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January 23, 2023

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME : Cape Cod Gateway Airport (formerly Barnstable Municipal Airport) Master Plan
PROJECT MUNICIPALITY : Barnstable (Hyannis)
PROJECT WATERSHED : Cape Cod
EEA NUMBER : 16640
PROJECT PROPONENT : Cape Cod Gateway Airport
DATE NOTICED IN MONITOR : December 7, 2022

Pursuant to the Massachusetts Environmental Policy Act (M.G.L. c. 30, ss. 61-62L) and Section 11.06 of the MEPA Regulations (301 CMR 11.00), I hereby determine that this project **requires** the preparation of a mandatory Draft Environmental Impact Report (DEIR).

Project Description

As described in the Environmental Notification Form (ENF), the Proponent proposes several improvements to the Cape Cod Gateway Airport (Airport) in Hyannis as outlined in the 2020 Master Plan Update,¹ which evaluated aviation demand forecasts, facility requirements, airport access and geometry, and navigation aids over a 20-year planning horizon. According to the ENF, the Master Plan recommendations are needed to meet Federal Aviation Administration (FAA) airport safety standards as well future aviation demand, including rehabilitation of existing infrastructure. One of the main objectives of the Master Plan is to develop feasible and flexible alternatives to meet forecast demand. While the primary purpose of proposed improvements is safety, improvements also support future airport growth.

Components of the Master Plan (the “project” reviewed herein) include the following:

- Runway Extension
 - Extending both ends of Runway 15-33 by lengthening the Runway 15 end by ±895

¹ The 2020 Master Plan was approved in May 2022 by the Cape Cod Gateway Airport Commission, the Massachusetts Department of Transportation (MassDOT) – Aeronautics Division and the FAA. See <https://flyhya.com/master-plan/>

feet (with a 695-foot displaced threshold²) and the Runway 33 end by ± 400 feet (with a 550-foot displaced threshold that includes the entire proposed extension along with the existing 150-foot existing displaced threshold)

- Runway Safety Area Enhancement
 - Installing a ± 200 -foot by 400-foot engineered material arresting system (EMAS)³ to the safety area beyond the end of Runway 24
- Taxiway Modifications
 - Extending Taxiway A to meet the standards of a full-length parallel taxiway to Runway 15-33
 - Reconfiguring Taxiway D as a partial-length parallel taxiway with a 400-foot standard separation east of Runway 15-33 from Taxiway B to Taxiway A1
 - Constructing a run-up area along the north side of the new partial parallel Taxiway D
 - Removing Taxiway D between Taxiway A and the new partial parallel Taxiway D
 - Removing Taxiway E and the existing Taxiway E runup pit
 - Removing existing Taxiway B and moving/extending it to a standard 400-foot separation south of Runway 6-24 with two midfield taxiways to Runway 6-24 and a northern taxiway spanning Runway 6-24 to Taxiway C
 - Removing Taxiway C1 between Taxiway C and Runway 6-24
 - Removing Taxiway D between Taxiway B and Runway 6-24
- Expanding the existing 43,097 square foot (sf) terminal building by 30,600 sf for current and future demand (this is the only terminal building at the Airport)
- General Aviation (GA) improvements for apron and/or hangar development
 - East Ramp: ± 8.7 acres of land
 - North Ramp: ± 31.3 acres of land
- Easement acquisition for existing and future airspace surfaces to control and remove obstruction as necessary for aviation safety and compliance with FAA standards

The Master Plan will be constructed in three phases as funding is allocated in capital improvement plans. Phase 1 covers the short-term airport growth (2022 to 2026) and includes relocation and extension of Taxiway B, reconstruction and realignment of Taxiways D and E at Runway 15 (including run-up pit), upgrades to the terminal, and runway extension easements. Phase 2 covers the medium-term airport growth (2027 to 2031) and includes clearing trees for Runway 15-33 Extension, as well as extension of Runway 15-33 and Taxiway A (including new taxiway A1 and A4). Phase 3 covers the long-term airport growth (2032 to 2040) and includes installation of Runway 24 EMAS.

Project Site

The Cape Cod Gateway Airport (the “Airport” or “project site”) is located in Hyannis on Cape Cod. The Airport is bordered by a Massachusetts Fish and Wildlife designated conservation area and Route 6 to the north, Barnstable Road (Route 132) to the south, Yarmouth Road to the west, and an industrial park (Independence Park) to the east. The Airport is owned by the Town of Barnstable (Town) and provides commercial and GA services to Boston, New York and the islands of Martha’s Vineyard

² A displaced threshold is a threshold located at a point on the runway other than the designated beginning of the runway. Displacement of a threshold reduces the length of runway available for landings. The portion of runway behind a displaced threshold is available for takeoffs in either direction and landings from the opposite direction.

³ EMAS uses crushable material placed at the end of a runway to stop an aircraft that overruns the runway. The tires of the aircraft sink into the lightweight material and the aircraft is decelerated as it rolls through the material.

and Nantucket. It is managed by the Cape Cod Gateway Airport Commission and airport staff. The Airport is zoned for Business and Industrial uses. Land uses surrounding the Airport property include agriculture, commercial, industrial, mixed uses, open land, and residential.

The Airport encompasses ±639 acres of land, of which ±140 acres is developed for airport facilities and operations including a single 43,097 sf Passenger Terminal Building, Air Traffic Control Tower (ATCT), parking facilities, aircraft ramps, hangars, runways, taxiways, an Airport Rescue and Fire Fighting (ARFF) building and an aircraft fuel farm. More than 45 private tenants lease space on parts of the Airport property. The Airport includes two runways: Runway 15-33 is 5,255 feet long by 150 feet wide and is aligned in a northwest to southeast direction and Runway 6-24 is 5,425 feet long by 150 feet wide and is aligned in a southwest to northeast direction.

Approximately 460 acres of the Airport are undeveloped areas consisting of upland evergreen and deciduous forests, wetlands, and two ponds (Upper Gate Pond and Lewis Pond) to the north. The forested communities are located north of the intersection between the two runways, with smaller patches of forested lands northwest of the Runway 15 end and southeast of Runway 6-24. Several of the small, isolated freshwater wetlands located on or immediately adjacent to Airport property are identified as Potential Vernal Pools (PVPs). The project site is located within Cape Cod's public drinking water supply's wellhead protection areas (Zone II). According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, the vast majority of the Airport is within Zone X, an area of minimal flood hazard determined to be outside the 500-year flood (panels 25001C0566J and 25001C0567J, effective July 16, 2014); however, a small section of forested area near Mary Dunn Pond, within the Airport property, is within an area with a 0.2% annual chance of flood hazard.

The Airport contains areas mapped as Estimated Habitat of Rare Wildlife, Certified Vernal Pools and/or Priority Habitat of Rare Species as designated by the Massachusetts Natural Heritage and Endangered Species Program (NHESP). However, these areas are not within the limits of the proposed improvements described in the Master Plan. No federally identified critical habitats are located at the Airport. The project site supports habitat for many bird species, both resident and migratory, including several birds that are protected under the Migratory Birds Treaty Act of 1918 and/or the Bald Eagle and Golden Eagle Protection Act of 1940.

The project site is within the Designated Geographic Area (DGA) of Environmental Justice (EJ) populations⁴ located in whole or in part within 1 mile of the project site as stated in 301 CMR 11.02 (definition of "DGA"). I note that, as of November 12, 2022, the Executive Office of Energy and Environmental Affairs (EEA) published an updated EEA EJ Maps Viewer ("*Updated 2020 Environmental Justice Block Groups*" tab), which indicates that the project site is now located within one EJ population characterized by Minority and Income, which was not previously mapped; within 1 mile of 11 EJ populations characterized by Minority, Income, Minority and Income, and Minority, Income and English Isolation (eight in Barnstable and three in Yarmouth), some of which were not previously mapped; and within 5 miles of 17 EJ populations characterized by Minority, Income, Minority and Income, and Minority and English Isolation (10 in Barnstable and seven in Yarmouth), some of which were not previously mapped.

⁴ "Environmental Justice Population" is defined in M.G.L. c. 30, § 62 under four categories: Minority, Income, English Isolation, and a combined category of Minority and Income.

