working conditions, and make better use of the existing base facilities.

The transfer of the U.S. Navy housing parcel to the City of Chicopee is not expected to have any short-term effects, as there are no immediate plans for site redevelopment. Over the long-term, the redevelopment of the site could contribute to minor effects on area resources, including demand on the utility infrastructure, increased traffic, and visual resources. These potential cumulative effects cannot be fully investigated until the City of Chicopee makes decisions on the type(s) of redevelopment that will be encouraged for the parcel.

#### ***4.14.2.3 Remote MEP Site Alternative***

Cumulative effects would largely be identical as those discussed for the Preferred Alternative. Potential differences in cumulative effects that might be associated with the establishment of a remote MEP site, in combination with other base proposals, include an increase in on-base traffic, and limits on potential future uses of the remote MEP area.

### **4.15 MITIGATION SUMMARY**

None of the predicted effects of the Proposed Action under any of the Alternatives would result in significant impacts; therefore, mitigation is not needed. However, the U.S. Army may consider the use of BMPs in the construction and operation of the AFRC and associated facilities, including specific measures to reduce potential erosion, storm water runoff, and sediment transport during site preparation and construction activities.

## 5.0 FINDINGS AND CONCLUSIONS

### 5.1 FINDINGS

#### 5.1.1 Consequences of No Action Alternative

Under the No Action Alternative, the proposed new AFRC and associated facilities would not be constructed, and no environmental impacts would occur.

#### 5.1.2 Consequences of Preferred Alternative

The Proposed Action would not have any significant effects or impacts on any of the environmental or related resource areas at Westover ARB or to areas surrounding the base.

The potential effects associated with the Preferred Alternative are anticipated to be minor and not significant. These minor impacts would be experienced in the following resource areas:

- Land Use
- Visual
- Noise
- Soils
- Socioeconomics – Economic Development
- Transportation
- Utilities – Storm water
- Hazardous and Toxic Substances

#### 5.1.3 Consequences of Remote MEP Site Alternative

The Remote MEP Site Alternative would not have any significant effects or impacts on any of the environmental or related resource areas at Westover ARB or to areas surrounding the base.

The potential effects associated with the Remote MEP Site Alternative are anticipated to be minor and not significant. These minor impacts would be identical as those under the Preferred Alternative, except for additional minor effects that would be anticipated in the following resource areas:

- Biological Resources

A summary of impacts by resource area for the No Action Alternative, the Preferred Alternative, and the Remote MEP Site Alternative is provided in Table 5-1.

### 5.2 CONCLUSIONS

The following permits would likely be required to implement the projects identified in this analysis:

- A NPDES notice and an associated Storm Water Pollution Prevention Plan for the construction phase of the project would be necessary under CWA Section 402 requirements.
- Storm water discharge permits for operations may be necessary under both state and City of Chicopee, MA regulations.
- Any new discharges to the sanitary sewer system would require review and permitting by the City of Chicopee
- A new or revised SPCC plan would likely be required for any new emergency generators that have associated above-ground storage tanks.
- Revised or updated RCRA Hazardous Waste Generator Permit(s) would likely be necessary for the new AMSA/OMS facility.

None of the predicted effects of the proposed action would result in significant impacts; therefore, mitigation is not needed, although the U.S. Army may consider the use of BMPs in the construction and operation of these facilities. Therefore, the results of the analyses warrant issuance of a Finding of No Significant Impact.

**Table 5-1: Summary of Effects of Alternatives**

<b>Resource</b>	<b>No Action Alternative</b>	<b>Preferred Alternative</b>	<b>Remote MEP Site Alternative</b>
<b>Land Use</b>			
<i>Regional Geographic Setting and Location</i>	None	None. No significant impact.	Same as Preferred Alternative
<i>Installation Land Use</i>	None	Negligible to minor. No significant impact.	Same as Preferred Alternative
<i>Current and Future Development in the Region of Influence</i>	None	None. No significant impact.	Same as Preferred Alternative
<b>Aesthetic and Visual Resources</b>	None	Negligible to minor. No significant impact.	Same as Preferred Alternative
<b>Air Quality</b>			
<i>Ambient Air Quality Conditions</i>	None	Negligible. No significant impact.	Same as Preferred Alternative
<i>Regional Air Pollutant Emissions Summary</i>	None	Negligible. No significant impact.	Same as Preferred Alternative
<b>Noise</b>	None	Negligible to minor short-term due to construction. Negligible long-term due to vehicle and facility operations. No significant impact.	Same as Preferred Alternative
<b>Geology and Soils</b>			
<i>Geologic and Topographic Conditions</i>	None	None. No significant impact.	Same as Preferred Alternative
<i>Soils</i>	None	Negligible to minor, highly-localized to sites. No significant impact.	Same as Preferred Alternative

<b>Resource</b>	<b>No Action Alternative</b>	<b>Preferred Alternative</b>	<b>Remote MEP Site Alternative</b>
<i>Prime Farmland</i>	None	None. No significant impact.	Same as Preferred Alternative
<b>Water Resources</b>			
<i>Surface Water</i>	None	Negligible to minor. No significant impact.	Same as Preferred Alternative
<i>Hydrogeology/Groundwater</i>	None	Negligible. No significant impact.	Same as Preferred Alternative
<i>Floodplains</i>	None	None. No significant impact.	Same as Preferred Alternative
<b>Biological Resources</b>			
<i>Vegetation/Wildlife</i>	None	Negligible impacts on vegetation. No significant impact.	Negligible to minor effects on grasslands. No significant impact.
<i>Sensitive Species</i>	None	None. No significant impact.	Negligible to minor effects on sensitive species habitat. No significant impact.
<i>Wetlands</i>	None	None. No significant impact.	Negligible to minor. No significant impact.
<b>Cultural Resources</b>			
<i>Archaeological</i>	None	None expected. No significant impact.	Same as Preferred Alternative
<i>Historic Architecture</i>	None	Negligible. No significant impact.	Same as Preferred Alternative
<i>Native American Resources</i>	None	None expected. No significant impact.	Same as Preferred Alternative
<b>Socioeconomics</b>			
<i>Economic Development</i>	None	Minor beneficial. No significant impact.	Same as Preferred Alternative
<i>Demographics</i>	None	Negligible. No significant impact.	Same as Preferred Alternative
<i>Housing</i>	None	Negligible. No significant impact.	Same as Preferred Alternative
<i>Environmental Justice</i>	None	None. No significant impact.	Same as Preferred Alternative
<b>Transportation</b>			
<i>Roadways and Traffic</i>	None	Minor due to additional vehicles entering gates. No significant impact.	Same as Preferred Alternative
<i>Installation Transportation</i>	None	Negligible. No significant impact.	Same as Preferred Alternative
<i>Public Transportation</i>	None	Negligible. No significant impact.	Same as Preferred Alternative
<b>Utilities</b>			
<i>Potable Water Supply</i>	None	Negligible. No significant impact.	Same as Preferred Alternative

<b>Resource</b>	<b>No Action Alternative</b>	<b>Preferred Alternative</b>	<b>Remote MEP Site Alternative</b>
<i>Wastewater System</i>	None	Negligible. No significant impact.	Same as Preferred Alternative
<i>Storm water System</i>	None	Negligible to minor. No significant impact.	Same as Preferred Alternative
<b>Hazardous and Toxic Substances</b>			
<i>Uses of Hazardous Materials</i>	None	Potential negligible to minor increase in amounts of materials used. No significant impact.	Same as Preferred Alternative
<i>Storage and Handling Areas</i>	None	Negligible. No significant impact.	Same as Preferred Alternative
<i>Hazardous Waste Disposal</i>	None	Potential negligible to minor increase in waste disposal amounts. No significant impact.	Same as Preferred Alternative
<i>Site Contamination and Cleanup</i>	None	None. No significant impact.	Same as Preferred Alternative

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U.S. Environmental Protection Agency

National Oceanic and Atmospheric Administration, Fisheries Service

### **State Officials and Agencies**

Massachusetts Department of Environmental Protection

Massachusetts Division of Fisheries and Wildlife

Massachusetts Highway Department

Massachusetts Historical Commission (SHPO)

### **Local Government Officials and Agencies**

City of Chicopee, MA, Community Development Office

City of Chicopee, MA Historical Commission

### **Libraries**

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Chicopee, MA 01013

Hubbard Memorial Library

24 Center Street

Ludlow, MA 01056

### **Media**

Springfield *Republican American* newspaper

1860 Main St

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## 9.0 ACRONYMS

AADT	Annual Average Daily Traffic
ACM	Asbestos Containing Materials
AEIP	U.S. Army Environmental Policy Institute
AFI	Air Force Instruction
AICUZ	Air Installation Compatible Use Zone
AIRFA	American Indian Religious Freedom Act
AFRC	Armed Forces Reserve Center
AMSA	Area Maintenance Support Activity
AQI	Air Quality Index
ARB	Air Reserve Base
ARC	Army Reserve Center
ARNG	Army National Guard
ARPA	Archaeological
ASG	Area Support Group
AST	Aboveground Storage Tank
ATC	Air Transport Command
AT/FP	Anti-Terrorism/Force Protection
BFE	Base Flood Elevation
BLSF	Bordering Land Subject to Flooding
BMP	Best Management Practice(s)
BRAC	Base Realignment and Closure
C	Celsius
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CCC	Civil Conservation Corps
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (also known as “Superfund”)
CFR	Code of Federal Regulations
cm	Centimeter
CO	carbon monoxide
COBRA	Cost of Base Realignment Actions

CWA	Clean Water Act
dB	decibels
DD	Defense Department
DNL	Day-Night Level
DoD	Department of Defense
DOPAA	Description of Proposed Action and Alternatives
DRMO	Defense Reuse and Marketing Organization
EA	Environmental Assessment
EIFS	Economic Impact Forecast System
EIS	Environmental Impact Statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
F	Fahrenheit
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FNSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
ft <sup>2</sup>	Square Feet
FY	Fiscal Year
g	grams
GIS	Geographic Information System
gpy	gallons per year
HQ	Headquarters
HVAC	Heating, Ventilation, and Air Conditioning
ICRMP	Integrated Cultural Resource Management Plan
ILSF	Isolated Land Subject to Flooding
INRMP	Integrated Natural Resources Management Plan
IRP	Installation Restoration Program
ITE	Institute of Transportation Engineers
JLUS	Joint Land Use Study

