

**DRAFT**

**Environmental Assessment**

**National Historic Preservation Act, Section 106 Determination**

**Department of Transportation Act, Section 4(f) Statement**

**Replacement of Hangar 24**

**Bedford-Hanscom Field**

**December 2008**



**Airports Division  
New England Region  
Federal Aviation Administration**

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## **I. Federal Action**

The Massachusetts Port Authority (Massport) proposes to replace Hangar 24 at Bedford-Hanscom Field. The action of the Federal Aviation Administration (FAA) is to approve a replacement hangar on the Airport's official Airport Layout Plan (ALP.) As described below, this action requires an Environmental Assessment (EA) that evaluates the environmental effect of the proposed action and various alternatives.

Hangar 24 is located in the southern portion of the airport, to the west of the approach end of Runway 5, which is the airport's secondary runway (see graphic on following page.) The hangar is 18,500 square feet with structures added in an ad hoc fashion. It was originally a military hangar constructed in the 1930s in Savannah, Georgia, then dismantled and reconstructed at Hanscom Air Force Base (now a civil airport operated by Massport) in 1948. The facility was used by the Massachusetts Institute of Technology (MIT) until it was no longer suitable for their research needs and vacated in 2001. It is presently owned by Massport.

Hangar 24 would be replaced by a modern hangar facility that would provide service, maintenance, fueling, and shelter for general aviation aircraft, particularly larger aircraft that are most dependent on the need to be located in proximity to the center of the airport with efficient access to the runway and taxiway system. The aviation community refers to the operators of such facilities as Fixed Base Operators (FBOs.)

The FAA is charged with providing for a safe and efficient national airspace system. A significant component of this system is the nation's system of airports. FAA's interest in efficiency extends to approving projects in order to meet forecasted demand for adequate facilities. Hanscom plays an important role as a general aviation airport, particularly with regard to corporate flight activity, because of its proximity to one of the largest centers of high technology and commerce in the country. The airport also straddles four residential towns and abuts the Minute Man National Historical Park.

Massport is required to keep an up-to-date Airport Layout Plan that depicts physical improvements to Hanscom Field. As noted above, FAA's approval of a change to the ALP is a federal action that requires compliance with the National Environmental Policy Act (NEPA.) Under FAA's directives that implement NEPA (FAA Orders 1050.1E and 5050.4B) hangar facilities are normally "categorically excluded" from the need to prepare an EA. There are, however, special exceptions to this provision in Order 5050.4B and one of these exceptions applies to projects that would have an adverse effect on historic properties. Another special exception requires that FAA prepare an EA for projects which are highly controversial in terms of environmental impact. FAA believes that controversy exists with regard to preservation of Hangar 24 versus replacement. In

addition to historical resource impacts, this EA also considers over twenty additional areas of potential environmental impact.

Historic properties protected under federal law include those on the National Register of Historic Places. Administered by the National Park Service, the National Register is an official list of the nation's historic places worthy of preservation. Properties eligible for inclusion on the National Register are afforded the same protection. Hangar 24 is eligible for inclusion on the National Register because of its association with Charles Stark Draper, who was a significant figure in the development of aviation technology, including airborne inertial navigation. Charles Draper was a professor with MIT, principal with the MIT Instrumentation Labs, and founder of Draper Labs.

Another federal agency, the Advisory Council on Historic Preservation (ACHP), is charged with adopting regulations to implement the National Historic Preservation Act (NHPA). This was accomplished with regulations codified as 36 CFR Part 800, Protection of Historic Properties. Federal agencies utilize these regulations in order to comply with Section 106 of the NHPA. This section requires that federal agencies take into account the effect of their "undertakings", such as approval of an ALP, on historic properties. While FAA has adopted provisions of the regulations in its environmental orders and ACHP encourages jointly prepared NEPA and Section 106 documents, it is important to note that the Section 106 regulations stand separate and apart from NEPA, such that compliance is required even if no federal action were present under NEPA.