Environmental Impacts and Mitigation

Potential environmental impacts of the project include alteration of ±63 acres of land, creation of 21 acres of impervious area and permanent alteration of wetland resource areas associated with Upper Gate Pond, preliminarily estimated as 396 linear feet (lf) of Bank, 3,427 sf of Bordering Vegetated Wetlands (BVW), and 23,654 sf of Land Under Water (LUW). The 30,600-sf terminal building expansion may generate new vehicle trips, increase water use, generate wastewater and emit greenhouse gasses (GHG) associated with energy use and transportation; these impacts were not quantified in the ENF and must be described in the DEIR.

Measures proposed to avoid, minimize and mitigate environmental impacts include installation of roof mounted solar arrays on hangars; implementation of electric vehicle (EV) charging stations and electric aircraft charging stations (as technology advances); construction of a stormwater management system with Best Management Practices (BMPs) to improve water quality, reduce flow rates and infiltrate runoff; and construction-period BMPs to minimize noise, air and water quality impacts including construction of a blast fence/wall next to the proposed run-up pad for noise protection. The project must be described and analyzed in greater detail in the DEIR in accordance with the Scope below.

Permitting and Jurisdiction

The project is undergoing MEPA review and is subject to a mandatory EIR pursuant to 301 CMR 11.03(1)(a)(1)⁵ and 11.03(1)(a)(2) because it requires Agency Actions and will result in direct alteration of 50 or more acres of land and creation of 10 or more acres of impervious area, respectively. The project is also required to prepare an EIR pursuant to 301 CMR 11.06(7)(b) because it is located within a DGA (1 mile) around one or more EJ Populations. The project exceeds ENF thresholds at 11.03(6)(b)(3) for expansion of an existing runway at an airport, 11.03(6)(b)(4) for construction of a New taxiway at an airport, and 11.03(3)(b)(1)(f)⁶ for alteration of one-half or more acres of other wetlands (LUW). The project requires a Section 401 Water Quality Certification (WQC) from the Massachusetts Department of Environmental Protection (MassDEP). It is subject to the MEPA GHG Emissions Policy and Protocol.

The project will require an Order of Conditions from the Barnstable Conservation Commission (or in the case of an appeal, a Superseding Order of Conditions (SOC) from MassDEP), submittal of a pre-construction notification (PCN) to the U.S. Army Corps of Engineers (ACOE) seeking authorization under the General Permits (GP 10 – Linear Transportation Projects) for Massachusetts in accordance with Section 404 of the Federal Clean Water Act, review by the Massachusetts Historical Commission (MHC) pursuant to Section 106 of the National Historic Preservation Act of 1966, review by FAA, Section 7 Consultation with the U.S. Fish and Wildlife Service (USFWS) under the U.S. Endangered Species Act, preparation and review of an Environmental Assessment under the National Environmental Policy Act (NEPA), and a National Pollutant Discharge Elimination System (NPDES) Stormwater General Permit and Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP) from the U.S. Environmental Protection Agency (EPA). The project is a Development of Regional Impact (DRI) which will be reviewed by the Cape Cod Commission.

⁵ The ENF did not identify that the project will exceed this threshold based on alteration of greater than 50 acres of land.

⁶ The ENF did not identify that the project will exceed this threshold based on alteration of greater than 0.5 acres of LUW.

The Proponent has received and may seek additional Financial Assistance through the Massachusetts Department of Transportation (MassDOT) Aeronautics Division (\$7.5 million over a 20-year period). Therefore, MEPA jurisdiction is broad and extends to all aspects of the project that are likely, directly or indirectly, to cause Damage to the Environment, as defined in the MEPA regulations.

Review of the ENF

The ENF includes a project description, an analysis of alternatives, existing and proposed conditions plans, and a review of its impacts and proposed mitigation measures. Consistent with the MEPA Interim Protocol on Climate Change Adaptation and Resiliency, the ENF contains an output report from the MA Climate Resilience Design Standards Tool prepared by the Resilient Massachusetts Action Team (RMAT) (the “MA Resilience Design Tool”),⁷ together with information on climate resilience strategies to be undertaken by the project.

Comments from the Town of Yarmouth identify additional analyses regarding the purpose and need of proposed improvements, runway extension alternatives, noise analysis and mitigation, and water quality. Numerous comments from residents of Barnstable and Yarmouth identify concerns with expansion of the runways at the Airport and other project elements because of the project’s potential impacts, including both existing levels of noise and air pollution generated from airplane operations and projected noise and air pollution associated with expansion of runways and increased flight activity. Comments also raise concerns about potentially outdated noise analyses; the purpose and need for the project; groundwater pollution from the Airport and potential downstream contamination within public water supply wells including per- and poly-fluoroalkyl substances (PFAS); and lack of community engagement.

SCOPE

General

The DEIR should follow Section 11.07 of the MEPA regulations for outline and content and additional information and analyses required by this Scope. It should clearly demonstrate that the Proponent will pursue all feasible measures to avoid, minimize and mitigate Damage to the Environment to the maximum extent feasible.

Project Description and Permitting

The DEIR should provide a detailed description of all project activities. It should include plans of existing and proposed conditions at a legible scale that clearly identify all major project components (existing and proposed buildings, access roadways, runways, taxiways, etc.), public areas, impervious areas, subsurface utilities, surface elevations, wetland resource areas, rare species habitat, ownership of parcels including easements, and stormwater and utility infrastructure. Conceptual plans should be provided for onsite work as well as any proposed off-site work for transportation or utility improvements that will benefit the project. The DEIR should clearly describe the number, location and size of existing avigation easements and proposed avigation easements that will be acquired. It should

⁷ https://resilientma.org/rmat_home/designstandards/

identify any changes to activities contemplated under the Master Plan, including changes in proposed phasing or additional proposed activities, since the filing of the ENF. The DEIR should identify and describe applicable state, federal and local permitting and review requirements associated with the project and provide an update on the status of each of these pending actions. The DEIR should include a description and analysis of applicable statutory and regulatory standards and requirements, and a discussion of the project's consistency with those standards.

To provide context for the proposed activities under the Master Plan, the DEIR should provide an overview of the airport's functions and activities related to GA and commercial services, with a focus on the role each of the project components plays in the operation of the airport. It should provide a general description of airport operations, including hours of operation, conditions under which each runway is used, airplane taxiing and parking, and use of hangars and other Airport buildings. It should include data on past (at least for the last 15 years), current and projected levels of passenger volumes and aircraft operations on both an annual basis and for peak summer months, so as to provide a clear and full justification for the need to expand runway and taxiway capacity to accommodate projected airport and passenger growth over time. The DEIR should clarify which project components are intended to support a growth in airport operations, and how implementation of each project component will be phased to accommodate growth projections over a specified time horizon. It should clearly identify relevant FAA design guidelines or standards to be addressed by each project, as applicable. It should describe the existing terminal building and proposed expansion.

Alternatives Analysis

According to the ENF, the build alternatives reviewed would accommodate the forecasted aviation demand presented in the Master Plan and satisfy the corresponding facility requirements, meet applicable FAA design standards, and provide methods to meet local constraints and address community concerns. According to the ENF, the project is proposed to comply with Part 77 airspace regulations, improve safety, and improve future airport operation and residential compatibility. Prior to submission of the ENF, the Master Plan initially analyzed alternatives against Level 1 screening criteria (i.e., creates disproportionate burden, immediate vicinity community and infrastructure constraints, costs) followed by Level 2 screening criteria (i.e., meets FAA standards, meets facility requirements, constructability, operational impacts). An additional three levels of screening remain and will be evaluated through the remainder of MEPA review: Level 3 (environmental impacts), Level 4 (broader community impacts) and Level 5 (cost). The alternatives conceptually reviewed below include those related to Airside Alternatives, Terminal D Alternatives, Runway 6-24 Alternatives, and Terminal Building Alternatives. These alternatives were reviewed solely with respect to Level 1 and 2 screening criteria and did not comprehensively consider environmental impacts (Level 3 criteria). The alternatives analysis should be supplemented in the DEIR to provide a full comparison of environmental impacts for each category of alternatives described below.