JTF	Joint Task Force
kg	kilogram
LBP	Lead Based Paint
LPA	Limited Plan Approval
LQG	Large Quantity Generator
MA ARNG	Massachusetts Army National Guard
MA DEP	Massachusetts Department of Environmental Protection
MA DFW	Massachusetts Division of Fisheries and Wildlife
MA SHPO	Massachusetts State Historic Preservation Officer
MATS	Military Air Transport System
MA WPA	Massachusetts Wetlands Protection Act
MBTA	Migratory Bird Treaty Act
MCL	Maximum Contaminant Level
MEP	Military Equipment Parking
mm	millimeter
MP	Military Police
MTMC	Military Traffic Management Command
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NO <sub>2</sub>	nitrogen dioxide
NO <sub>x</sub>	Nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NPV	Net Present Value
NWI	National Wetlands Inventory
O <sub>3</sub>	Ozone
OMS	Organizational Maintenance Shop
OSHA	Occupational Safety and Health Administration

Pb	Lead
PCB	Polychlorinated Biphenyl(s)
PM <sub>10</sub>	particles with a diameter less than or equal to a nominal 10 micrometers
PM <sub>2.5</sub>	particles with a diameter less than or equal to a nominal 2.5 micrometers
POL	petroleum, oils, and lubricants
POV	Privately-Owned Vehicle
ppm	Parts Per Million
PVTA	Pioneer Valley Transit Authority
QD	Quantity Distance
RCRA	Resource Conservation and Recovery Act
RES	Restricted Emission Status
RFTA	Reserve Forces Training Area
ROI	Region of Influence
RONA	Record of Non-Applicability
RRC	Regional Readiness Command
RTV	Rational Threshold Value
SAC	Strategic Air Command
SCF	Standard Cubic Feet
Sec.	Section
SIP	State Implementation Plan
SO <sub>2</sub>	sulfur dioxide
SPCC	Spill Prevention Control and Countermeasures
SQG	Small Quantity Generator
STIP	State Transportation Implementation Plan
SWPPP	Storm Water Pollution Prevention Plan
sy	square yard(s)
TPY	tons per year
TSCA	Toxic Substance Control Act
TSD	Transportation, Storage or Disposal
USACE	U.S. Army Corps of Engineers
USARC	U.S. Army Reserve Center

USBEA	U.S. Bureau of Economic Analysis
USBLS	U.S. Bureau of Labor Statistics
USC	United States Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compounds
WPA	Work Progress Administration

# APPENDIX A— FEDERAL AND STATE COORDINATION LETTERS



**DEPARTMENT OF THE AIR FORCE**  
AIR FORCE RESERVE COMMAND

22 November 2006

Leroy R. Clink, P.E.  
439 MSG/CE  
Westover ARB  
250 Patriot Avenue, Suite 1  
Chicopee, MA 01022-1670

Michael J. Bartlett  
Supervisor  
New England Field Office  
U.S. Fish and Wildlife Service  
70 Commercial Street  
Concord, NH 03301

Dear Mr. Bartlett

The Department of the Army (the Army) is preparing an Environmental Assessment (EA) for the proposed construction of an Armed Forces Reserve Center (AFRC) complex at Westover Air Reserve Base (ARB) in Chicopee, MA. On September 8, 2005, the Defense Base Realignment and Closure Commission ("BRAC Commission") recommended that certain realignment actions occur at Westover ARB. The President approved these recommendations on September 23, 2005, and forwarded them to Congress. The Congress did not alter any of the BRAC Commission's recommendations, and on November 9, 2005, the recommendations became law. The U.S. Army proposes to implement these recommendations and provide the necessary facilities at Westover ARB to support the changes in force structure.

The EA analyzes and documents potential environmental effects associated with the U.S. Army's proposed realignment actions at Westover ARB. The EA is being prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended (42 USC 4321 et seq.); the Council on Environmental Quality (CEQ) Regulations (40 CFR 1500-1508); and Environmental Analysis of Army Actions (32 CFR Part 651).

The AFRC complex would be the primary facility for eight U.S. Army Reserve units, one MA Army National Guard (MAARNG) unit, and one U.S. Marine Corps Reserve unit. Some of the units now located elsewhere would move to the proposed Westover AFRC. They would bring associated vehicles, equipment, and materials in addition to those already located on Westover ARB at the current AFRC.

The AFRC complex would include an approximately 143,331 square feet (ft<sup>2</sup>) two-story training building located on existing federal property at Westover ARB, Chicopee, MA. That building would provide adequate space for training, classrooms, offices, administrative and other support spaces for about 1,000 people. The AFRC site would also include an approximately

30,033 ft<sup>2</sup> Operational Maintenance Shop (OMS)/Area Maintenance Support Activity (AMSA), an approximately 4,556 ft<sup>2</sup> unheated storage building, new privately-owned vehicle (POV) parking lots and paving totaling about 17,787 square yards (sy), and an approximately 26,922 sy military equipment parking (MEP) area.

The Army proposes improvements to support the AFRC and associated facilities. These include clearing land, paving, fencing, generally improving the site, and extending utilities to serve the project. Disabled persons will be able to access the buildings. The Army will include Anti-Terrorism/Force Protection (AT/FP) safety and security measures in the facility design and site plan. These include minimum stand-off distance from roads, parking areas and vehicle unloading areas.

The Army is evaluating two alternatives for the proposed action (see Attachment 1). The preferred alternative is to collocate all of the facilities at a previously developed site close to the James Street Gate on Westover ARB (see Attachment 2 for detail). A second alternative would locate the AFRC and the OMS/AMSA on the same parcel of land as the preferred alternative while placing the MEP along Perimeter Road on the north side of the ARB. This proposed 4-acre MEP site is part of a larger open grassland habitat totaling about 27 acres.

We are initiating this consultation in accordance with NEPA to evaluate the potential effects associated with implementing the proposed action. Based upon the information available we do not anticipate that the project will impact any federally listed species, migratory birds or wetlands. Please confirm that no federally endangered, threatened or candidate species occur in the project area and that consultation under Section 7 of the Endangered Species Act is not necessary.

Thank you in advance for your cooperation in this matter. Andrew G. Milroy is our natural resources manager. Please have correspondence sent to him at the address listed above or faxed to his attention at (413) 557-2897. If you have any questions concerning this request, please do not hesitate to contact him at (413) 557-3760, or me at (413) 557-3813.

Sincerely



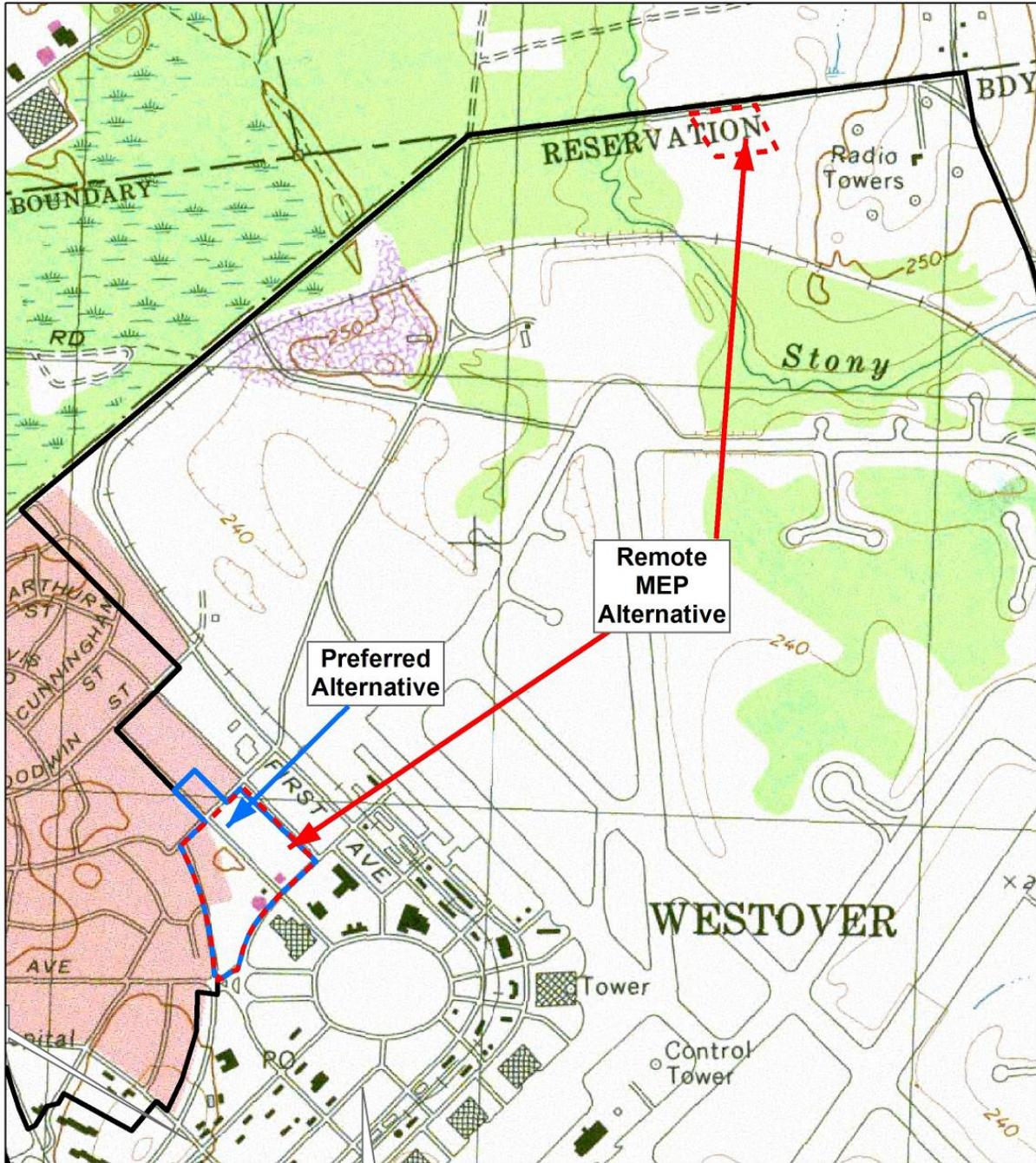
LERoy R. CLINK, P.E.  
Base Civil Engineer

2 Attachments

1. Overall Project Location
2. Location of Preferred Alternative

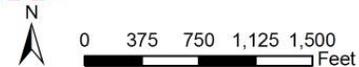
# Attachment 1

## Project Location for BRAC Proposed Action Alternative- USGS 1:24,000 Scale Topographic Quadrangles



### Legend

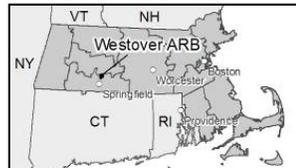
- Westover Boundary
- Preferred Alternative
- Remote MEP Alternative