In addition to compliance with NEPA directives of FAA and Section 106 regulations, this EA also addresses requirements under the Department of Transportation Act, Section 4(f) (since recodified as Section 303(c).) Section 4(f) states in part that FAA may approve a transportation project requiring the use of an historic site only if there is no prudent and feasible alternative that would avoid using the resources and the project includes all possible planning to minimize harm resulting from the use.

## **II. Background**

Under the Massachusetts Environmental Policy Act (MEPA), Massport conducts environmental and planning reviews for Bedford-Hanscom Field. The 2000 Environmental Status and Planning Report (ESPR) for Hanscom identified the need and examined redevelopment of the Hangar 24 site as a new aviation hangar. A subsequent 2005 ESPR affirmed this site as a prime location for redevelopment due to its location on the flight line and proximity to the Civil Air Terminal. These plans echoed previous expressions by Massport to provide for increased demand for corporate aviation facilities. Over the intervening years there has been periodic interest by developers for civil aviation redevelopment of the site. In 2006, during the public consultation sessions at Hanscom Field conducted by the Massachusetts Historical Commission (MHC) the community expressed concerns about the historic associations that Hangar 24 had with flight and defense research and Charles Draper.

In October 2006, the MHC, acting as State Historic Preservation Officer, stated the opinion that Hangar 24 met the eligibility criteria for inclusion on the National Register of Historic Places. As part of that opinion MHC required Massport to file a Project Notification Form (PNF) to initiate MHC review of the proposed Hangar 24 demolition. During the MHC review process, in June of 2007, Massport met with interested parties. Community entities subsequently expressed through many letters the historic value of Hangar 24 and interest in an aviation museum as an alternative development scenario. In accordance with October 2006 MHC guidance, Massport drafted a Memorandum of Agreement that provided for documentation of the historic significance of the hangar and appropriate display of that history at Hanscom.

At the request of the MHC, Massport engaged an aviation consultant (HNTB Corporation) to prepare a "Condition Assessment & Feasibility Study" of Hangar 24 (March 26, 2007). The report concluded that the "overall assessment of the hangar is poor" and "Rehabilitation of the Hangar 24 structure, while logistically feasible, is not considered to be prudent..." The consultant stated that cost would be prohibitive and concluded by recommending demolition of the building.

Separate from Massport's proposal to replace Hangar 24, the Massachusetts Air and Space Museum, Inc. has been investigating since January 2006, potential sites in eastern Massachusetts for an air and space museum. While many community members feel that Hangar 24 would be an appropriate site, this organization disagrees. Following their own Hangar 24 inspection (February 27, 2007), they documented that "inspection findings related to Hangar 24, clearly must force us to exclude any consideration for the use of these facilities by the Massachusetts Air and Space Museum." This position was reaffirmed in a letter to FAA dated July 7, 2008.

While the Massachusetts Air and Space Museum, Inc. is not interested in Hangar 24, another group of citizens, The Hanscom Aerospace & Technology Museum Project, supports reuse of Hangar 24 as a museum. It is not clear, however, if this group could itself carry out the establishment of a museum.

In January 2008, FAA's New England Region Airports Division received a telephone call from the MHC concerning possible FAA involvement with Hangar 24. We concluded that FAA's approval of a change to the Hanscom Airport Layout Plan was an undertaking subject to Section 106 regulations. On February 5, 2008, MHC followed up with a letter that stated in part that "Under the MHC's review of regulations for state Agency projects, the completion of a Section 106 review of the same project substitutes for MHC's state review (950 CMR 71.04(2)). However, MHC's state review cannot substitute for Section 106 review under Advisory Council on Historic Preservation's regulations."

FAA subsequently discussed its needed involvement with Massport; reviewed documentation prepared by Massport for MHC; and reviewed many letters from town elected and other community officials, State political officials, and citizens in general.

On April 1, 2008, in accordance with Section 106 regulations, FAA made its own Determination of Eligibility for the National Register with regard to Hangar 24. FAA further determined that the Area of Potential Effect of the proposed replacement of Hangar 24 was the footprint of the building and outbuildings.