Airside Alternatives

The ENF identifies four Airside Alternatives including the No Build, FAA Recommended Length (Alternative 2), FAA Recommend Length with Displaced Thresholds (Alternative 3), and the Preferred Alternative (as described herein). It provides a limited analysis of these alternatives which does not include plans for Alternatives 2 or 3 or a detailed comparison of impacts in a narrative or tabular format. In all the build alternatives, Taxiway A would extend to the new runway ends and connect to the runway at a 90-degree angle and the Proponent would need to acquire all areas within the

taxiway object free areas (TOFAs) and relocated perimeter road located off Airport property when the land becomes available on a willing seller basis. The ENF indicates that the No Build Alternative was dismissed because it does not meet the existing and future facility requirements related to runway length. Alternative 2 would extend the Runway 15 end by 1,295 feet and Runway 33 end by 400 feet. Alternative 2 meets the requirement of 6,000 feet of both accelerated stop distance available (ASDA) and landing distance available (LDA) in both runway directions. However, this alternative does not meet FAA standards because relocating the Runway 15 landing threshold would require obstruction removal with Victory Chapel (a house of worship), an incompatible land use, within the runway protection zone (RPZ). In addition, obstructions (above ground utilities, man-made structures, and natural obstructions) that would need to be removed or lowered for this alternative make constructability challenging and costly. Alternative 3 would extend the Runway 15 end by 1,258 feet (with a 1,058-foot displaced landing threshold) and the Runway 33 end by 400 feet (with a 550-foot displaced threshold). Alternative 3 results in reduced obstruction impacts and enhanced land use compatibility compared to Alternative 2, meets the Runway 33 length need, and improves the Runway 15 landing distance by 200 feet (although it does not meet the Runway 15 recommended LDA of 6,000 feet). The Preferred Alternative would extend the Runway 15 end by 895 feet (with a 695-foot displaced landing threshold) and the Runway 33 end by 400 feet (with a 550-foot displaced threshold). While it does not meet the Runway 15 recommended LDA of 6,000 feet, it improves the LDA by 200 feet compared to existing conditions. The Preferred Alternative results in reduced obstruction impacts and enhanced land use compatibility compared to Alternative 2 and creates less impervious area compared to Alternatives 2 and 3.

Taxiway D Alternatives

Taxiway D Alternatives include the No Build and two build alternatives to improve multiple existing non-standard geometry conditions. The No Build Alternative does not meet the existing and future facility requirements related to taxiway geometry and enhancements and was dismissed. The Preferred Alternative proposes to construct a partial parallel taxiway with a 400-foot standard separation east of Runway 15-33 from Taxiway B to existing Taxiway A1 and includes removal of Taxiway D between Taxiway A and this new parallel taxiway to prevent any operational concerns of two-way taxiing occurring in front of the terminal building and eliminates direct access from three points. The Preferred Alternative would construct a run-up area along the north side of the proposed partial parallel taxiway to replace the existing Taxiway E run-up pit that will be removed (Taxiway E is also removed). The current run-up pit is at a lower elevation and surrounded by trees, which shield neighboring communities from the run-up sound impact. A blast fence/wall will be constructed next to the proposed run-up pit both for blast protection as well as noise protection. The proposed layout for Taxiway D will impact BVW, Bank, and LUW associated with Upper Gate Pond. Two design options for limiting resource area impacts to Upper Gate Pond include conventional fill on the north side of the taxiway with steep side slopes to limit the extent of impacts and a concrete retaining wall to further limit the extent of impacts. The DEIR should further quantify the constructability, cost, and environmental impacts for each design option identified. Alternative 3 is similar to the Preferred Alternative but would maintain the run-up pad in its existing location and includes the removal of Taxiway D between Taxiway A and the proposed new parallel taxiway to prevent any operational concerns of two-way taxiing occurring in front of the terminal building and eliminates direct access from only two points but still has a high-energy crossing on Runway 15-33. Although it improves conditions compared to the No Build Alternative by providing a standard 400-foot runway-taxiway centerline separation and improves nonstandard FAA geometry conditions (eliminates non-standard runway taxiway intersection angles, the y-shaped runway crossing, and direct access), it does not fully meet FAA geometry standards due to the high-energy crossing.

Runway 6-24 Alternatives

The ENF only evaluates the Preferred Alternative for Runway 6-24 Modifications to improve multiple existing non-standard geometry conditions and the No Build Alternative, which does not meet the existing and future facility requirements related to runway geometry. The Preferred Alternative would include:

- moving Taxiway B to a standard 400-foot separation from Runway 6-24 to reduce taxi time and open up additional land for aeronautical development potential
- constructing a perpendicular crossover taxiway south of the existing glide slope (3,480 feet from the Runway 6 threshold) so the new taxiway's TOFA remains clear of the glide slope
- removing Taxiway C1 and keeping the portion of Taxiway B connecting to Runway 6-24
- constructing a midfield taxiway to Taxiway B
- keeping Taxiway D exit to Taxiway C as an acute-angled exit only taxiway, which also adds an EMAS beyond the existing Runway 6 departure end (near the Runway 24 threshold)

The Preferred Alternative meets FAA design standards by providing a standard 400-foot runway-taxiway centerline separation, eliminating high energy intersections, and addressing direct access and non-standard runway-taxiway intersection angles; it also meets facility requirements by minimizing taxi distance and opening up space available for aviation development currently not available due to the larger than standard Runway 6-24 to Taxiway B separation. The ENF indicates that this alternative would add 27 acres of new impervious pavement; however, the Summary Table in the ENF also notes that the total impervious creation would be 21 acres for all proposed improvements in the Master Plan. The DEIR should confirm the total amount of impervious area creation.

Terminal Building Alternatives

Terminal Building Alternatives include the No Build and two build alternatives. The No Build Alternative would not create additional impacts. However, this alternative was dismissed because studies of various 'interior-only' reconfiguration options were unsuccessful in resolving all space deficiencies identified in the 150 peak hour passenger analysis and it is not viewed as a viable long-term solution to accommodate the passengers and operational needs for the forecasted demand. The Preferred Alternative reconfigures existing interior space for maximum efficiency of use and plans for isolated building additions of 5,000 to 20,000 sf to accommodate increased passenger and baggage demand in key areas. Interior reconfiguration allows for the additions to be smaller than would otherwise be required and maintains the basic terminal organization: a single terminal with secure departures to the south, arrivals/non-secure departures to the north, with airline operations/ticketing in the center. This alternative would accommodate phased implementation to allow improvements to begin with interior reconfiguration for maximum efficiency and in the future, follow-on with one or multiple isolated space additions, as appropriate, to meet demand and as funding becomes available. Alternative 3 would change the functional organization of the terminal building with no additional square footage. Rather than a single terminal with departures and arrivals at each end, the terminal would be reorganized to be a secure terminal on the south end (with both departures and arrivals/bag claim functions), and an attached, but functionally independent, non-secure terminal at the north end with its own departures and arrivals/bag claim functions for non-secure flights. This alternative would improve passenger flow, allowing secure arrivals/departures to remain contained at one end of the terminal and eliminating the

need for secure arrivals to traverse the ramp or terminal to access baggage claim at the north end. This alternative was dismissed because capital and operational costs for duplication of baggage claim is not warranted by the level of air traffic and the future of the non-secure departures is uncertain, as security requirements may change over time.

The objective of the MEPA review process is to provide disclosures of all feasible measures to avoid, minimize and mitigate Damage to the Environment. Consistent with that goal, an alternatives analysis is required to consider what effect changing the parameters and/or siting of a project, or components thereof, will have on the environment.

The DEIR should clearly identify the purpose and need of each project. Several of the proposed improvements will be designed to meet FAA safety guidelines; however, improvements are also intended to facilitate future growth in airport operations. The DEIR should clearly evaluate the basis for the proposed improvements, particularly the proposed runway length. The DEIR should describe how much expansion is anticipated in each of the three phases within the 20-year period. The DEIR should describe the relevant safety guidelines and how the proposed design will achieve safety goals. For each of the runway and taxiway improvements, the DEIR should identify one or more alternatives that minimize land alteration and impervious area and direct impacts to wetlands and evaluate these alternatives with respect to the FAA safety guidelines. For improvements that are not directly safety-related, the DEIR should identify any alternative configurations or locations that would avoid or minimize impacts to land alteration and impervious area. For the alternatives that were studied in the ENF (described above), the DEIR should quantify the environmental impacts of each alternative, and provide a clear explanation of why the Preferred Alternative was chosen when considering the relative environmental impacts of each of the studied alternatives. The alternatives analysis and project narrative should support the selection of the Preferred Alternative for each project component that includes all feasible measures to avoid Damage to the Environment, or to the extent Damage to the Environment cannot be avoided, to minimize and mitigate Damage to the Environment to the maximum extent practicable.