### Westover Air Reserve Base Quadrangle Map (Springfield North Quad)

Sources: Westover ARB, MassGIS, ESRI  
 Coordinate System: NAD 1983 Massachusetts  
 StatePlane  
 Prepared By: The Louis Berger Group, Inc. 10/28/06

### MAP INDEX

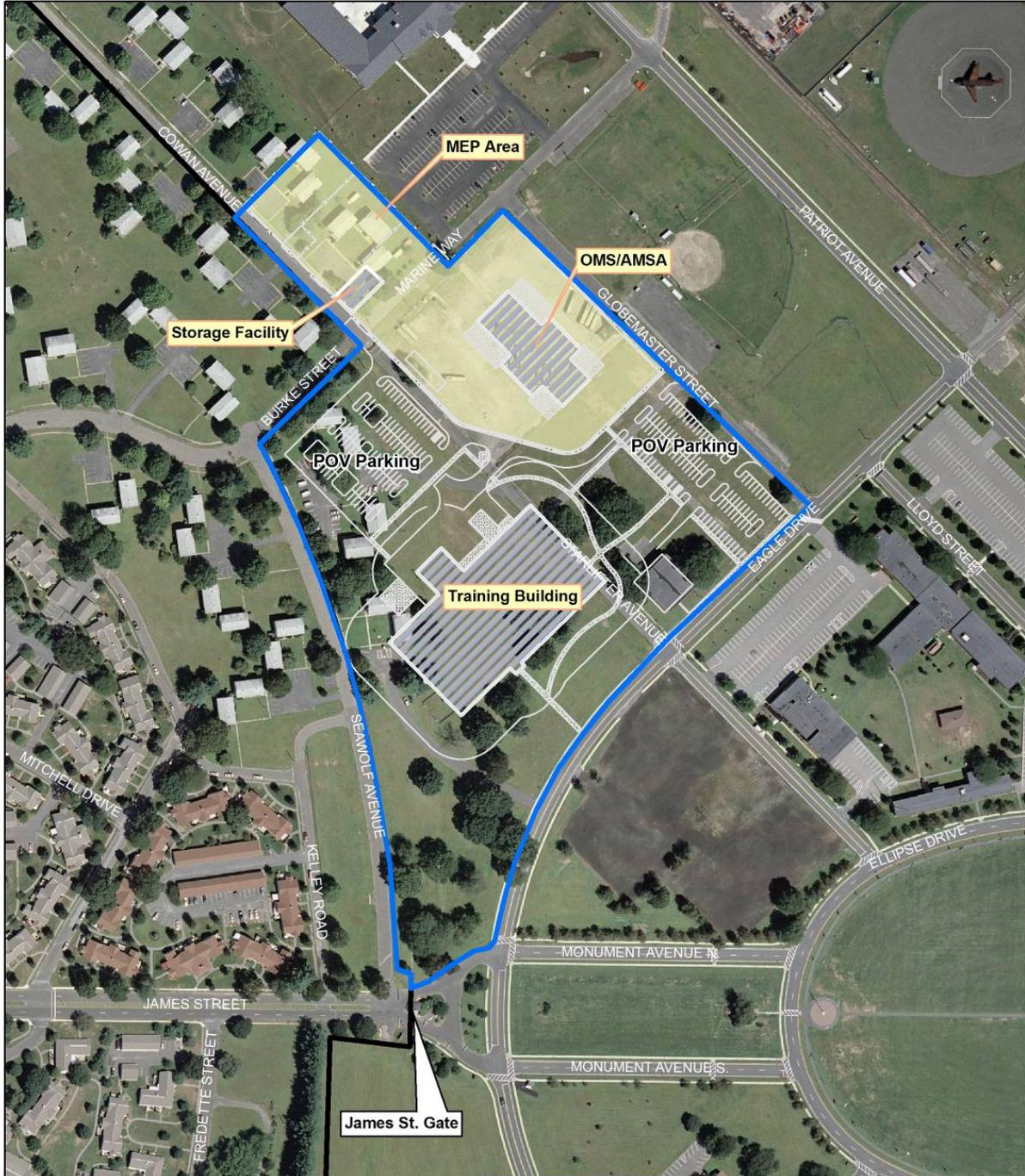


### QUAD INDEX



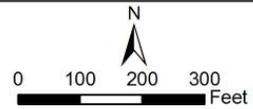
## Attachment 2

### Location of Preferred Alternative



- Legend**
- Proposed Layout
  - Site Boundary
  - Westover Boundary
  - Proposed Building
  - MEP Area

### Armed Forces Reserve Center and Military Equipment Parking Preferred Alternative



Sources: Westover ARB  
Coordinate System: NAD 1983, Massachusetts  
State Plane, Feet  
Prepared By: The Louis Berger Group, Inc. 10/26/06





**DEPARTMENT OF THE AIR FORCE**  
**AIR FORCE RESERVE COMMAND**

22 November 2006

Leroy R. Clink, P.E.  
439 MSG/CE  
Westover ARB  
250 Patriot Ave, Ste 1  
Chicopee, MA 01022-1670

Brona Simon  
Deputy State Historic Preservation Officer  
Massachusetts Historical Commission  
220 Morrissey Boulevard  
Boston, MA 02125-3314

Dear Ms. Simon:

The Department of the Army (DA) is preparing an Environmental Assessment (EA) for the proposed construction of an Armed Forces Reserve Center (AFRC) complex at Westover Air Reserve Base (ARB) in Chicopee, MA. On September 8, 2005, the Defense Base Realignment and Closure Commission ("BRAC Commission") recommended that certain realignment actions occur at Westover ARB. The President approved these recommendations on September 23, 2005, and forwarded them to Congress. The Congress did not alter any of the BRAC Commission's recommendations, and on November 9, 2005, the recommendations became law. The U.S. Army proposes to implement these recommendations and provide the necessary facilities at Westover ARB to support the changes in force structure.

The EA analyzes and documents potential environmental effects associated with the U.S. Army's proposed realignment actions at Westover ARB. The EA is being prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended (42 USC 4321 et seq.); the Council on Environmental Quality (CEQ) Regulations (40 CFR 1500-1508); and Environmental Analysis of Army Actions (32 CFR Part 651).

The AFRC complex would be the primary facility for eight U.S. Army Reserve units, one MA Army National Guard (MAARNG) unit, and one U.S. Marine Corps Reserve unit. Some of the units now located elsewhere would move to the proposed Westover AFRC. They would bring associated vehicles, equipment, and materials in addition to those already located on Westover ARB at the current AFRC.

The AFRC complex would include an approximately 143,331 square feet (ft<sup>2</sup>) two-story training building located on existing federal property at Westover ARB, Chicopee, MA. That building would provide adequate space for training, classrooms, offices, administrative and other support spaces for

about 1,000 people. The AFRC site would also include an approximately 30,033 ft<sup>2</sup> Operational Maintenance Shop (OMS)/Area Maintenance Support Activity (AMSA), an approximately 4,556 ft<sup>2</sup> unheated storage building, new privately-owned vehicle (POV) parking lots and paving totaling about 17,787 square yards (sy), and an approximately 26,922 sy military equipment parking (MEP) area. The Army proposes improvements to support the AFRC and associated facilities. These include clearing land, paving, fencing, generally improving the site, and extending utilities to serve the project. The project will provide accessibility for disabled persons. The Army will include Anti-Terrorism/Force Protection (AT/FP) safety and security measures into the facility design and site plan. These include minimum stand-off distance from roads, parking areas and vehicle unloading areas.

The Army is evaluating two alternatives for the proposed action (see Attachment 1). The preferred alternative is to collocate all of the facilities at a previously developed site close to the James Street Gate on Westover ARB (see Attachment 2 for detail). A second alternative would locate the AFRC and the OMS/AMSA on the same parcel of land as the preferred alternative while placing the MEP along Perimeter Road on the north side of the ARB. This proposed 4-acre MEP site is part of a larger open grassland habitat totaling about 27 acres.

For both the Preferred Alternative and the Remote MEP Alternative the construction of the AFRC buildings (training building, storage building, and OMS/AMSA) and POV areas would require the demolition of Buildings 3284, 3286, 3287, 3288, 3289, and 3290, situated along the east side of Seawolf Avenue (see Attachments 2 and 3). These buildings were built in 1962 and according to the Westover ARB 2004 Integrated Cultural Resource Management Plan (ICRMP) none of them are eligible for listing on the NRHP. Under the Preferred Alternative the MEP area would encompass the footprint of six former U.S. Marine Corps housing units located along Cowan Avenue (see Attachment 3). These buildings were built in 1962 and are not NRHP eligible. These buildings were also previously slated for demolition by the U.S. Marine Corps.

The AFRC site is located just northwest of the Westover ARB historic core, which is a collection of architectural and landscape features (see Attachment 4). The ICRMP and Area Development Plan consider the historic core as limited to the Ellipse and those buildings immediately surrounding it. The majority of the NRHP eligible or contributing buildings in the historic core are situated along the south side of the ellipse on Hangar Avenue. The proposed AFRC would be located and constructed within the viewshed of the historic core. Visual effects would be negligible as there are other non-contributing and non-historic buildings within the historic core viewshed (see Attachment 3). The AFRC and OMS/AMSA would also be consistent with future land uses designated for this site according to the Westover ARB General Plan. Although building plans and elevations are not yet available, the new buildings would include design elements that compliment the historic character of the nearby buildings, e.g. a similar sense of scale and massing, incorporation of sympathetic decorative details and the use of similar materials. The design and materials of the buildings will be consistent with the historic core as per the Westover ARB Area Development Plan for the Historic core, the General Plan and the ICRMP.

There are no NRHP eligible archaeological sites within or immediately adjacent to the Preferred Alternative. According to the ICRMP, the AFRC site is not located in an archaeologically significant area, nor is it in an area that has potential for archaeological significance.

The Remote MEP Alternative site would be located along the south side of Perimeter Road at the far northern edge of the base. This area is not near any NRHP eligible historic resources. The ICRMP describes a broadly defined, potentially significant, archaeological area along Stony Brook. It is near but outside the general area of the 4-acre Remote MEP Alternative site. The ICRMP outlines standard operating procedures for inadvertent discoveries of cultural resources as a result of construction, bulldozing, or other ground disturbing activities. Workers would execute established procedures in the event that cultural deposits are found during construction.

The Army has evaluated the potential impacts associated with implementing this action as required by NEPA and Section 106 of the National Historic Preservation Act (NHPA). Based upon a review of the current ICRMP and other base plans we believe that the proposed action at Westover ARB is unlikely to adversely impact our archaeological or historic resources. We welcome your input and request that you confirm this determination.