On June 5, 2008, FAA met with approximately 15 consulting parties, including representatives of MHC and the Advisory Council on Historic Preservation. The purpose of the meeting was to receive input about potential effects and the future of Hangar 24, prior to FAA making a Determination of Effect. Participants at the meeting clearly expressed their views over several hours.

On July 17, 2008, FAA conducted a Public Information Meeting with regard to the proposed replacement of Hangar 24. FAA desired to take into account public opinion prior to making any Determination of Effect with regard to the disposition of Hangar 24. The meeting was well attended and FAA received many thoughtful comments with regard to the need to preserve the hangar.

Following the Public Information Meeting, FAA decided to broaden its environmental evaluation by conducting this Environmental Assessment in order to investigate and document alternatives to Massport's proposal and consider potential environmental impacts.

### **III. Alternatives**

This section considers a reasonable range of alternatives considered by FAA. The next section assesses the environmental impact of these alternatives. The alternatives are as follows:

1. Do nothing
2. Locate a new hangar facility elsewhere on the airport
3. Adaptive reuse of Hangar 24
4. Replace Hangar 24 as proposed by Massport

#### Do nothing.

This alternative would continue to preserve Hangar 24 to prevent deterioration. Repairs would be undertaken in compliance with the Secretary of Interior's Standards for Rehabilitation. While this alternative would preserve Hangar 24, it would not meet Massport's purpose to provide an additional location on the airport to service, maintain, fuel, and shelter general aviation aircraft.

Massport's intent is based on continued growth in general aviation activity. While a "do nothing" alternative takes no action with regard to replacing Hangar 24, it assumes that Massport provides for other improvements elsewhere on the airport that respond to aviation demand.

### Locate a new hangar facility elsewhere on the airport.

From an airfield capacity perspective Hanscom Field is approaching build-out. There are essentially two significant areas for general aviation expansion remaining within the foreseeable future—the East Ramp (see graphic) and Hangar 24 and associated apron. Additional potential general aviation areas in the North Airfield Area are either not presently owned by Massport or involve considerable redevelopment prior to aviation use. These areas are described in detail in the 2005 ESPR.

FAA considered avoiding the replacement of Hangar 24 by locating the proposed FBO function on the East Ramp. However, this would not be the most efficient use of space since the East Ramp is more remote from the terminal area and other FBOs. The East Ramp would also be less efficient for aircraft passengers because access to or from the East Ramp is through Hanscom Air Force Base, a secure military facility. Equally disadvantageous, if aircraft needed to drop passengers off at the Civil Air Terminal the aircraft would then have to taxi a longer distance to the East Ramp for fuel and service. Prospective FBO developers would be less likely to consider a more remote site on the airport. Perhaps the greatest disadvantage of using the East Ramp for the FBO function is that it would preclude this area from being developed for smaller general aviation aircraft hangars that are already located in this area of the airport. Given the lack of other reasonably foreseeable areas for general aviation, the East Ramp is best suited for general aviation hangars and Hangar 24 and its apron is best suited for an FBO function that would service and maintain larger aircraft and provide for passenger areas.

### Adaptive Reuse of Hangar 24.

Although the site is eligible for inclusion in the National Register of Historic Places, this alternative has significant disadvantages because of the hangar's poor condition, relatively small size, and functional inadequacy. The poor condition of the hangar is covered above. The size of Hangar 24 (18,500 square feet) is considerably less than the 30,000-60,000 square feet that would reasonably respond to foreseeable demand. An example of its functional inadequacy is that the door aperture height does not permit entry by many general aviation aircraft that regularly use the airport. The door height is 23.5 feet and FAA design standards for Group II and Group III aircraft, which encompass many corporate aircraft, require 20-30 and 30-45 feet respectively. Therefore, adaptive reuse of the building is expected to require substantial and impractical building modifications to allow the building to function for its intended use and bring the building into compliance with current environmental, structural, fire, safety, and energy codes.

While not related to the purpose and need for replacement of Hangar 24, many community members have suggested alternative reuse as an aviation museum. While an Environmental Assessment would not normally cover alternatives that do not address the purpose and need for the project, we are addressing it here because of the significant interest expressed on the part of consulting parties and the public.