The DEIR should provide a detailed comparison of the alternatives, including more detailed descriptions and plans of each alternative. It should compare the environmental impacts of each alternative, quantitatively to the extent practicable, with respect to trip generation, parking supply, water use, wastewater generation, wetlands, impervious area and GHG emissions. The comparison should be provided in the narrative and in a tabular format.

The DEIR should address comments from the Town of Yarmouth regarding the purpose and need for the project. It should also analyze the feasibility of runway extension alternatives that provide the required runway length and consider balancing community aircraft noise impacts by factoring in location and density of residential development in areas surrounding the Airport.

Environmental Justice

As noted above, the project site is within the DGA of several EJ populations located in whole or in part within 1 mile of the project site. The updated EEA EJ Maps Viewer indicates that the project site is now located within one EJ population characterized by Minority and Income, which was not previously mapped; within 1 mile of 11 EJ populations characterized by Minority, Income, Minority and Income, and Minority, Income and English Isolation (eight in Barnstable and three in Yarmouth), some of which were not previously mapped; and within 5 miles of 17 EJ populations characterized by

Minority, Income, Minority and Income, and Minority and English Isolation (10 in Barnstable and seven in Yarmouth), some of which were not previously mapped. The project site is within 5 miles of a total of 19 EJ block groups. Languages identified as spoken by five percent or greater of residents in any census tract in which the identified 18 EJ populations are located, who also identify as not speaking English “very well,” include Portuguese or Portuguese Creole and Spanish or Spanish Creole.⁸

Effective January 1, 2022, all new projects in DGAs as defined in 301 CMR 11.02, as amended around EJ populations are subject to new requirements imposed by Chapter 8 of the Acts of 2021: *An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy* (“Climate Roadmap Act”) and amended MEPA regulations at 301 CMR 11.00.⁹ Two related MEPA protocols – the MEPA Public Involvement Protocol for Environmental Justice Populations (“MEPA EJ Public Involvement Protocol”) and MEPA Interim Protocol for Analysis of Project Impacts on Environmental Justice Populations (“MEPA Interim Protocol for Analysis of EJ Impacts”) – are also in effect for new projects filed on or after January 1, 2022.¹⁰ Under the new regulations and protocols, all projects located in a DGA around one or more EJ populations must take steps to enhance public involvement opportunities for EJ populations, and must submit analysis of impacts to such EJ populations in the form of an EIR.

Consistent with the MEPA EJ Public Involvement Protocol, the Proponent sent advance notification of the project in the form of an EJ Screening Form to a “EJ Reference List” provided by the MEPA Office and consisting of Community Based Organizations (CBOs) and tribes/indigenous organizations; the EJ Screening Form was translated into Portuguese and Spanish. The MEPA remote consultation meeting and in-person site visit notice (with translations in Portuguese and Spanish) was distributed to the EJ Reference List.

The DEIR should include a separate section on “Environmental Justice,” and contain a full description of measures the Proponent intends to undertake to promote public involvement by such EJ populations during the remainder of the MEPA review process, including a discussion of any of the best practices listed in the MEPA EJ Public Involvement Protocol that the project intends to employ. The DEIR, or a summary thereof, should be distributed to all CBOs and tribes included in the EJ Reference List that was used to provide notice of the ENF. The Proponent should obtain a revised EJ Reference List from the MEPA Office to ensure that contact information is updated. I note that the purpose of the *MEPA Public Involvement Protocol* is to require direct and meaningful engagement with EJ populations, including low-income and minority residents as well as those who identify as not speaking English well who lack resources to fully participate in public processes. The Proponent is strongly encouraged to develop public involvement strategies that go beyond reliance on local permitting procedures and seek meaningful input from EJ populations that may be affected by the project. Translation services should be offered in all the languages identified above.

The DEIR should include a baseline assessment of any existing unfair or inequitable Environmental Burden and related public health consequences impacting EJ Populations in accordance with 301 CMR 11.07(6)(n)1 and the MEPA Interim Protocol for Analysis of EJ Impacts. Specifically, the DEIR should use the DPH EJ Tool to identify any census tract or municipality in which the EJ

⁸ The new mapping reflected in the EEA EJ Maps Viewer took effect for MEPA filings on January 4, 2023. Given that this is a new project filing where the Scope issued today will dictate analysis for future EIRs, I find it appropriate to include the new mapping to determine the scope of analysis relative to environmental justice.

⁹ MEPA regulations have been amended to implement Sections 55-60 of the Climate Roadmap Act and took effect on December 24, 2021.

¹⁰ Available at <https://www.mass.gov/service-details/eea-policies-and-guidance>.

populations are located as exhibiting “vulnerable health EJ criteria”; this term is defined in the DPH EJ Tool to include any one of four environmentally related health indicators that are measured to be 110% above statewide rates based on a five-year rolling average. In addition, sources of potential pollution should be identified within the identified EJ populations, based on the mapping layers available in the DPH EJ Tool.

The DEIR should provide an estimate of the increase in vehicular traffic that may be associated with the proposed terminal building expansion, as well as the total number of adt of diesel vehicles that the project is anticipated to generate including during construction. The DEIR should describe the anticipated routes of travel for project-generated vehicular traffic to determine whether such traffic would extend near EJ populations, and should discuss whether air quality may be affected in those neighborhoods. The DEIR should discuss the extent to which Transportation Demand Management (TDM) measures will serve to reduce vehicle traffic, associated with project operations and construction. The DEIR should also discuss other potential mitigation, such as measures to discourage single occupancy vehicle (SOV) trips to the airport by passengers and visitors and installation of electric vehicle (EV) infrastructure on site.

The DEIR should also analyze land alteration and impervious surfaces added by the project, including implications for potential stormwater flooding and urban heat island effects in the surrounding neighborhoods. Consistent with the Scope related to Climate Change and Land Alteration below, analysis of the stormwater management system should specifically assess whether flooding risks may be exacerbated for nearby EJ populations, including under future climate conditions, and whether existing conditions would be worsened or improved by the project design. The DEIR should assess whether tree removal near EJ populations may affect urban heat island effects, and should discuss whether anticipated growth in airport operations may disproportionately affect EJ neighborhoods in terms of noise, air pollution, and traffic. The DEIR should analyze any other relevant short-term and long-term environmental or public health impacts of the project, including construction period activities. If any disproportionate adverse effects or increased risks of climate change are identified, the DEIR must include a discussion of proposed mitigation and include such measures in draft Section 61 findings. I note that generalized project benefits should not be analyzed to “net out” project impacts, unless the benefit serves to mitigate the specific impact analyzed. Particular focus should be given to benefits that serve to promote the equitable distribution of Environmental Burdens, or reduce any existing Environmental Burdens identified for the EJ population.

Public Health

The DEIR should include a separate section on “Public Health,” and discuss any known or reasonably foreseeable public health consequences that may result from the environmental impacts of the project. Particular focus should be given to any impacts that may materially exacerbate “vulnerable health EJ criteria,” in accordance with the MEPA Interim Protocol for Analysis of EJ Impacts. In addition, other publicly available data, including through the DPH EJ Tool, should be surveyed to assess the public health conditions in the immediate vicinity of the project site, in accordance with 301 CMR 11.07(6)(g)10. Any project impacts that could materially exacerbate such conditions should be analyzed. To the extent any required Permits for the project contain performance standards intended to protect public health, the DEIR should contain specific discussion of such standards and how the project intends to meet or exceed them. As discussed below, the DEIR should contain a comprehensive discussion of PFAS contamination on site, and should assess whether such contamination or cleanup activities will disproportionately affect EJ neighborhoods or other vulnerable populations near the site.

Noise

The ENF indicates that the proposed improvements in the Master Plan are intended to support future expansion of airport operations and passenger traffic. Such expansion will result in increased noise impacts on surrounding neighborhoods. Comments received from abutters identify concerns with the existing level of noise experienced in communities along the flight paths which impacts residents, as well as the level of noise associated with future expansion of airport operations. These comments further indicate that the use of average annual day-night aircraft noise contours (Ldn or DNL) is insufficient to address their concerns. The DEIR should provide a detailed response to the comments from the Town of Yarmouth and residents regarding existing and proposed aircraft noise including an aircraft noise analysis and noise mitigation.