Thank you in advance for your cooperation in this matter. Andrew G. Milroy is our cultural resources manager. Please have correspondence sent to him at the address listed above or faxed to his attention at (413) 557-2897. If you have any questions concerning this request, please do not hesitate to contact him at (413) 557-3760, or me at (413) 557-3813.

Sincerely,



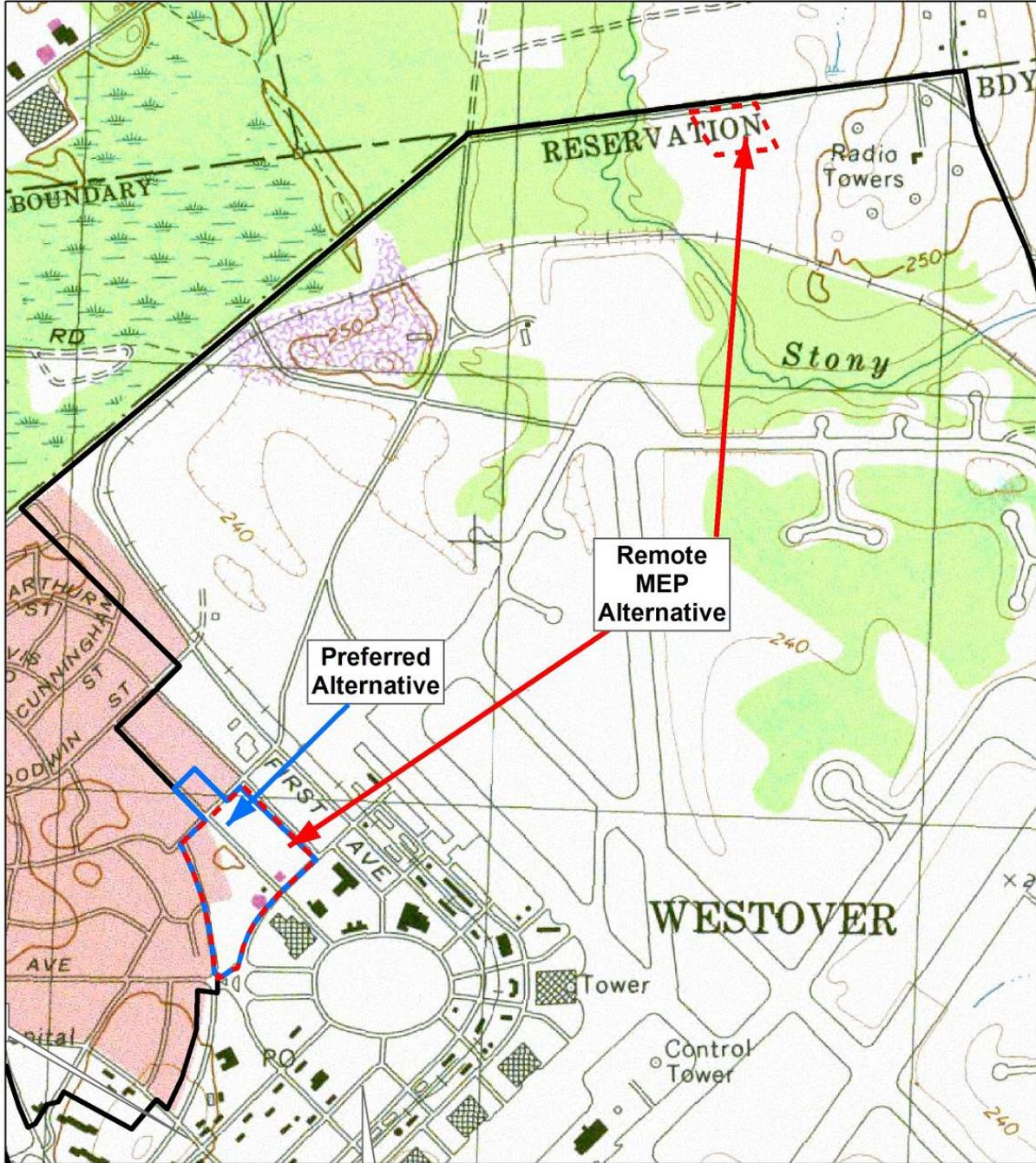
LEROY R. CLINK, P.E.  
Base Civil Engineer

4 Attachments

1. Overall Project Location
2. Location of Preferred Alternative
3. Photos of Preferred Alternative Site
4. Location of Westover ARB Historic Core

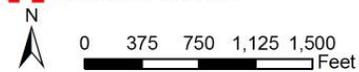
# Attachment 1

## Project Location for BRAC Proposed Action Alternative– USGS 1:24,000 Scale Topographic Quadrangles



### Legend

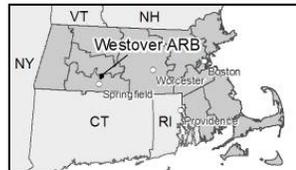
-  Westover Boundary
-  Preferred Alternative
-  Remote MEP Alternative



### Westover Air Reserve Base Quadrangle Map (Springfield North Quad)

Sources: Westover ARB, MassGIS, ESRI  
 Coordinate System: NAD 1983 Massachusetts  
 StatePlane  
 Prepared By: The Louis Berger Group, Inc. 10/26/06

### MAP INDEX

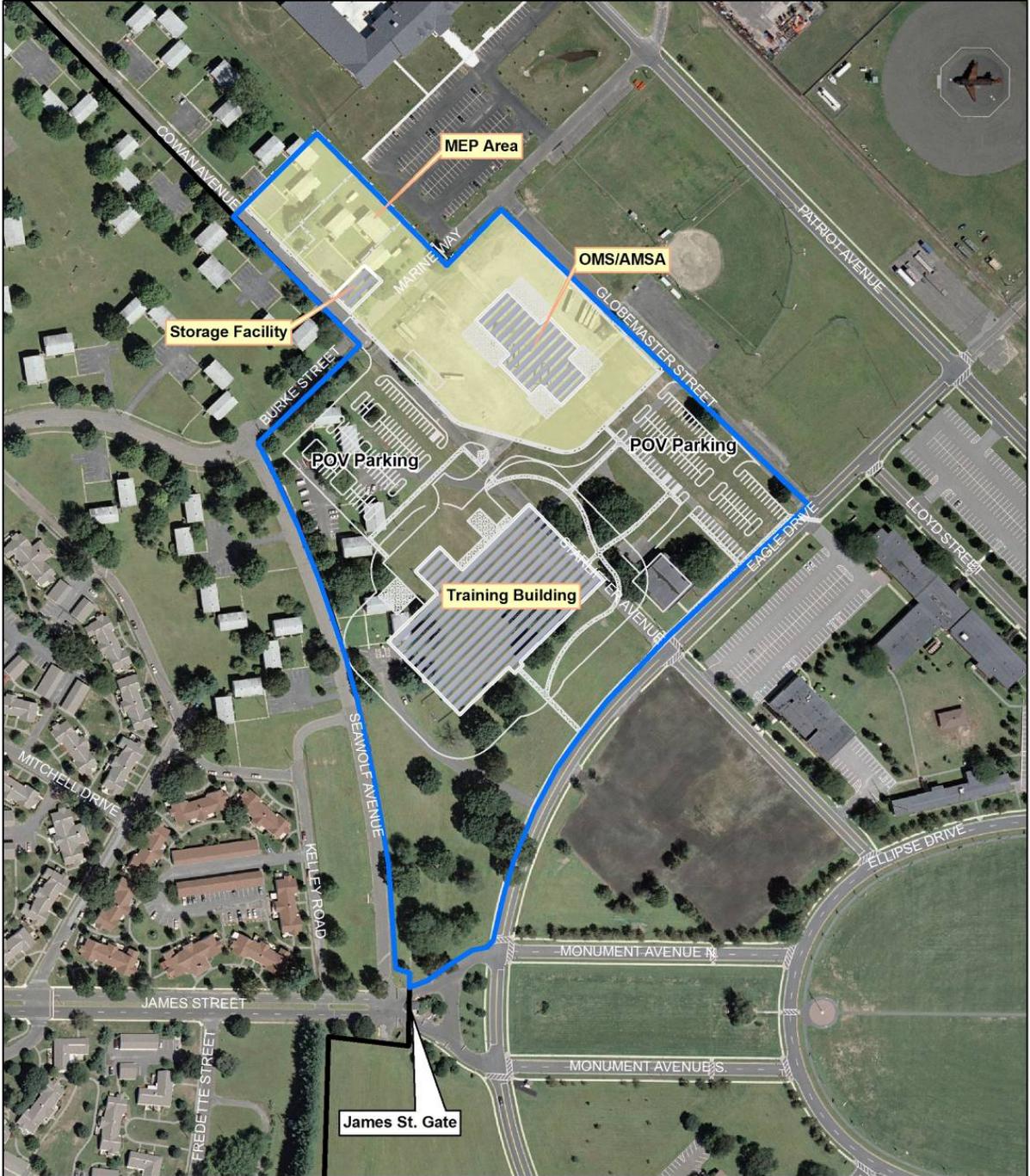


### QUAD INDEX



# Attachment 2

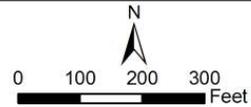
## Location of Preferred Alternative



### Legend

- Proposed Layout
- Site Boundary
- Westover Boundary
- Proposed Building
- MEP Area

### Armed Forces Reserve Center and Military Equipment Parking Preferred Alternative



Sources: Westover ARB  
Coordinate System: NAD 1983, Massachusetts State Plane, Feet  
Prepared By: The Louis Berger Group, Inc. 10/26/06