Adaptive reuse as an aviation museum is undesirable and impractical because of the hangar's location on the flight line, potential security concerns, and federal grant agreements that Massport has with FAA. The flight line (areas bordering runways and taxiways) is a scarce resource at many airports. This is especially the case at Hanscom Field. As covered earlier, there are essentially two areas remaining at Hanscom for aviation development—the East Ramp and Hangar 24 and its associated apron. To dedicate either of these areas to a use other than aviation operations that depend on access to the runways and taxiways would not be prudent. It would significantly inhibit the potential to accommodate forecasted increases in general aviation activity at the airport, thereby adversely affecting the efficiency of the airport and its ability to meet regional demand for those services.

Hanscom Field holds an Airport Operating Certificate from the FAA. Certificate holders are required to demonstrate that they operate a safe and secure airport. Establishing an area on the flight line that is open to the public is likely to jeopardize airport security. FAA has considered community suggestions that might make this idea more workable, such as fencing off the apron from other operating areas of the airport or not permitting public access to the apron. However, such measures create their own problems. For example, fencing located forward of the building restriction line would be considered a height obstruction to airport operating surfaces. Not having an apron area available would limit the scope of an aviation museum because a significant number of aircraft are typically displayed outdoors, such as at the Bradley Air Museum in Windsor Locks, Connecticut. We also note that the Bradley Air Museum is located along a public roadway approximately one mile from the runways and taxiways at Bradley International Airport.

Another impediment to adaptive reuse as an aviation museum concerns grant assurances made by Massport to FAA in exchange for airport development grants. Massport's compliance with several of these assurances could be jeopardized if Massport were to convert Hangar 24 into a public museum. Grant Assurance 19.b. provides that Massport "will not cause or permit any activity or action thereon which would interfere with its use for airport purposes." FAA views dedication of flight line property for museum purposes as an activity that would interfere with its use for airport purposes.

Grant Assurance 5.b. requires that Massport "not sell, lease, encumber, or otherwise transfer or dispose of any part of its title or other interests in the property shown on Exhibit A [obligated airport land]...for the duration of the terms, conditions, and assurances in the grant agreement without approval of the Secretary." Related to this, Grant Assurance 29.a. states in part "The sponsor [Massport] will not make or permit any changes or alterations in the airport or any of its facilities which are not in conformity with the airport layout plan as approved by the Secretary, and which might, in the opinion of the Secretary, adversely affect the safety, utility or efficiency of the airport." FAA believes that establishment of an aviation museum at the Hangar 24 site would adversely affect the safety, utility, and efficiency of the airport.



Finally, Grant Assurance 22.a. provides that Massport “will make the airport available as an airport for public use on reasonable terms and without unjust discrimination to all types, kinds and classes of aeronautical activities, including commercial aeronautical activities offering services to the public at the airport.” Accordingly, FAA would view Massport as having an obligation to work toward accommodating an additional FBO that wished to locate on the airport.

#### Replace Hangar 24 as proposed by Massport.

Massport proposes replacement of Hangar 24 with a modern facility of 30,000-60,000 square feet. The new hangar would most likely house the third FBO at Hanscom. The facility would service, maintain, fuel, and shelter primarily larger general aviation corporate aircraft. The facility would most likely also have facilities for general aviation passengers and crew. There are presently two FBOs at Hanscom, Jet Aviation and Signature Flight Support.

Massport forecasts contained in the 2005 ESPR indicate that 169,955 aircraft operations (landings and takeoffs) occurred in 2005. Aircraft operations since then have increased at a depressed rate from that forecast in the ESPR. Given the recent downturn in the economy, aircraft operations may not rebound in 2008 or 2009 so as to achieve 184,032 operations in 2010, but initial development of the East Ramp would help achieve it. Since there is a strong correlation between economic cycles and general aviation aircraft operations, it is reasonable to assume that aircraft operations will grow at an increasing rate when the economy improves. Even if operations were to decline over the next two or three years, FAA believes that it is nevertheless appropriate to begin to provide for an economic rebound thereafter, so that the facilities will be fully operational when the economy recovers.