The DEIR should include an assessment of noise levels associated with existing airport operations, as well as anticipated increases that are projected as a result of future expansion of the airport in Phases 1, 2, and 3. The noise analysis should determine the increase in noise levels caused by operations at the Airport over the 20-year period described in the Master Plan. It should describe existing noise levels, identify all noise-generating activities and components of the project and model noise levels under proposed conditions. The DEIR should discuss what regulatory requirements, such as FAA guidelines or MassDEP regulations or policies, apply to noise impacts of airport operations. The DEIR should discuss whether noise impacts are likely to disproportionately affect surrounding EJ neighborhoods or other vulnerable populations (including those that may be considered “sensitive receptor”) and what mitigation could be considered to minimize the noise impacts of airport operations. For instance, the DEIR should discuss whether hours of operations could be adjusted to minimize noise impacts, particularly during nighttime hours. The DEIR should analyze the mitigation recommended in the Town of Yarmouth’s comments.

The Town of Yarmouth’s comment letter requests that aircraft noise impacts include the average annual day-night contours shown as the 55 Ldn through 80 Ldn in five-level increments, as well as single-event contours for the same Ldn increments as applicable to a range of aircraft types (identified in comments); comparable aircraft models should be used if the FAA noise model database does not include these aircraft types. The DEIR should present these contours for the existing flight routes commonly flown at the Airport on each of the four runway ends, and for any future flight path recommended for aircraft noise mitigation measures. The intent of these single-event aircraft noise is to better reflect the aircraft noise impact that residents experience on a daily basis.

Land Alteration, Impervious Area and Stormwater

The project will cumulatively alter 63 acres of land and create up to 21 acres of impervious area. The project will remove a substantial number of existing mature trees from the site and within areas of proposed easements, which will be acquired. The DEIR should provide an updated table which quantifies the land alteration and impervious area associated with each project component in a tabular format. The DEIR should clarify the amount of alteration including the type of vegetation that will be cleared (i.e., mature trees, scrub shrub, etc.). It should clarify the location, type and amount of alteration in previously undisturbed areas. The DEIR should identify how the project is designed to avoid and minimize land alteration and impervious area. It should provide a comprehensive evaluation of all measures preserve open space and tree cover, to reduce the amount of land alteration, and to convert impervious areas to pervious materials, including reductions in pavement associated with runways and

taxiways, reductions in size of aprons and hangars, and supplemental landscaping or tree planting to mitigate impacts associated with clearing. The DEIR should quantify open space that will remain undisturbed and/or restored upon completion of construction. The DEIR should include site plans that clearly locate and delineate areas proposed for development and those to be left undisturbed.

The DEIR should identify all easements and public utilities on-site and off-site and provide information on the parties to the easements and location and condition of public infrastructure. It should describe any constraints on project design or use of the site posed by these conditions.

According to the ENF, proposed stormwater management for individual project phases will comply with current MassDEP regulations. Mitigation will include stormwater BMPs such as groundwater recharge including infiltration basins, infiltration trenches, and/or detention basins. All BMPs will comply with standards necessary for work in Critical Area associated with the EPA-designated Sole Source Cape Cod Aquifer and Zone II to water supply wells in the Town. Stormwater runoff from the project limits will be managed using the Airport's existing stormwater management system and installing new drainage culverts. Runoff will be managed to reduce peak stormwater runoff and provide treatment with both temporary and permanent BMPs during and after construction. Temporary BMPs will include silt socks, silt fences, inlet protection, and stabilized construction entrances. Post-construction BMPs may include swales, bioretention areas, infiltration basins, catch basins with sediment traps and oil and water separators.

The DEIR should identify all measures that will be employed to protect the water quality of the sole source aquifer, provide a description of the proposed stormwater management system for each project/phase and identify BMPs that will be incorporated into its design. The DEIR should describe how the proposed stormwater management system will fully comply with the MassDEP Stormwater Management Standards (SMS). Given the significant amount of impervious area to be added to the project site, the Proponent should take all feasible measures to manage stormwater runoff, including by exceeding stormwater management standards and incorporating Low Impact Design (LID) strategies and green infrastructure wherever practicable; such measures should be described in the DEIR. Green infrastructure is an effective way to treat stormwater generated by impervious surfaces and provide cooling and other benefits for the community and should be extensively incorporated into the warehouse building, parking lots, and other paved areas to the maximum extent possible. LID designs should be carefully considered, and where not used, the DEIR should provide a thoughtful explanation as to why they are infeasible for implementation on-site. The DEIR should describe the extent to which the project will preserve existing tree canopies and plant additional trees, including estimates of the number of trees that will be planted. The DEIR should demonstrate the system will be designed to accommodate larger storm events. The DEIR should provide quantitative modeling and analysis to assess the rainfall volumes that will be accommodated by the stormwater design, including under future climate conditions. It should include a plan showing the location of BMPs. Additional requirements related to climate change adaptation and resiliency are discussed below.

The DEIR should identify any infiltration systems that may require registration under MassDEP's Underground Injection Control (UIC) program. According to MassDEP, the Airport is operating without the required NPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP). The DEIR should address how the Airport will seek required MSGP permitting and describe how the project will comply any applicable NPDES performance standards related to discharges of pollutants from airplane deicing operations and other discharges covered by the MSGP. The DEIR should use available water quality monitoring data from

the Upper Gate and Lewis Ponds to demonstrate whether installed stormwater management systems are performing as designed in these areas.

Wetlands

The Barnstable Conservation Commission will review the project for its consistency with the Wetland Protection Act (WPA), the Wetlands Regulations (310 CMR 10.00) and associated performance standards, including the SMS. According to the ENF, realignment of Taxiway D will impact wetland resource areas associated with Upper Gate Pond including Bank, LUW and BVW. Impacts will occur from proposed embankment fill for the northern slide slope and/or proposed retaining wall associated with the taxiway. In addition, fill within the pond itself will be necessary to construct the taxiway due to existing topography and requirements from FAA that specify separation between the runway and taxiway centerline. The ENF states that permanent wetland impacts are currently being investigated and will be further quantified in the DEIR based on analysis of field data and advanced project designs for the Preferred Alternative and other alternatives.

The DEIR should provide updated wetlands calculations which reflect the most recent design of the project and identify all temporary and permanent impacts to wetland resource areas. The DEIR should demonstrate how the project will comply with performance standards outlined in the WPA for each resource area. It should provide an updated summary table of all wetland resource area and Buffer Zone impacts. The DEIR should consider impacts associated with surface and subsurface hydrology, wildlife habitat, and describe compliance with BMPs for stormwater management and sedimentation and erosion control. The DEIR should ensure that estimates for impacts to wetland resource areas are conservative and account for all temporary impacts. The DEIR should assess whether the taxiway relocation could be designed to avoid work within the wetland buffer, and if not, provide additional detail about potential mitigation. The DEIR should provide further detail on any proposed tree clearing, invasive species management and potential vernal pools across the project site.

The project will require a 401 WQC from MassDEP due to the cumulative impacts to BVW and LUW reported in the ENF. MassDEP will review the project for its consistency with Water Quality Regulations pursuant to 314 CMR 9.00. The DEIR is required to provide sufficient information to adequately describe cumulative impacts to “Waters of the Commonwealth” (BVW, Isolated Vegetated Wetland (IVW) and LUW) pursuant to 314 CMR 9.00 and identify efforts to avoid, minimize, and mitigate impacts. Impacts to IVWs that meet federal jurisdictional requirements defined at 33 CFR 328 through 329 are subject to review under 314 CMR 9.00. The DEIR should clarify if the project will impact IVW, and if yes, the DEIR should include a current Jurisdictional Determination from ACOE that verifies whether any or all the impacted IVWs are federal wetlands. The DEIR should describe the volumes associated with proposed dredging and filling within Upper Gate Pond. The Proponent should review the requirements in 314 CMR 9.06 and determine whether a practicable alternative is available that has less adverse impact to the aquatic ecosystem. The alternatives analysis should include a thorough analysis to demonstrate why the geometry of certain elements cannot be modified to decrease wetland impacts. The DEIR should propose appropriate mitigation measures to demonstrate consistency with the WQC regulations.