**Attachment 3**

**Photos of Preferred Site for the AFRC at Westover ARB, MA**



**Figure 1: Converted administration bldgs slated for demolition – SW of proposed OMS/AMSA**



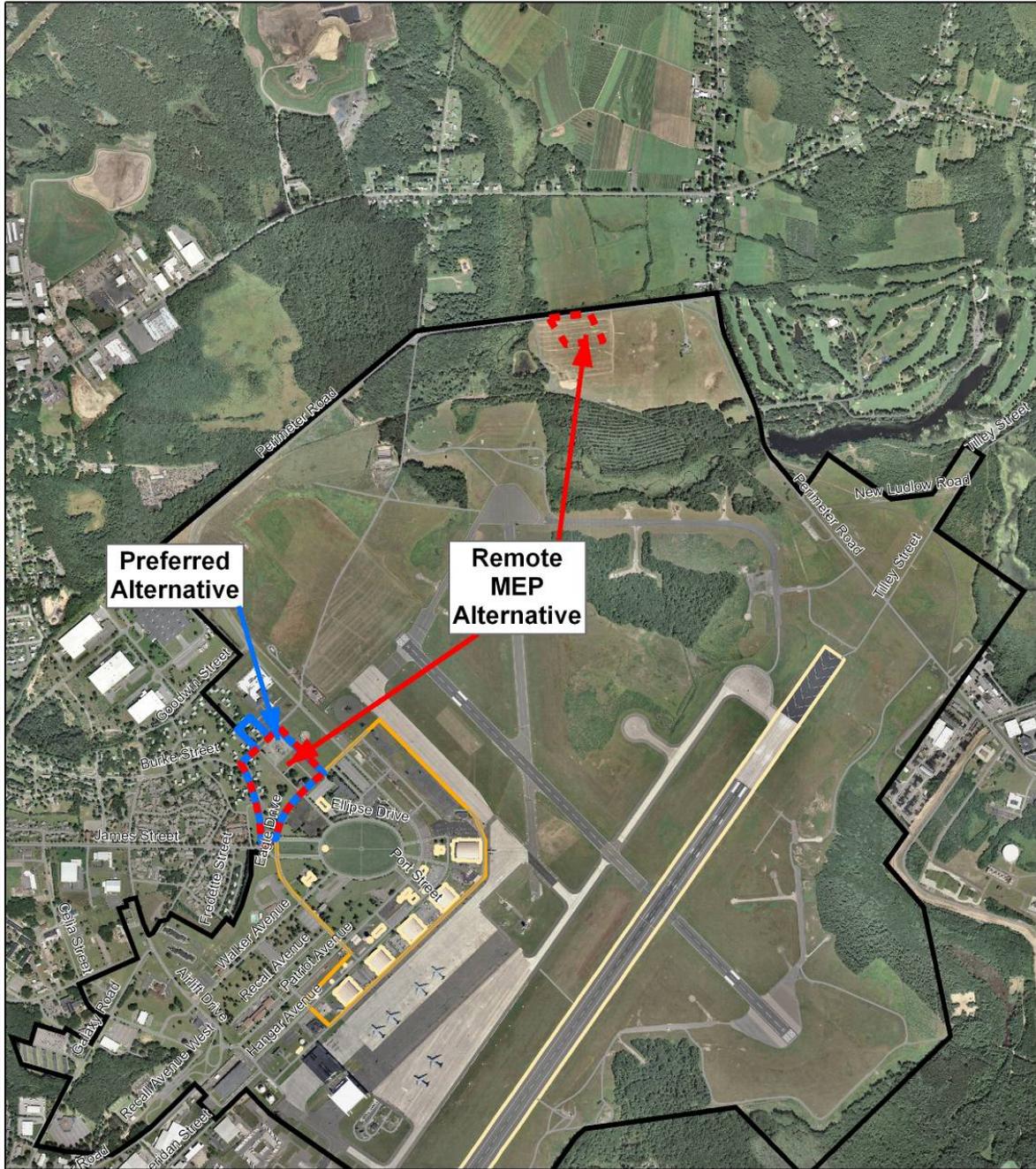
**Figure 2: Former U.S. Marine Corps housing slated for demolition – NW of proposed OMS/AMSA bldg**



**Figure 3: View SE along Starlifter Avenue from the proposed AFRC site toward Eagle Drive, the Ellipse and the historic core.**

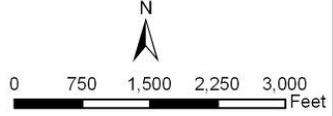
# Attachment 4

## Westover ARB historic core



- Legend**
- Preferred Alternative
  - Remote MEP Alternative
  - Westover Boundary
  - Historic Core
  - Eligible Historic Resource

### Westover Air Reserve Base Historic Core



Note: The Historic Core is treated as a historical district, however, the actual boundaries have not been determined.

Sources: Westover ARB, NHESP  
Coordinate System: NAD 1983, Massachusetts State Plane, Feet  
Prepared By: The Louis Berger Group



December 28, 2006

Leroy R. Clink, P.E.  
Base Civil Engineer  
Department of the Air Force  
Air Force Reserve Command  
439 MSG/CE  
Westover ARB  
250 Patriot Ave, Ste 1  
Chicopee, MA 01022-1670

**The Commonwealth of Massachusetts**  
William Francis Galvin, Secretary of the Commonwealth  
Massachusetts Historical Commission

RE: New Armed Forces Reserve Center, Westover Air Base, Westover Air Reserve Base, Chicopee, MA;  
MHC# RC.41124

Dear Mr. Clink:

The Massachusetts Historical Commission has reviewed the information you submitted, received November 28, 2006, concerning the proposed project referenced above. A portion of the subject property (the larger preferred-alternative site) is located within the Westover Air Reserve Base (MHC# CHI.AA), which is included in MHC's Inventory of Historic and Archaeological Assets of the Commonwealth. It is the opinion of MHC that the Westover Air Force Base meets the criteria of eligibility for listing in the National Register of Historic Places under Criteria A and C for its architectural significance and for its associations with Massachusetts military history in both the pre-World War II era and the Cold War period (36 CFR 60). After a review of the information submitted, MHC staff have the following comments.

The Army is evaluating two alternatives for the proposed project. The preferred alternative is to collocate all of the facilities at a previously developed site close to the James Street Gate on Westover Air Reserve Base. A second alternative would locate the Armed Forces Reserve Center (AFRC) and the Operational Maintenance Shop (OMS)/Area Maintenance Support Activity (AMSA) on the same parcel of land as the preferred alternative while placing the military equipment parking (MEP) along Perimeter Road on the north side of the ARB. This proposed 4-acre MEP site is part of a larger open grassland habitat totaling about 27 acres. Both alternatives involve the demolition of Buildings 3284, 3286, 3287, 3288, 3289, and 3290, which were built in 1962 and were previously slated for demolition by the U. S. Marine Corps.

Please submit a copy of the proposed project plans to Stephen Jendrysik, Chairperson, Chicopee Historical Commission, City Hall Annex, Room 402, Chicopee, MA 01013. Please seek the comments of the Chicopee Historical Commission and submit those comments to the MHC.

These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800). Please do not hesitate to contact me at this office if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Ryan T. Maciej".

Ryan T. Maciej  
Preservation Planner  
Massachusetts Historical Commission

xc: Andrew Milroy, Westover Air Reserve Base  
Chicopee Historical Commission

220 Morrissey Boulevard, Boston, Massachusetts 02125  
(617) 727-8470 • Fax: (617) 727-5128  
[www.sec.state.ma.us/mhc](http://www.sec.state.ma.us/mhc)

CHICOPEE HISTORICAL COMMISSION  
City Hall, 4<sup>th</sup> Floor Annex  
274 Front Street  
Chicopee, MA 01013



Stephen Jendrysik, Chairman

January 9, 2007

Leroy R. Clink, P.E.  
439 MSG/CE  
Westover ARB  
250 Patriot Ave., Ste 1  
Chicopee, MA 01022

Dear Sir:

Thank you for the opportunity to comment on the proposed Armed Forces Reserve Center. It is our understanding that Westover Air Reserve Base is planning a new Armed Forces Reserve Center facility and that the preferred location for the complex is close to the James Street Gate. Furthermore, the development of this location as preferred or an alternative layout will require the demolition of buildings 3284, 3286, 3287, 3288, 3289, and 3290 situated along the east side of Seawolf Avenue. Material provided us state that these buildings were constructed in 1962 and are not eligible for listing in the National Register of Historic Places.

The Chicopee Historical Commission commends WARB for its historic preservation efforts but recognizes that the importance of WARB's current mission outweighs the historical significance of any collection of buildings. The Commission is pleased to support WARB in its commitment to improve facilities for men and women who serve in the military as well as those who provide necessary support services.

Sincerely,

  
Stephen Jendrysik, Chair  
Chicopee Historical Commission



February 1, 2007

Leroy R. Clink, P.E.  
Base Civil Engineer  
Department of the Air Force  
Air Force Reserve Command  
439 MSG/CE  
Westover ARB  
250 Patriot Ave, Ste 1  
Chicopee, MA 01022-1670

**The Commonwealth of Massachusetts**  
William Francis Galvin, Secretary of the Commonwealth  
Massachusetts Historical Commission

RE: New Armed Forces Reserve Center, Westover Air Base, Westover Air Reserve Base, Chicopee, MA;  
MHC# RC.41124

Dear Mr. Clink:

The Massachusetts Historical Commission has reviewed the comments from the Chicopee Historical Commission, received January 12, 2007, concerning the proposed project referenced above. As you are aware, a portion of the subject property (the larger preferred-alternative site) is located within the Westover Air Reserve Base (MHC# CHI.AA), which is included in MHC's Inventory of Historic and Archaeological Assets of the Commonwealth. As you are also aware, it is the opinion of MHC that the Westover Air Force Base meets the criteria of eligibility for listing in the National Register of Historic Places under Criteria A and C for its architectural significance and for its associations with Massachusetts military history in both the pre-World War II era and the Cold War period (36 CFR 60). After a review of the information submitted, MHC staff have the following comments.

The Army is evaluating two alternatives for the proposed project. The preferred alternative is to collocate all of the facilities at a previously developed site close to the James Street Gate on Westover Air Reserve Base (ARB). A second alternative would locate the Armed Forces Reserve Center (AFRC) and the Operational Maintenance Shop (OMS)/Area Maintenance Support Activity (AMSA) on the same parcel of land as the preferred alternative while placing the military equipment parking (MEP) along Perimeter Road on the north side of the ARB. This proposed 4-acre MEP site is part of a larger open grassland habitat totaling about 27 acres. Both alternatives involve the demolition of Buildings 3284, 3286, 3287, 3288, 3289, and 3290, which were built in 1962 and were previously slated for demolition by the U. S. Marine Corps.

After a review of the proposed plans submitted, I concur with your determination that the proposed project will have "no adverse effect" (36 CFR 800.5(b)) on the Westover Air Reserve Base.

These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800). Please do not hesitate to contact Ryan Maciej of my staff if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Brona Simon".