FAA concludes that there is no alternative practical means of achieving the purpose of the project without replacing Hangar 24. Because the property would be demolished, there is little that can be done to minimize adverse effect. In considering each alternative and its associated environmental impact as documented below, FAA concludes that Alternative 4 is FAA’s preferred alternative.

#### **IV. Environmental Impact**

An Environmental Assessment considers 23 areas of potential environmental impact. Some of these are not applicable to Hanscom, such as coastal barriers, coastal zone management, and wild and scenic rivers. Others are not applicable to this project because of the proposed action, replacement of a hangar, and its location at Hanscom. These include biotic resources, compatible land use, threatened and endangered species, environmental justice, farmlands, floodplains, light emissions and visual effects, and wetlands.

Other areas of potential environmental impact are expected to be insignificant because of the nature of the project. These include induced socioeconomic impacts such as effects on employment and airport revenue, energy supplies, natural resources, construction, and solid waste.

Hazardous materials are of some concern, first because the hangar reportedly has asbestos containing materials (ACM) and, second, because a replacement hangar could generate reportable quantities of hazardous waste. Without demolition design details or more precise details of particular users of the new facility, it is not practical to quantify this impact. However, FAA notes that hazardous waste is regulated by local and state agencies that have follow-on environmental reviews and permitting responsibilities, when design details are available.

FAA also considered social impacts, in this case increases in road traffic that Hangar 24 could induce. FAA evaluated traffic data from the 2005 ESRP. The 2010 Moderate Growth scenario, morning peak hour, represents the worst case with regard to turning movements from/to Virginia Road into/out of Hanscom. A total of 29 turning movements were predicted, 19 of these right turns from Virginia Road westbound (ESRP, Figure 6-19). These 29 movements are from Hanscom-generated traffic and include traffic to/from the T-hangar area north of the Hangar 24 site as well as redeveloped Hangar 24. This is a small portion of the 463 total movements (432 eastbound) on Virginia Road during the 2010 morning peak hour (ESRP, Figure 6-20). The Level of Service (LOS) (a standard predictor of congestion and delay) for Virginia Road westbound with left and right turns is "B" (ESRP, Table 6-17) for both the 2005 and 2010 analysis years. There are six LOSs, "A" through "F", with the least average delay per vehicle at LOS A and congestion failure at LOS F. LOS B is associated with 10.1 to 15 seconds of vehicle delay at an intersection without traffic signals.

Environmental impacts with the potential for significant effect include the following areas: historic and archaeological, Section 4(f); cumulative impacts primarily from noise and air quality, and sustainable design. These impacts were considered as documented below for each of the alternatives included in the alternatives analysis above.

This EA does not address State and local permitting or other approvals that may be required. These approvals typically require significantly more design detail than is available at the planning level used for a NEPA document. Approvals will be needed by Massport prior to implementing the preferred alternative. They include, as appropriate, local land use approvals, approvals related to storage, dispensation, or use of fuel or other flammable or hazardous materials, approvals to remove and dispose of ACM, a storm water pollution prevention plan, and a spill prevention, containment and control plan.

#### Historic and archaeological impacts.

##### *Historic Significance*

Hangar 24 is a historic property because it is eligible for inclusion on the National Register of Historic Places. It is eligible under criteria A and B. Criterion A applies to properties “that are associated with events that have made a significant contribution to the broad patterns of our history.” Criterion B applies to properties “that are associated with the lives of persons significant in our past.” The hangar did not qualify under Criterion C, applicable to properties “that embody distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.” Nor did the hangar qualify under Criterion D, applicable to properties “that have yielded, or may be likely to yield, information important in prehistory or history.”