Cultural Resources

According to the ENF, archaeological sites 19-BN-827, 19-BN-828 and 19-BN-829 are within the Airport property. MHC comments note that the first two sites are considered significant ancient

Native American sites. No work is proposed at these archaeological site locations and as such, no impacts to these sites are anticipated. Site 19-BR-74, an Indian Trail, crosses north-south through the Airport property. Work areas in the vicinity of this former Indian Trail have previous heavy impacts related to the construction of the airfield and runways. The DEIR should commit to preparation and implementation of an archaeological site avoidance and protection plan (ASAPP) which describes how the archaeological sites will be protected and preserved from inadvertent construction-related impacts or future land use impacts. The ASAPP should be submitted to MHC for its review and comment. The DEIR should describe measures that will be implemented to avoid impacts to archaeological resources. The DEIR should provide a summary of the outcome of any consultation with MHC.

Water and Wastewater

The DEIR should estimate water use and wastewater generation associated with the terminal building expansion and any other activities that will increase water use. The DEIR should describe the existing and proposed drinking water and wastewater facilities and review any capacity constraints. The DEIR should identify opportunities for water conservation at the airport and associated facilities including water conserving plumbing and reuse of rainwater and greywater for irrigation. It should describe provisions for collecting wastewater containing extinguishing agents and measures for its treatment and/or disposal in accordance with applicable requirements.

As previously noted, the Airport is located over a Sole Source Aquifer that is a source of drinking water for Cape Cod. Therefore, proposed improvements will be subject to review under EPA's Sole Source Aquifer Protection Program. The DEIR should provide information responsive to the *EPA Region 1 Sole Source Aquifer Project Review Information* document to allow EPA to determine whether project construction and operation have the potential to contaminate the underlying aquifer. The DEIR should include information and analyses that provide delineation of the aquifer, description of groundwater flow, location of private and public water supply wells, identification of surface water discharges, management of stormwater and liquid and solid waste at the Airport, location of underground storage tanks (UST), and mitigation measures to minimize impacts to water quality. The DEIR should summarize the result of past (and current) groundwater monitoring conducted at or near the Airport. It should explain whether monitoring shows any adverse impacts to public water supplies and private wells associated with airport activities. The DEIR should describe the Proponent's coordination with the local Water Department and Board of Health based on the proximity of private wells.

Climate Change

Adaptation and Resiliency

Consistent with the MEPA Interim Protocol on Climate Change Adaptation and Resiliency, the ENF contains an output report from the MA Climate Resilience Design Standards Tool prepared by the Resilient Massachusetts Action Team (RMAT) (the "MA Resilience Design Tool"),¹¹ together with information on climate resilience strategies to be undertaken by the project. Based on the output report attached to the ENF, the project has a high exposure based on the project's location for the following climate parameters: extreme precipitation (urban and riverine flooding) and extreme heat. Based on the 60-year useful life and the self-assessed criticality of the terminal building, the Tool recommends a

¹¹ https://resilientma.org/rmat_home/designstandards/

planning horizon of 2070 and a return period associated with a 100-year (1% chance) storm event when designing this asset. This recommendation appears to be based on a “high” criticality rating assigned (based on user inputs) for project assets with a 51 to 100-year useful life.¹² Based on a 20-year useful life and self-assessed criticality of runway and taxiways, the Tool outputs indicate a recommended planning horizon of 2050 and a return period associated with a 10-year (10% chance) storm event for these assets. The ENF does not provide information about anticipated future conditions at the site due to the effects of climate change.

The DEIR should identify the project site’s vulnerabilities to climate change and potential features incorporated into the design of the project that will increase the resiliency of the site to likely climate change impacts. I encourage the Proponent to consult the data available from the Town of Barnstable, the Cape Cod Commission, and the resilientMA.org website to develop climate change scenarios for the site and identify potential adaptation measures. The Proponent should consult with the Town regarding the findings of its community resilience workshops, including priority hazards, vulnerabilities, strengths, and actions. The DEIR should provide a review of the Town’s studies and resiliency plans on climate vulnerabilities and potential solutions, including regional solutions requiring coordination between the Proponent and abutters and other stakeholders. The DEIR should include a comprehensive discussion of the potential effects of climate change on the project site and describe features incorporated into the project design (including climate-related design specifications and standards) that will increase the resiliency of the site to these changes. The DEIR should include information about the potential adaptation of the project to future conditions.

The DEIR should describe the precipitation data used for the design of the stormwater management system. The DEIR should discuss how the stormwater system will be sized to address future climate conditions. The MA Resilience Design Tool provides rainfall volumes associated with a 24-hour storm for the project as input by the user. The DEIR should discuss whether the proposed stormwater design will accommodate the recommended 2070 100-year return period (24-hour rainfall volume of 11.0 inches) from the Tool, as well as the 2050 recommendation for runway and taxiway areas corresponding to the 10-year return period as of 2050 (24-hour rainfall volume of 6.1 inches). The DEIR should discuss whether the stormwater management system will attenuate peak flows and meet pollutant loading requirements based on future climate conditions in 2050 and 2070 and should provide a copy of the Stormwater Report for the project. Estimates can be provided in lieu of exact calculations, to the extent stormwater design is not advanced enough by the time of the DEIR. The MA Resilience Design Tool also shows a high risk for the project site for riverine flooding. The DEIR should discuss whether the elevation of the terminal building is anticipated to be resilient to flood elevations at the site associated with future storm scenarios such as the 10-year, 25-year, and 50-year storms as of 2070. The project site is located outside of the 100-year floodplain; however, a small section of forested area near Mary Dunn Pond, within the Airport property, is within the 500-year floodplain. According to the ENF, the project site is not at a high risk for flooding. The DEIR should provide information on any base flood elevations that have been established for adjacent areas, and discuss how the proposed building elevation compares to existing BFEs and whether it is likely to accommodate storm conditions based on future storm scenarios. To the extent the project is unable to accommodate future year storm scenarios, the DEIR should discuss whether the project has engaged in flexible adaptative strategies, and whether current designs allow for future upgrades to be made to adapt to climate change. General guidance on

¹² See https://eea-nescaum-dataservices-assets-prd.s3.amazonaws.com/cms/GUIDELINES/V1.2_SECTION_4.pdf, at p. 23.

flexible adaptive strategies is available on the MA Resilience Design Tool website.¹³

Greenhouse Gas Emissions

This project is subject to review under the May 5, 2010, MEPA GHG Policy, which requires Proponents to quantify carbon dioxide (CO₂) emissions and identify measures to avoid, minimize or mitigate such emissions. The analysis should quantify the direct and indirect CO₂ emissions of the project's energy use (stationary sources) and transportation-related emissions (mobile sources). Direct emissions include on-site stationary sources, which typically emit GHGs by burning fossil fuel for heat, hot water, steam and other processes. Indirect emissions result from the consumption of energy, such as electricity, that is generated off-site by burning of fossil fuels, and from emissions from vehicles used by employees, vendors, customers and others.

Stationary Sources

The project includes construction of a 30,600-sf terminal expansion. The DEIR should include a GHG analysis for stationary sources prepared in accordance with the GHG Policy, guidance provided in the comment letter submitted by the Massachusetts Department of Energy Resources (DOER), which is incorporated in this Certificate in its entirety, and this Scope. According to DOER comments, significant updates to the commercial stretch building energy code will go into effect on July 1, 2023 (“July 2023 stretch code”).¹⁴ The July 2023 stretch code makes significant changes and improvements to many sections of the code including envelope performance and thermal bridge accounting, ventilation energy recovery, electrification, EV readiness and solar photovoltaic (PV) readiness. For the terminal expansion project, the DEIR should include an analysis that calculates and compares GHG emissions associated with a Base Case and a Preferred Alternative that achieves greater reductions in GHG emissions. Hyannis, which is located within Barnstable, is not a stretch code community. Baseline for this project, therefore, would be Massachusetts base code. However, because the updated code contains numerous provisions which deliver emissions reductions, DOER comments recommend that the project, as a mitigation measure, follow the provisions of the July 2023 stretch code for the proposed expansion. In addition, DOER recommends that the project adopt, as a mitigation measure, efficient electric space and water heating.