Brona Simon  
State Historic Preservation Officer  
Executive Director  
Massachusetts Historical Commission

FEB 01 2007 14:58

xc: Andrew Milroy, Westover Air Reserve Base  
Chicopee Historical Commission

220 Morrissey Boulevard, Boston, Massachusetts 02125  
(617) 727-8470 • Fax: (617) 727-5128  
[www.sec.state.ma.us/mhc](http://www.sec.state.ma.us/mhc)



**MassWildlife**

Commonwealth of Massachusetts

# Division Fisheries & Wildlife

Wayne F. MacCallum, *Director*

January 5, 2007

Mr. Kirk Bargerhuff  
NEPA Support Team Study Manager  
USACE  
696 Virginia Road  
Concord, MA 01742

RE: Construction of an Armed Forces Reserve Center and Implementation of BRAC 05 Realignment  
Actions at Westover Air Reserve Base, MA  
NHESP Tracking No. 06-21154

Dear Mr. Bargerhuff:

The Natural Heritage & Endangered Species Program (NHESP) of the MA Division of Fisheries and Wildlife has reviewed the Environmental Assessment for the above-listed projects and would like to offer the following comments regarding impacts to state-listed rare species.

The preferred alternative is not within endangered species habitat. However, the remote MEP alternative at the north edge of the base is actual habitat used by breeding Grasshopper Sparrows (*Ammodramus* *savannarum*). The Grasshopper Sparrow is listed as "Threatened" in Massachusetts and is protected pursuant to the Massachusetts Endangered Species Act (MGL c. 131 A) and its implementing regulations (321 CMR 10.00). The proposed facility would likely eliminate breeding and feeding habitat for several pairs of Grasshopper Sparrows if constructed at the northerly site.

If you have any questions about this letter, please contact Jon Regosin, Ph.D. at ext. 316.

Sincerely,

Thomas W. French, Ph.D.  
Assistant Director

[www.masswildlife.org](http://www.masswildlife.org)

Division of Fisheries and Wildlife

Field Headquarters, One Rabbit Hill Road, Westborough, MA 01581 (508) 792-7270 Fax (508) 792-7275

*An Agency of the Department of Fisheries, Wildlife & Environmental Law Enforcement*

**APPENDIX B— ECONOMIC IMPACT  
FORECAST SYSTEM (EIFS) MODEL**

# **ECONOMIC IMPACT FORECAST SYSTEM (EIFS) MODEL**

## **SOCIOECONOMIC IMPACT ASSESSMENT**

Socioeconomic impacts are linked through cause-and-effect relationships. Military payrolls and local procurement contribute to the economic base for the region of influence (ROI). In this regard, the BRAC realignment actions proposed for Westover ARB would have a multiplier effect on the local and regional economy. With the proposed action, direct jobs would be created, generating new income and increasing personal spending. This spending generally creates secondary jobs, increases business volume, and increases revenues for schools and other social services.

## **THE ECONOMIC IMPACT FORECAST SYSTEM**

The U.S. Army, with the assistance of many academic and professional economists and regional scientists, developed EIFS to address the economic impacts of NEPA-requiring actions and to measure their significance. As a result of its designed applicability, and in the interest of uniformity, EIFS should be used in NEPA assessments for RCI. The entire system is designed for the scrutiny of a populace affected by the actions being studied. The algorithms in EIFS are simple and easy to understand, but still have firm, defensible bases in regional economic theory.

EIFS is developed under a joint project of the U.S Army Corps of Engineers (USACE), the U.S. Army Environmental Policy Institute (AEPI), and the Computer and Information Science Department of Clark Atlanta University, Georgia. EIFS is an on-line system, and the EIFS Web application is hosted by the USACE, Mobile District. The system is available to anyone with an approved user-id and password. University staff and the staff of USACE, Mobile District is available to assist with the use of EIFS.

The databases in EIFS are national in scope and cover the approximately 3,700 counties, parishes, and independent cities that are recognized as reporting units by federal agencies. EIFS allows the user to define an economic ROI by identifying the counties, parishes, or cities to be analyzed. Once the ROI is defined, the system aggregates the data, calculates multipliers and other variables used in the various models in EIFS, and prompts the user for forecast input data.

## **THE EIFS MODEL**

The basis of the EIFS analytical capabilities is the calculation of multipliers that are used to estimate the impacts resulting from Army-related changes in local expenditures or employment. In calculating the multipliers, EIFS uses the economic base model approach, which relies on the ratio of total economic activity to basic economic activity. Basic, in this context, is defined as the production or employment engaged to supply goods and services outside the ROI or by federal activities (such as military installations and their employees). According to economic base theory, the ratio of total income to basic income is measurable (as the multiplier) and sufficiently stable so that future

changes in economic activity can be forecast. This technique is especially appropriate for estimating aggregate impacts and makes the economic base model ideal for the EA and EIS process.

The multiplier is interpreted as the total impact on the economy of the region resulting from a unit change in its base sector; for example, a dollar increase in local expenditures due to an expansion of its military installation. EIFS estimates its multipliers using a location quotient approach based on the concentration of industries within the region relative to the industrial concentrations for the nation.

The user inputs into the model the data elements which describe the Army action: the change in expenditures, or dollar volume of the construction project(s); change in civilian or military employment; average annual income of affected civilian or military employees; the percent of civilians expected to relocate due to the Army’s action; and the percent of military living on-post. Once these are entered into the EIFS model, a projection of changes in the local economy is provided. These are projected changes in sales volume, income, employment, and population. These four indicator variables are used to measure and evaluate socioeconomic impacts. Sales volume is the direct and indirect change in local business activity and sales (total retail and wholesale trade sales, total selected service receipts, and value-added by manufacturing). Employment is the total change in local employment due to the proposed action, including not only the direct and secondary changes in local employment, but also those personnel who are initially affected by the military action. Income is the total change in local wages and salaries due to the proposed action, which includes the sum of the direct and indirect wages and salaries, plus the income of the civilian and military personnel affected by the proposed action. Population is the increase or decrease in the local population as a result of the proposed action.

**THE SIGNIFICANCE OF SOCIOECONOMIC IMPACTS**

Once model projections are obtained, the Rational Threshold Value (RTV) profile allows the user to evaluate the significance of the impacts. This analytical tool reviews the historical trends for the defined region and develops measures of local historical fluctuations in sales volume, income, employment, and population. These evaluations identify the positive and negative changes within which a project can affect the local economy without creating a significant impact. The greatest historical changes define the boundaries that provide a basis for comparing an action’s impact on the historical fluctuation in a particular area. Specifically, EIFS sets the boundaries by multiplying the maximum historical deviation of the following variables:

		<b>Increase</b>	<b>Decrease</b>
Sales Volume	X	100%	75%
Income	X	100%	67%
Employment	X	100%	67%
Population	X	100%	50%

These boundaries determine the amount of change that will affect an area. The percentage allowances are arbitrary, but sensible. The maximum positive historical fluctuation is allowed with expansion because economic growth is beneficial. While cases of damaging economic growth have been cited, and although the zero-growth concept is being accepted by many local planning groups, military base reductions and closures generally are more injurious to local economics than are expansion.

The major strengths of the RTV are its specificity to the region under analysis and its basis on actual historical data for the region. The EIFS impact model, in combination with the RTV, has proven successful in addressing perceived socioeconomic impacts. The EIFS model and the RTV technique for measuring the intensity of impacts have been reviewed by economic experts and have been deemed theoretically sound.

## APPENDIX C— AIR QUALITY APPLICABILITY ANALYSIS

# GENERAL CONFORMITY APPLICABILITY ANALYSIS

This general conformity applicability analysis was conducted to identify potential increases or decreases in criteria air pollutant emissions associated with the proposed BRAC-related realignment at Westover ARB. Since the project will occur within a U.S. Environmental Protection Agency (EPA) designated ozone moderate non-attainment area, it is subject to the federal conformity requirements. The purpose of the analysis is to further determine the applicability of the Federal General Conformity Rule established in 40 CFR, Part 93 entitled: *Determining Conformity of Federal Actions to State or Federal Implementation Plans* to the action.

The federal conformity rules were established to ensure that federal activities do not hamper local efforts to control air pollution. In particular, Section 176(c) of the Clean Air Act (CAA) prohibits federal agencies, departments or instrumentalities from engaging in, supporting, licensing, or approving any action, in an area that is in non-attainment of the National Ambient Air Quality Standards (NAAQS), which does not conform to an approved state or federal implementation plan. Therefore, the agency must determine whether or not the project would interfere with the clean air goals in the State Implementation Plan (SIP).

## 1.0 PROJECT DESCRIPTION

The following describes the BRAC-related projects assessed in this EA.

The Proposed Action is to construct a new AFRC and associated support facilities at Westover ARB in Chicopee, MA to support realigned units, and their associated vehicles, from the closing of the current Westover AFRC; the MacArthur USARC, in Springfield, MA; the AMSA in Windsor Locks, CT; and the MAARNG armory in Agawam, MA. The new AFRC complex would also accommodate the disestablishment of the 94<sup>th</sup> Regional Readiness Command (RRC) and the establishment of new U.S. Army Reserve Combat Support Brigade headquarters. Associated support facilities that are proposed include a new AMSA/OMS facility, an unheated storage facility, a MEP area, POV parking lots, and infrastructure and utility improvements.

## 2.0 METEOROLOGY/CLIMATE

Temperature is a parameter used in calculations of emissions for air quality applicability. Westover ARB is located within the Connecticut River Lowlands of Western Massachusetts. This region is bounded by the Berkshires Mountains to the west and the Worcester Plateau to the east. The lowland areas of the Connecticut River Valley in Massachusetts are typically characterized by cold winters and moderately warm summers with occasional hot spells. The average annual temperature at Westover ARB is 49° F. The average maximum temperature is 83° F, with the hottest temperatures typically recorded in July. The average minimum temperature is 24° F, with the coldest month being January.

Precipitation in the Westover ARB region is relatively stable throughout the year. Mean precipitation averages approximately 42 inches per year. Average snowfall in the area is 50 inches per year, with 12 days annually exceeding 1.5 inches of snow. (USAF, 2003)

### 3.0 CURRENT AMBIENT AIR QUALITY CONDITIONS

Hampden County, MA is listed as in moderate non-attainment status for the criteria pollutant ozone. All other criteria pollutants are in attainment for the region. Ozone is monitored in Hampden County by one monitoring site, located on Anderson Road at Westover ARB in Chicopee, MA. The ozone monitor records an average of 6 exceedences a year. Over the past five years ozone exceedences peaked in 2002 with 10 days above the standard and reached a minimum in 2004 with one exceedence. In 2005 the monitor recorded 8 days above the standard. Table 4-2 of the Environmental Assessment shows the existing ozone monitoring data within Hampden County, MA.