Hangar 24 was a post-war flight test facility for developments in aeronautical engineering, specifically inertial navigation and flight guidance systems. Applications developed and tested from the hangar had far-reaching effect on civilian flight and defense strategy, as evidenced in today’s radar and navigation systems. MIT’s Hangar 24 served as the test facility for MIT’s Lincoln Laboratories. (“MHC Opinion: Eligibility for National Register”)

Charles Stark Draper (1901-1987) was an engineer who founded MIT’s Instrument Lab. He played a critical role in the developments in aeronautical engineering that occurred at the hangar. Draper worked with pilots who flight tested his inventions. He was a member of MIT’s faculty, and chairman of its department of aeronautics and astronautics for many years. In 1973, he founded Draper Laboratory. Known as the “father of inertial navigation,” he evolved the theory, invented and developed the technology, and led the effort that brought inertial navigation...to operational use in aircraft, space vehicles, and submarines.” (“MHC Opinion: Eligibility for National Register”)

Hangar 24 “is significant on the local, state, and national levels for its historical associations with developments in flight and defense during the second half of the 20<sup>th</sup> Century, and thus fulfills Criterion A of the National Register of Historic Places. For its associations with Charles Draper, the MIT Hangar is also significant under National Register Criterion B on the local, state, and national levels.” (“MHC Opinion: Eligibility for National Register”)

### *Environmental Analysis*

FAA seeks first to have projects avoid National Register properties. When this is not possible, FAA seeks to minimize the adverse effects on historic properties. Compensatory mitigation is pursued only when neither of these is practical.

Under the Do Nothing alternative Hangar 24 would be preserved in place and adverse effect to an historic resource would be avoided. This alternative, however, does not address the purpose or need for the project.

Under Alternative 2, adverse effect to Hangar 24 as an historic resource would be avoided as part of this project because a new FBO hangar would be constructed elsewhere on the airport. The only reasonably foreseeable area for this would be on the East Ramp, however, which would preclude development of this area for general aviation hangar development. Massport is beginning to take action to accomplish this, as detailed in the 2005 ESPR. While switching these areas around might address some of the functional inadequacies of Hangar 24, it would not address the poor condition of the hangar and the inappropriate locations for aeronautical activity that are covered in the alternatives analysis above. For these reasons, FAA believes that this alternative is not prudent.

Alternative 3 involves adaptive reuse of Hangar 24. While this alternative would reduce adverse effect to an historic resource, the alternatives analysis above indicates that it is not practical.

Alternative 4 would have an adverse effect on a property eligible for inclusion on the National Register of Historic Places. FAA notes that the property qualified for the National Register because of its association with significant technological events in our history and because of its association with Charles Draper. The hangar did not qualify for the National Register for its architectural achievement (Criterion C) or ability to yield historical information (Criterion D.) Because of this FAA believes that mitigation should address means of commemorating the achievements associated with the hangar and Charles Draper. Compensatory mitigation is described in the attached Memorandum of Agreement (MOA).

#### Section 4(f) Impacts

Because Hangar 24 is an historic site of local, state, and national significance, use of the facility for a transportation project requires a more stringent standard of review. Before FAA can approve the project FAA must conclude that there is no prudent and feasible alternative that would avoid using the resources and the project includes all possible planning to minimize harm resulting from the use.

The term “prudent” refers to rational judgment. FAA considers the project’s purpose and need, as well as extraordinary safety or operational problems, to determine if an alternative is prudent. The term “feasible” refers to sound engineering principles, i.e. whether it can be built. A particular alternative may be “feasible” (possible) but not prudent.

Because the standard of review for Section 4(f) impacts relies heavily on an analysis of alternatives, the alternatives analysis above carefully considered how each of the alternatives related to “feasible” and “prudent”. While all of the alternatives appear to be “feasible”, FAA believes that none of the alternatives are prudent with the exception of the proposed action.

FAA has considered planning to minimize harm to an historic resource. However, this is not prudent because of the need to demolish the facility. The attached Memorandum of Agreement addresses compensatory mitigation.

Neither Alternative 4 nor any of the other alternatives would have a direct or indirect effect on other historic properties protected under Section 106 or Section 4(f). FAA was particularly mindful of the proximity of the Minute Man National Historical Park, located approximately ½ mile from the project. The next section addresses potential indirect effects from aircraft noise. Additionally, FAA notes that most of the aircraft that would use the new facility would be larger corporate aircraft operating on the longer Runway 11-29 and would not overfly the Park.