The GHG analysis should clearly demonstrate consistency with the key objective of MEPA review, which is to document the means by which Damage to the Environment can be avoided, minimized and mitigated to the maximum extent feasible. The DEIR should identify the model used to analyze GHG emissions, clearly state modeling assumptions, explicitly note which GHG reduction measures have been modeled, and identify whether certain building design or operational GHG reduction measures will be mandated by the Proponent to future occupants or merely encouraged for adoption and implementation. The DEIR should include the modeling printouts for each alternative and emission tables that compare base case emissions in tons per year (tpy) with the Preferred Alternative showing the anticipated reduction in tpy and percentage by emissions source. Other tables and graphs, such as the table of mitigation measures recommended by DOER, may also be included to convey the GHG emissions and potential reductions associated with various mitigation measures as necessary. The

¹³ <https://eea-nescaum-dataservices-assets-prd.s3.amazonaws.com/cms/GUIDELINES/20210330FlexibleAdaptationPathwaysFormFinal.pdf>

¹⁴ The details of this code are available here:

<https://www.mass.gov/info-details/stretch-energy-code-development-2022#final-code-language-for-stretch-code-update-and-new-specialized-stretch-code->

DEIR should provide data and analysis in the format requested in DOER's letter.

The DEIR should present an evaluation of mitigation measures and recommendations identified in DOER's comment letter. In particular, the feasibility of each of the mitigation measures outlined below should be assessed for the building expansion, and if feasible, GHG emissions reduction potential associated with major mitigation elements should be evaluated to assess the relative benefits of each measure. The DEIR should explain, in reasonable detail, why certain measures that could provide significant GHG reductions were not selected – either because it is not applicable to the project or is deemed technically or financially infeasible. If financially infeasible, the DEIR should describe the cost effectiveness metrics that were used to evaluate feasibility, whether energy savings that would accrue to future tenants were considered, and what “payback period” the Proponent would deem to be reasonable given the financial constraints identified. It should include a review of available financial incentives potentially available for the project, as described in DOER's comment letter. At a minimum, the DEIR should consider the following GHG mitigation measures:

- Building design and construction practices that result in low heating and cooling thermal energy demand intensity (TEDI) by maintaining envelope integrity with framed, insulated walls with continuous insulation, minimizing glazed wall systems (e.g., curtain walls), low air infiltration (confirmed with in-building testing), eliminating thermal bridging, ventilation energy recovery and management of solar heat gains
- Minimizing glass curtain wall assemblies and excessive windows
- Efficient electrification of space heating with either full electrification of space heating with air source heat pumps (ASHPs), or, for highly ventilated buildings, a hybrid of air source space heating for primary heating and gas space heating for secondary heating
- Efficient electrification of water heating with ASHPs
- Maximized rooftop solar-readiness (at least 80%) and installed PV
- Maximized electric vehicle (EV) charging equipment (10-15% of spaces) and EV ready spaces (20-25% of spaces)

Mobile Sources / Air Quality

The DEIR should review transportation-related emissions associated with vehicular trips to and from the Airport resulting from the proposed improvements to support future airport growth and identify any Transportation Demand Management (TDM) measures implemented by the Airport to minimize single occupancy vehicle trips to and from the site including promotion of alternative modes of travel. It should review measures to promote the use of low-emissions vehicles. The ENF describes the Proponent's commitment to install EV charging spaces and electric aircraft charging stations (as technology advances). The DEIR should describe the number of EV charging stations that will be installed and commit to providing designated parking spaces for these vehicles. It should provide additional information regarding implementation of electric aircraft charging stations.

Land Alteration

The project will alter ±63 acres of land, though the extent of tree clearing is not quantified in the ENF. In addition, tree clearing will occur on easements outside of the Airport property. The DEIR should identify the total areal extent of proposed tree clearing on-site and off-site. In accordance with the GHG Policy, projects that alter over 50 acres of land are required to analyze the carbon loss

associated with removal of trees and soil disturbance during the construction period and loss of carbon sequestration. The purpose of this analysis is to develop an estimate, not an exact accounting of GHG emissions associated with land alteration, including removal of trees and release of sequestered carbon in soil. The Proponent should consult with the MEPA Office on the development of a carbon analysis for tree clearing activities. To the extent the degree of tree removal is substantial as determined in consultation with the MEPA Office, the DEIR should develop a methodology to develop the analysis, identify associated impacts on GHG emissions, and identify measures to avoid, minimize and mitigate impacts. The DEIR should provide a quantitative carbon analysis of tree clearing activities that should consider both the one-time direct emissions from tree cutting as well as loss of potential carbon sequestration over a certain time period (e.g., 30 or 40 years). To the extent tree cover is replaced with scrub-shrub habitat, the net loss in carbon sequestration potential may be estimated. The DEIR should account for carbon sequestration from any trees that are removed and not replaced/converted to scrub shrub.

I expect the DEIR to identify significant mitigation measures commensurate with the project's impacts on the site's capacity to sequester and store carbon. Potential mitigation measures may include funding programs that add or maintain biomass for sequestration purposes (such as tree planting, carbon credits, forest conservation or commitments to implement forest restoration practices) and preserving/protecting forested land through a Conservation Restriction or other means. The DEIR should clearly explain the Proponent's plan for disposition of the trees cleared through the project, including the process for identifying potential markets for reuse of wood. The Proponent should commit to reuse of cleared trees for long-lived wood products to the greatest extent practicable and should indicate how the ultimate disposition of the trees will be tracked and documented.

Hazardous Waste

According to the ENF, the Airport includes disposal sites regulated by M.G.L. c. 21E, the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000) because releases of oil and hazardous materials (OHM) have occurred at the site; MassDEP assigned 14 Release Tracking Numbers (RTNs) to these releases. The ENF provides a brief summary of these releases, response actions taken, and the current status. These releases are, or have, impacted soil and groundwater conditions at the project site and response actions are ongoing. A Permanent Solution or Temporary Solution has not yet been achieved for two RTNs (4-26347 and 4-28577) and response actions are ongoing; all other RTNs have achieved a Permanent Solution or similar status such that they do not warrant additional response actions.

RTN 4-26347 is associated with onsite and offsite historical releases of PFAS and 1,4-dioxane to soil and groundwater. MassDEP comments note that the source of the 1,4-dioxane is likely the past use of airport deicing liquids and potentially from the release of chlorinated volatile organic compounds (CVOCs) at the Airport and PFAS is believed to have originated from the use and storage of Aqueous Film-Forming Foam (AFFF). Response actions are being performed as an Immediate Response Action (IRA) as well as under MCP Comprehensive Response Actions. A Phase III Identification, Evaluation, and Selection of Comprehensive Remedial Action Alternatives was submitted for the property in June 2022. RTN 4-28577 is associated with presence of polycyclic aromatic hydrocarbons (PAHs) and lead in pond sediments in Upper Gate Pond and Lewis Pond. A Phase I Report and Tier Classification was submitted in November 2021. Other RTNs were associated with releases of aviation gas, motor oil, volatile organic compounds (VOCs), petroleum-related compounds, chlorinated solvents, and other OHM.

The DEIR should describe if proposed improvements will be located within any of the disposal sites previously or currently regulated under the MCP. The DEIR should include a plan that clearly identifies the location of disposal sites and project elements. It should describe if conditions associated with any disposal sites may require remedial measures in the areas where proposed improvements will occur. Residual contamination that remains in the soil in the area of the releases may affect the handling of soil for construction of proposed improvements. The DEIR should describe any potential excavation or disturbance in disposal sites and identify any necessary mitigation measures or handling and disposal requirements.

The Proponent is working with MassDEP to continue PFAS remediation at the site. The ENF indicates that the Proponent intends to use an “Ecologic Cart” system to prevent the discharge of firefighting foam onto the ground surface during annual, federally required, testing of the foam. The DEIR should comprehensively respond to MassDEP comments regarding preparation of a Release Abatement Measure (RAM) Plan, prior to construction, for Taxiway B Potential Aviation Development Area, Taxiway A Potential Aviation Development Area, and Proposed Building near the Terminal Ramp and North Ramp including. As requested in greater detail in MassDEP comments, the RAM Plan should describe sampling and analysis of soil and asphalt for the presence of PFAS and managing PFAS-contaminated soil and asphalt in Taxiway A and Taxiway B development areas. In addition, some development is proposed within the disposal site boundary for RTN 4-823 associated with the Proposed Building near the Terminal Ramp and North Ramp. The DEIR should confirm if a RAM Plan will be required under 310 CMR 40.0000 based on review of this development by a Licensed Site Professional (LSP). The DEIR should confirm that existing monitoring wells will be maintained for future assessment of groundwater for PFAS, 1,4-dioxane, and potentially other contaminants, otherwise, replacement wells will be installed.