### 4.0 AIR QUALITY REGULATORY REQUIREMENTS

The EPA defines ambient air in 40 CFR Part 50 as “that portion of the atmosphere, external to buildings, to which the general public has access.” In compliance with the 1970 Clean Air Act (CAA) and the 1977 and 1990 Clean Air Act Amendments (CAAA), the EPA has promulgated NAAQS. The NAAQS were enacted for the protection of the public health and welfare, allowing for an adequate margin of safety. To date, the EPA has issued NAAQS for six criteria pollutants: carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), particles with a diameter less than or equal to a nominal 10 micrometers (PM<sub>10</sub>), ozone (O<sub>3</sub>), nitrogen dioxide (NO<sub>2</sub>), and lead (Pb). The EPA promulgated a standard for fine particulates (PM<sub>2.5</sub>) in April 2005; however, PM<sub>2.5</sub> *de minimis* thresholds are not yet finalized. Areas that do not meet NAAQS are called non-attainment areas.

The EPA classified the Springfield area, which encompasses the project area, as in moderate non-attainment for ozone. The NAAQS for the pollutant are presented in Table C-1.

**Table C-1: Ambient Air Quality Standards For Ozone**

Pollutant	Federal Standard	Massachusetts Standard <sup>1</sup>
Ozone (O <sub>3</sub> ) <sup>1</sup> 8-Hour Average	0.08 ppm	0.12 ppm

<sup>1</sup> Primary and secondary standards for this pollutant are identical.  
Source: EPA 2006; MADEP 310 CMR 6.00

To regulate the emission levels resulting from a project, federal actions located in non-attainment areas are required to demonstrate compliance with the general conformity guidelines established in 40 CFR Part 93 *Determining Conformity of Federal Actions to State or Federal Implementation Plans* (the Rule). Since the

project area is located within a moderate ozone non-attainment area, a General Conformity Rule applicability analysis is warranted.

Section 93.153 of the Rule sets applicability requirements for projects subject to the Rule through establishment of *de minimis* levels for annual criteria pollutant emissions. These *de minimis* levels are set according to criteria pollutant non-attainment area designations. Projects below the *de minimis* levels are not subject to the Rule. Those at or above the levels are required to perform a conformity analysis as established in the Rule. The *de minimis* levels apply to direct and indirect sources of emissions that can occur during the construction and operational phases of the action.

Direct emissions are those caused by, or initiated by, the federal action that occur at the same time and place as the action. Indirect emissions are those caused by the action, but which occur later in time and/or at a distance removed from the action itself, yet are reasonably foreseeable and the federal agency responsible for the action can maintain control as part of the actions program responsibility. To determine the applicability of the Rule to this action, emissions must be estimated for the ozone precursor pollutants nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOC). Annual emissions for these compounds were estimated for the project to determine if they would be above or below the *de minimis* levels established in the Rule. The *de minimis* thresholds for moderate non-attainment ozone areas within an ozone transport region are 50 tons per year (tpy) for VOCs and 100 tpy for NO<sub>x</sub>.

In addition to evaluation of air emissions against *de minimis* levels, emissions are also evaluated for regional significance. A federal action that does not exceed the threshold emission rates of criteria pollutants may still be subject to a general conformity determination if the direct and indirect emissions from the action exceed 10% of the total emissions inventory for a particular criteria pollutant in a non-attainment or maintenance area. If the emissions exceed this 10% threshold, the federal action is considered to be a “regionally significant” activity and the general conformity rules apply.

## **5.0 CONFORMITY APPLICABILITY ANALYSIS**

For the proposed BRAC-related actions at Westover ARB, a General Conformity analysis is required to be performed. This conformity analysis and air emissions evaluation follows the criteria regulated in *40 CFR Parts 6, 51, and 93, Determining Conformity of General Federal Actions to State or Federal Implementation Plans; Final Rule* (November 30, 1993).

### **5.1 CONSTRUCTION PHASE EMISSIONS**

Construction emissions would result from the operation of heavy equipment, the commuter vehicle traffic from the construction crew, and the painting of parking spaces and interior building spaces. The project would utilize a mix of heavy equipment for construction, mainly associated with preparing the site for the building and utility relocation.

### 5.1.1 Emissions from Heavy Equipment

Annual emissions were calculated for various types of diesel construction vehicles using the EPA’s document *Exhaust Emission Factors for Nonroad Engine Modeling—Compression-Ignition* (Report No. NR-009A, 1998). Truck emission levels were calculated using the EPA’s *MOBILE6* model for an average temperature of 49° F. The total annual emissions, in tons per year, were determined for each vehicle based on the number of vehicles used and the number of operating hours per year. It was assumed that the duration of construction activities would be approximately 24 months (480 workdays). Emissions factors used for construction vehicles, under all alternatives, are shown in Table C-2.

**Table C-2: Emissions Factors for Construction Vehicles**

Construction Vehicle Type	Emissions Factors lbs/hr-vehicle (except where noted by *)	
	NO <sub>x</sub>	VOC
Grader	1.53	0.116
Concrete Truck	2.94	0.225
Front End Loader	3.45	0.198
Paver	1.30	0.100
Vibratory Roller	1.49	0.112
Pneumatic Tire Roller	0.94	0.097
Steel Wheel Roller	0.94	0.097
Concrete Pumper Truck	2.94	0.225
Backhoe	1.52	0.245
Crane	1.17	0.112
Pick-up Truck*	0.804	0.616
Dump Truck (heavy duty) *	6.12	0.453
Excavator	3.154	0.155
Scraper	5.258	0.276
Delivery Truck (Medium)*	0.842	0.367
Delivery Truck (Heavy)*	3.75	0.283

\*units are in grams/mile/vehicle

For the proposed action, it was assumed that delivery trucks and pick-up trucks would travel 10 miles per trip, making 5 trips a day, for a total of 50 miles per day. Dump trucks would travel 12 miles per trip, making 18 trips (9 trucks, 2 trips each) a day, equaling approximately 166 miles traveled daily.

#### 5.1.1.1 Calculations for Construction Emissions

Using the emissions factors in Table C-2, annual construction emissions were calculated for the proposed construction at Westover ARB. Using the assumptions described above, the annual construction emissions in tons per year of NO<sub>x</sub> and VOC were calculated for each vehicle type using the appropriate equations displayed in Table C-3.

Table C-4 summarizes the total annual emissions for the heavy equipment used during construction based upon hours of usage for the Proposed Action.

**Table C-3: Equations for Construction Emissions Calculations**

Emission Source	Equation	Sample Calculation
<b>Heavy Equipment Emissions, On-Site Activities</b>	(# of vehicle type) (Emission factor) (Total # of days in operation) (percent usage) (hours/day) (1 ton/2000 lbs) = TPY of air emissions	(1 grader) (1.53 lbs/hr/vehicle) (114 days in operation) (100% usage) (8 hours/day) (1 ton/2000 lbs) = <b>0.70 TPY of NO<sub>x</sub> emissions</b>
<b>Construction Crew, Commuting</b>	(# of vehicles) (#miles/day) (#days) (emissions factor grams/mile) (1 lb/453.59 grams) (1ton/2000 lb) = TPY of Vehicle Emissions	(50 vehicles) (60 miles/day) (480 days) (0.674 grams/mile/vehicle) (1 lb/453.59 grams) (1ton/2000 lb) = <b>1.07 TPY NO<sub>x</sub> of Vehicle Emissions</b>

**Table C-4: Total Emissions from On-Site Construction Activity –Proposed Action Alternative**

Construction Vehicle Type	Number of Vehicles	Length of Operation (days)	Total Annual Emissions –TPY	
			NO <sub>x</sub>	VOC
Grader	1	114	0.70	0.048
Concrete Truck	1	95	1.12	0.09
Front End Loader	1	127	1.73	0.10
Paver	1	67	0.35	0.027
Vibratory Roller	1	173	1.03	0.078
Pneumatic Tire Roller	1	67	0.25	0.026
Steel Wheel Roller	2	133	1.00	0.052
Concrete Pumper Truck	1	382	4.49	0.34
Backhoe	2	769	4.66	0.75
Crane	1	572	2.68	0.26
Pick-up Truck*	5	1005	0.224	0.15
Dump Truck *	9	341	0.291	0.02
Excavator	1	71	0.90	0.046
Scraper	6	72	1.51	0.08
Delivery Truck (Medium)*	1	30	0.001	0.00
Delivery Truck (Heavy)*	1	144	0.037	0.01
<b>Total Emissions</b>			<b>20.70</b>	<b>2.08</b>

\* units are in grams/mile/vehicle

### 5.1.2 Emissions from Construction Crew Workers

Emissions from construction personnel traffic were calculated using the EPA's *MOBILE6*. It was assumed that the construction crew would consist of about 50 workers over a 24 month (480 workdays) time period. For a conservative analysis, it was assumed each person will drive to the site. It was assumed that the average number of workers (50) will drive about 60 miles each day. Based on *MOBILE6*, the emission factor for NO<sub>x</sub> is 0.674

grams/mile/vehicle and VOC is 0.655 grams/mile/vehicle for the average fleet in Hampden County, MA. The calculated total emissions associated with the commuter vehicles from the construction crew are approximately 1.07 tpy of NO<sub>x</sub> and 1.04 tpy of VOC.

**5.1.3 Emissions from Painting Activities**

When calculating VOC emissions from painting building structures and parking spaces, it was assumed that water-based latex paint would be used with a VOC content of one pound per gallon and that one gallon of paint would cover approximately 300 ft<sup>2</sup>. It was also assumed that three coats of paint will be applied (one primer and two finish) to approximately 135,782 ft<sup>2</sup> of interior surfaces. Based on these assumptions about 1,358 gallons of paint would be needed. Interior painting would create an approximate VOC emissions total of 0.68 tons.

Emissions from painting parking spaces were based on four-inch wide stripes. It was assumed that the average parking space is 9 feet wide by 18 feet long and every two parking spaces share a common line. Approximately 20 ft<sup>2</sup> would be painted for every two parking spaces. For parking spaces, it was assumed that alkyd paint would be used with a VOC content of three pounds per gallon and that one gallon of paint would cover approximately 200 ft<sup>2</sup>. One coat of paint would be applied to the parking surfaces. Based on the construction of 209 parking spaces at the facility, the amount of area to be painted, and the number of gallons of paint required, the approximate VOC emission for painting parking spaces would be 0.02 tpy.

**5.1.4 Summary of Construction Emissions**

After the emissions analysis was performed for all aspects of construction, the totals were added to determine the combined construction emissions. Table C-5 is a summary of the findings compared to the *de minimis* values for the Proposed Action alternative.