#### Aircraft Noise.

Unlike the East Ramp, replacement of Hangar 24 with an FBO facility is unlikely to induce any increase in airport operations. Many of the corporate jets and other aircraft that would be served by the facility already operate at Hanscom and growth in aviation activity at the airport should not be influenced by the existence of a third FBO on the airport. The contribution of aviation infrastructure, such as runways, taxiways, apron areas, and hangars, contribute at most only incidental growth at an airport unless the airport is already capacity constrained. This is not presently the case at Hanscom. National and regional economic cycles have much more of an effect than aviation infrastructure. Our experience at Boston-Logan (new runway), Worcester (new terminal building), and elsewhere support this poor correlation between aviation infrastructure and induced demand. At Hanscom it is highly likely that a third FBO would express interest in redeveloping Hangar 24 because a number of aircraft already based at the airport have expressed interest in using the facility and because they feel they can be competitive in serving itinerant aircraft that already use Hanscom.

Nevertheless, the cumulative impact section below examined the sensitivity of these conclusions to potential changes in the noise and air quality environment.

#### Cumulative Impacts.

Cumulative impacts are impacts the proposed action would have on a particular resource due to past, present, and reasonably foreseeable actions within a defined time and geographical area. FAA considered possible cumulative impacts to Section 106 historic resources, Section 4(f) historic resources of local, state, or national significance, and aircraft noise and air quality impacts that might be induced by the project when considered cumulatively with other past, present and reasonably foreseeable actions.

There are no other historic resources subject to Section 106 or Section 4(f) that have been replaced or substantially modified at the airport since portions of Hanscom Air Force Base were transferred to Massport for civil aircraft use in the late 1970s.

There is, however, a reasonably foreseeable project to construct additional tie-downs and smaller aircraft hangars on the East Ramp, as explained in the 2005 ESPR. While this project would have no effect on historic resources, FAA has considered the effect it might have on noise and air quality. In the 2005 ESPR, Massport presented noise and air quality analyses for those East Ramp development concepts and evaluated any cumulative noise and air quality effect that the East Ramp development concepts might have when combined with the replacement of Hangar 24. FAA has carefully reviewed that evaluation.

Noise and air quality impacts are dependent on aircraft activity forecasts. A number of forecasts have been prepared for Hanscom over the years, most of which are contained in ESPRs produced for the MEPA Office. The 2005 ESPR forecasted 184,032 total aircraft operations (landings and take-offs) for 2010 (moderate growth scenario), up from 169,995 operations in 2005. In July of 2008, Massport's consultant reviewed the 2005 ESPR aircraft operations base data to reflect induced growth that could occur with hangar development and aircraft tie-downs on the East Ramp. Not surprisingly, the revised forecasts indicate slower growth than forecasted in the ESPR, a result of higher fuel prices and a slowing economy. Nevertheless, the consultant predicted a net increase in aircraft operations from East Ramp improvements as follows: 13.62 daily (4,971 annual) civil aircraft in 2010 (from 447.26 operations under a no-build scenario to 460.88 operations under a build scenario) and 25.51 daily (9,311 annual) civil operations in 2015 (from 503.86 operations under a no-build scenario to 529.37 operations under a build scenario). For ESPR planning and analysis purposes, Massport projected that the development concepts under consideration at the East Ramp could be completed by 2015. Massport anticipates completion of the East Ramp improvements by 2015. As noted by the consultant, these data are conservative in that they assume that East Ramp hangar development would attract all new aircraft to Hanscom. While this assumption is not what FAA has seen elsewhere, we agree that it does provide a worst-case environmental impact scenario.