**Table C-5: Total Emissions from Construction Related Activities –Proposed Action Alternative**

Construction Activity	Total Emissions (TPY)		<i>De minimis</i> values –TPY	
	NO <sub>x</sub>	VOC	NO <sub>x</sub>	VOC
Use of Heavy Equipment (on –site construction)	20.70	2.08	100	50
Construction Crew Workers	1.07	1.04		
Painting	N/A	0.70		
<b>Total Emissions from Construction</b>	<b>21.78</b>	<b>3.82</b>		

## 5.2 OPERATIONAL EMISSIONS

### 5.2.1 Heating Source Emissions

There was no estimated energy usage given in the DD1391s provided for the project proposed at Westover ARB; therefore, energy usage was estimated based on previously conducted environmental assessments where energy usage for similar facilities - office/administrative facilities in this case - were known. The estimate generated for the combined natural gas usage for boilers and water heaters was approximately 55 standard cubic feet (SCF) of natural gas per square foot of office space per year. Using the EPA's *AP-42 Fifth Edition, Compilation of Air Pollution Emission Factors Volume I, Chapter 1: Stationary Sources, Supplement D* (EPA, 1998), the emission factors for NO<sub>x</sub> and VOC were determined for facility boilers and water heaters. For NO<sub>x</sub> emissions, the facility boilers and water heaters fall in the category of small, uncontrolled boilers that emit 100 lb NO<sub>x</sub> per 10<sup>6</sup> SCF of natural gas. The emission rate for VOC was found to be 5.5 lb/10<sup>6</sup> SCF of natural gas. Using these emission factors and the stated natural gas demand based on 177,920 ft<sup>2</sup> of heated space between the proposed AFRC and OMS/AMSA facilities, emissions of NO<sub>x</sub> and VOC were calculated to be 0.489 TPY and 0.026 TPY, respectively.

### 5.2.2 Vehicle Emissions from Daily Commuters

Vehicle emissions from visitor vehicles are based on the *MOBILE6* air modeling program, estimating the emissions per vehicle per mile traveled. The *MOBILE6* modeling program takes into account the vehicle age, average speed, and vehicle type to create average emission factors to be used in an overall analysis. The analysis assumed that the annual average temperature is 49°F. Based on this assumption, the emissions factors for NO<sub>x</sub> and VOC from average vehicles are provided in Table C-6.

**Table C-6: Emission Factors for Daily Commuter Vehicles**

Pollutant	Emissions Factor - grams/mile/vehicle
NO <sub>x</sub>	0.674
VOC	0.655

The annual emissions in tons per year of NO<sub>x</sub> and VOC for commuter emissions were calculated using the appropriate equations, displayed in Table C-7.

Under the proposed action, 1,037 personnel would be arriving from units not currently located on Westover ARB. Of these, 71 would be full-time personnel and it is assumed that these personnel would commute approximately 40 miles round trip to Westover ARB. Nine hundred sixty six of the 1,037 personnel are part-time reservists and are each expected to be at the site 12 weekends, or 24 days annually, adding to overall total emissions. On any given drill weekend, one-third of reservists are assumed to be on base (totaling 36 weekends, or 72 days annually) and are assumed to commute 100 miles round trip, twice per weekend. Based on these assumptions, the daily additional vehicle emissions are shown in Table C-8.

**Table C-7. Equations for Operations Emissions Calculations**

Emission Source	Equation	Sample Calculation
<b>Operations, Visitor Commuters</b>	$(\# \text{ of vehicles}) (\# \text{ of trips/day}) (\# \text{ miles/trip}) (\# \text{ days/year}) = \# \text{ miles/year}$  $(\# \text{ miles/year}) (\text{emissions factor grams/mile}) (1 \text{ lb}/453.59 \text{ grams}) (1 \text{ ton}/2000 \text{ lb}) = \text{TPY of Vehicle Emissions}$	$(71 \text{ vehicles}) (2 \text{ trips/day}) (20 \text{ miles/trip}) (240 \text{ days/year}) = (680,000 \text{ miles/year}) (0.674 \text{ g/mile/vehicle}) (1 \text{ lb}/453.59 \text{ grams}) (1 \text{ ton}/2000 \text{ lbs}) = \mathbf{0.506 \text{ TPY NO}_x} + \mathbf{\text{Reservist commuters}} = (966 \text{ vehicles}) (1/3 \text{ of reservists}) (50 \text{ miles/trip}) (2 \text{ trips/day}) (72 \text{ days/year}) = 2.3 \text{ million miles/year} (0.674 \text{ g/mile/vehicle}) (1 \text{ lb}/453.59 \text{ grams}) (1 \text{ ton}/2000 \text{ lbs}) = \mathbf{1.722 \text{ TPY NO}_x}$

**Table C-8: Emissions from Daily Commuter Vehicle Traffic**

Total Annual Emissions – TPY	
NO <sub>x</sub>	VOC
2.228	2.166

In addition to daily commuter vehicles, 248 wheeled vehicles and 154 trailers would be relocated to the base. Currently the breakdown of vehicles by type for all units (i.e. heavy duty versus light duty) is not known. For the purposes of this analysis, certain conservative assumptions were made to estimate vehicle emissions. These assumptions are listed below.

- 966 part-time reservists; one-third of which train each of 36 weekends a year
- All AMSA vehicles (50) will remain on base and mostly stationary for repair, therefore 198 “available” vehicles will be used by reservists.
- Reservists travel to and from training at Devens RFTA in Ayer, MA both days of the weekend
- Heavy Duty Diesel Vehicle (HDDV) to Light Duty Diesel Truck ratio is assumed to be 25:75.
- Both MA Army National Guard Vehicles are assumed to be HDDVs
- 1/3 of total reservists would be training on any given weekend of the 36 total weekends and therefore 1/3 of all available vehicles would be used on any given weekend.
- Vehicles would be assumed to emit NO<sub>x</sub> and VOC at levels according to the EPA’s MOBILE6 for the year 2007
- Assume 100 miles of usage per LDDT vehicle and 50 miles per HDDT vehicle during training at Devens RFTA each weekend
- 65 miles traveled each way between Westover ARB and Devens RFTA (130 miles round trip traveled)
- Overall annual miles per vehicle = 12,960 (LDDT) and 11,160 (HDDT)

Given these assumptions, the annual emissions from the operation of these vehicles are presented in Table C-9.

**Table C-9: Emissions from Incoming Vehicles**

Total Emissions (TPY)	
NO <sub>x</sub>	VOC
3.052	0.55

**5.3 REGIONAL SIGNIFICANCE**

Air emissions were also evaluated to determine regional significance. The 2002 *Massachusetts Supplement to the July 1998 Ozone Attainment State Implementation Plan Submittal*. (MADEP, 2002) sets forth daily target emission levels. These daily targets levels, which are less than the total amount of emissions allowed under the State Implementation Plan (SIP) for the region, are 86.7 tons per day of VOC and 226.36 tons per day of NO<sub>x</sub> for the Massachusetts 8-hr Ozone Non-Attainment Area, which includes Hampden County, MA. The increase in annual emissions from the proposed construction and demolition activities would not make up 10% or more of the available SIP, and therefore would not be regionally significant. Air quality impacts are therefore not considered to be significant.

**6.0 SUMMARY RESULTS**

Table C-10 summarizes the total emissions associated with the proposed action at Westover ARB. Construction related emissions would be temporary and only occur during the 24-month construction period for the facility. Operational emissions associated with the operation of boilers for heating the facility would be long-term and occur throughout the life of the facility. When compared to the *de minimis* values for this non-attainment area of 100 tpy for NO<sub>x</sub> and 50 tpy for VOC, the emissions associated with implementation of the proposed action fall below the *de minimis* values. As a result, the construction and operation of facilities under the Proposed Action Alternative is not subject to the General Conformity Rule requirements.

**Table C-10: Total Emissions from the Proposed Action Alternative**

Activity	Construction Emissions (TPY)		Operation Emissions (TPY)		Combined Emissions (TPY)	
	NO <sub>x</sub>	VOC	NO <sub>x</sub>	VOC	NO <sub>x</sub>	VOC
Heavy Equipment (building/parking)	20.70	2.08			20.70	2.08
Construction Crew Commuting Vehicles*	1.07	1.04			1.07	1.04
Painting	NA	0.70			NA	0.70
Stationary Heating Unit (boiler and water heater)			0.489	0.026	0.489	0.026
Daily Commuter Traffic			2.228	2.166	2.228	2.166

Activity	Construction Emissions (TPY)		Operation Emissions (TPY)		Combined Emissions (TPY)	
	NO <sub>x</sub>	VOC	NO <sub>x</sub>	VOC	NO <sub>x</sub>	VOC
Incoming Vehicles			3.052	0.55	3.052	0.55
<b>TOTALS</b>					<b>27.54</b>	<b>6.56</b>

**APPENDIX D—AIR QUALITY  
RECORD OF NON-APPLICABILITY (RONA)**

**GENERAL CONFORMITY – RECORD OF NON-APPLICABILITY**

Project/Action

Name: Implementation of BRAC 05 Realignment at Westover ARB, MA

Begin Date: September 23, 2005

End Date: September 15, 2011

General Conformity under the Clean Air Act, Section 176 has been evaluated for the project described above according to the requirements of 40 CFR 93, Subpart B. The General Conformity Rule applies to federal actions occurring in regions designated as being in non-attainment for the NAAQS or attainment areas subject to maintenance plans (maintenance areas). Threshold (*de minimis*) rates of emissions have been established for federal actions with the potential to have significant air quality impacts. If a project/action located in an area designated as non-attainment exceeds these *de minimis* levels, a general conformity analysis is required. Hampden County is designated as a moderate Ozone non-attainment area in the Northeast Ozone Transport Region and thus the VOC and NO<sub>x</sub> thresholds apply.

A General Conformity Analysis of this project/action is not required because:

Total direct and indirect emissions from this project/action have been estimated at:

NO<sub>x</sub>: 27.54 tons; VOC: 6.56 tons

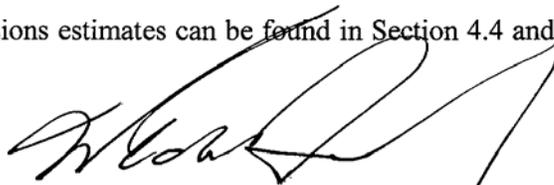
and are below the *de minimis* levels established in 40 CFR 93.153 (b) of:

NO<sub>x</sub>: 100 tons; VOC: 50 tons;

Furthermore, the project/action is not considered regionally significant under 40 CFR 93.153 (i).

Hampden County, MA is in attainment for criteria pollutants PM<sub>10</sub>, PM<sub>2.5</sub>, CO, SO<sub>2</sub> and Pb and therefore these pollutants are not subject to conformity review.

Supporting documentation and emissions estimates can be found in Section 4.4 and Appendix C of the Environmental Assessment.



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