The noise analysis associated with this forecast scenario indicates a .3 decibel increase in the day-night average sound level (DNL) airport noise contour from East Ramp improvements. This increase is not significant. FAA considers a 1.5 decibel DNL level as the threshold of perception and significance. FAA also considered the combined effect of any induced operations from the replacement of Hangar 24. Unlike the East Ramp, replacement of Hangar 24 with an FBO facility is unlikely to induce any increase in airport operations. Many of the corporate jets and other aircraft that would be served by the facility already operate at Hanscom and other itinerant aircraft are unlikely to utilize Hanscom more because of the existence of a third FBO on the airport. To the extent an incidental increase in aircraft operations were to occur at the airport, any cumulative noise exposure from the East Ramp and Hangar 24 replacement would be less than .5 decibels DNL.

#### Sustainable Building Design.

Massport supports sustainable design, energy conservation, and emission reduction for all development at Hansom Field. Under Massport's sustainable design policy, all new development at Hanscom Field must achieve Leadership in Energy and Environmental Design (LEED) certification and satisfy Massachusetts LEED Plus standards, while striving to achieve LEED Silver Certification.

## **V. Mitigation**

Avoidance or reuse of Hangar 24 as a hangar is neither prudent nor practical. Except for commemorative reuse of minor parts of the hangar such as the sign, impacts cannot be minimized. The attached MOA provides mitigation details. The project will be carried out in accordance with terms of the MOA.

## **VI. Federal Findings and Determinations**

### Section 106 (National Historic Preservation Act) Determination of Adverse Effect.

FAA finds that Alternative 4, replacement of Hangar 24, would have an adverse effect on a property eligible for inclusion on the National Register of Historic Places. A Memorandum of Agreement (MOA), pursuant to Section 106 regulations, addresses compensatory mitigation.

### Section 4(f) (Department of Transportation Act) Statement and Determination.

Hangar 24 is an historic resource of local, state, and national significance. FAA may not approve of the use of such a resource for a transportation project unless there is no prudent and feasible alternative that would avoid using the resource. Based upon the analysis above, the FAA finds there is prudent and feasible alternative to avoid use of Hangar 24, and that, as reflected in a MOA, the proposed project includes all possible planning to minimize harm resulting from the use.

## **VII. Finding of No Significant Impact (FONSI)**

I have carefully and thoroughly considered the facts contained in the above Environmental Assessment. Based on that information, I find the proposed federal action is consistent with existing national environmental policies and objectives of Section 101(a) of the National Environmental Policy Act of 1969 (NEPA) and other applicable environmental requirements. I also find the proposed federal action will not significantly affect the quality of the human environment or include any condition requiring any consultation pursuant to Section 102(2)(C) of NEPA. As a result, an EIS is not warranted and will not be prepared for this action.

### VIII. Decision and Order

The FAA has determined, based upon the EA, that the proposed action qualifies for a FONSI. The FAA must now decide whether to approve or disapprove the revision of the Airport Layout Plan (ALP) to depict the Alternative that the FAA identified as its Preferred Alternative, Alternative 4. Massport is required to maintain an updated, FAA-approved airport layout plan as a condition of its obligations under federal grant assurances upon acceptance of grants from the FAA. Approval to revise the ALP would signify that applicable federal requirements relating to airport development and planning have been met and would permit Massport, as airport sponsor, to proceed with the project. Not approving this agency action would prevent Massport from proceeding with implementation of the proposed project.

I have carefully considered the FAA's goals and objectives in relation to the proposed hangar project. Under the authority delegated to me by the Administrator of the FAA, I find that the project in this Record of Decision (ROD) is reasonably supported. I therefore direct that action be taken to carry out approval of the ALP to depict the alternative selected in this ROD, FAA's Preferred Alternative, Alternative 4.

APPROVED: \_\_\_\_\_  
                  Manager, Airports Division

Date: \_\_\_\_\_

DISAPPROVED: \_\_\_\_\_  
                  Manager, Airports Division

Date: \_\_\_\_\_

Right of appeal: This decision and order is issued and these actions are taken pursuant to 49 U.S.C. Sections 40101 *et seq.*, Parts A and B, and constitute final orders of the Administrator that are subject to review by the appropriate Court of Appeals of the United States in accordance with the provisions of 49 U.S.C. Section 46110.