The DEIR should describe if project activities will be located within areas where PFAS or firefighting foam has been used. The DEIR should include an update on the Proponent’s ongoing coordination with MassDEP regarding locations where firefighting foam has been used and its potential to be a source of PFAS. The DEIR should describe any areas to be excavated that may contain soil or groundwater contaminated by PFAS and describe necessary mitigation measures. The DEIR should describe if the Proponent plans to test soils in these areas prior to construction, characterize soil with respect to PFAS contamination and, if necessary, maintain a pavement cover over any contaminated areas. The DEIR should provide an estimate of the volume of material to be excavated. Based on the Proponent’s review of disposal sites at the Airport and potential areas where PFAS may have been released, the DEIR should identify the presence of soil and/or groundwater contaminants in the areas where excavation is proposed. It should estimate the volume of contaminated material, review testing, treatment and disposal options and identify construction-period mitigation measures to minimize impacts to public health and the environment associated with the excavation and handling of contaminated soil. The Proponent should work with MassDEP to resolve any issues regarding PFAS before conducting any work for the project.

The DEIR should discuss any generation of hazardous waste and/or waste oil at the Airport and identify potential measures to reduce, recover and reuse hazardous waste. The DEIR should describe implementation of a spills contingency plan that addresses prevention and management of potential releases of OHM from pre- and post-construction activities and will be presented to workers at the site and enforced. The plan should include but not be limited to, refueling of machinery, storage of fuels, and potential on-site activity releases.

Solid Waste

The DEIR should identify the nature and volume of solid waste to be generated by the project. It should describe handling, reuse, recycling and disposal of solid waste. The Proponent should review MassDEP's comment letter for solid waste handling and disposal requirements. The DEIR should describe how the project will comply with all applicable requirements.

Construction Period

The DEIR should describe how construction activities will be managed in accordance with applicable MassDEP regulations regarding Air Pollution Control (310 CMR 7.01, 7.09-7.10), and Solid Waste Facilities (310 CMR 16.00 and 310 CMR 19.00, including the waste ban provision at 310 CMR 19.017). The DEIR should describe all construction-period impacts and mitigation relative to wetlands, stormwater, noise, air quality, water quality, and traffic. It should describe truck routes and other mitigation measures that may be implemented to minimize impacts to residential areas by trucks travelling to the site during the construction period. Construction equipment should use engines meeting Tier 4 federal emissions standards, or if unavailable, confirm that the project will require its construction contractors to use Ultra Low Sulfur Diesel fuel, and discuss the use of after-engine emissions controls, such as oxidation catalysts or diesel particulate filters.

The DEIR should provide detailed information regarding the project's generation, handling, recycling, and disposal of construction and demolition debris (C&D) and identify measures to reduce solid waste generated by the project. I strongly encourage the Proponent to commit to C&D recycling activities as a sustainable measure for the project. The Proponent is reminded that any contaminated material encountered during construction must be managed in accordance with the MCP and with prior notification to MassDEP. The project will be required to develop a Stormwater Pollution Prevention Plan (SWPPP) in accordance with its NPDES CGP to manage stormwater during the construction period. The DEIR should describe stormwater management measures that will be implemented during construction. It should describe potential construction period dewatering activities and associated permitting (i.e., NPDES) and identify mitigation measures. All construction-period mitigation measures should be listed in the draft Section 61 Findings. I refer the Proponent to the comprehensive review of construction-period regulatory requirements in MassDEP's letter. The DEIR should describe how the project will comply with all applicable requirements.

Mitigation and Draft Section 61 Findings

The DEIR should include a separate chapter summarizing proposed mitigation measures including construction-period measures. This chapter should also include a comprehensive list of all commitments made by the Proponent to avoid, minimize and mitigate the environmental and related public health impacts of the project, and should include a separate section outlining mitigation commitments relative to EJ populations. The filing should contain clear commitments to implement these mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and contain a schedule for implementation. The list of commitments should be provided in a tabular format organized by subject matter (traffic, water/wastewater, GHG, EJ, etc.) and identify the Agency Action or Permit associated with each category of impact. Draft Section 61 Findings should be separately included for each Agency Action to be taken on the project. The filing should clearly indicate which mitigation measures will be constructed or implemented based upon

project phasing, either tying mitigation commitments to overall project square footage/phase or environmental impact thresholds, to ensure that adequate measures are in place to mitigate impacts associated with each development phase.

The DEIR should include a commitment to provide a GHG self-certification to the MEPA Office upon expansion of the terminal building signed by an appropriate professional indicating that all of the GHG mitigation measures, or equivalent measures that are designed to collectively achieve identified reductions in stationary source GHG emission and transportation-related measures, have been incorporated into the project. If equivalent measures are adopted, the project is encouraged to commit to achieving the same level of GHG emissions (i.e., “carbon footprint”) identified in the Preferred Alternative expressed as a volumetric measure (tpy) in addition to a percentage GHG reduction from Base Case. The commitment to provide this self-certification in the manner outlined above should be incorporated into the draft Section 61 Findings included in the DEIR.

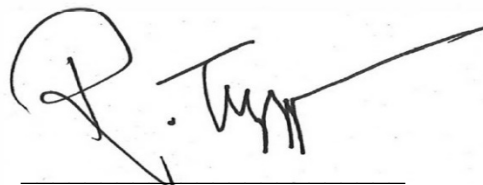
Responses to Comments

The DEIR should contain a copy of this Certificate and a copy of each comment letter received. It should include a comprehensive response to comments on the DEIR that specifically address each issue raised in the comment letter; references to a chapter or sections of the DEIR alone are not adequate and should only be used, with reference to specific page numbers, to support a direct response. This directive is not intended, and shall not be construed, to enlarge the scope of the DEIR beyond what has been expressly identified in this certificate.

Circulation

In accordance with 301 CMR 11.16, the Proponent should circulate the DEIR to each Person or Agency who commented on the ENF, each Agency from which the project will seek Permits, Land Transfers or Financial Assistance, and to any other Agency or Person identified in the Scope. Pursuant to 301 CMR 11.16(5), the Proponent may circulate copies of the DEIR to commenters in a digital format (e.g., CD-ROM, USB drive) or post to an online website. However, the Proponent should make available a reasonable number of hard copies to accommodate those without convenient access to a computer to be distributed upon request on a first come, first served basis. The Proponent should send correspondence accompanying the digital copy or identifying the web address of the online version of the DEIR indicating that hard copies are available upon request, noting relevant comment deadlines, and appropriate addresses for submission of comments. A copy of the DEIR should be made available for review in the Barnstable and Yarmouth Public Libraries.

January 23, 2023
Date



Rebecca L. Tepper

Comments received:

01/06/2023 Paul Phalan
01/07/2023 Susan Sulkoski
01/10/2023 Thomas Sullivan
01/11/2023 Christine Greeley
01/12/2023 Betty Ludtke
01/12/2023 Elissa Buja
01/12/2023 Linda Bolliger
01/12/2023 Anonymous (email address provided on comment letter)
01/12/2023 Richard Mikolajczak
01/12/2023 Susan Ascher
01/12/2023 Susan Brita
01/12/2023 Robert Writenour, Town of Yarmouth
01/12/2023 Lucinda Van Doren-Abrecht
01/12/2023 Donald Englert
01/12/2023 Robert Berry and Kathleen Benson
01/12/2023 Massachusetts Department of Environmental Protection (MassDEP) –
Southeast Regional Office (SERO)
01/12/2023 Massachusetts Historical Commission (MHC)
01/12/2023 Cape Cod Commission
01/13/2023 Karen Ingemie
01/14/2023 George Doble
01/23/2023 Massachusetts Department of Energy Resources (DOER)

RLT/PPP/ppp

Patel, Purvi (EEA)

From: Paul Phalan <phalanpaul@gmail.com>
Sent: Friday, January 6, 2023 9:54 AM
To: Patel, Purvi (EEA)

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Ms Patel
please disregard my previous email.

To whom it concerns at the MEPA,

I'll try to be brief and precise. Please know I'm at a GREAT disadvantage due to not being an expert in this field. I along with thousands of residents will be negatively affected by this proposal.

I'm 1000% against the proposed project at the CC airport.

- 1-The sound testing presented so far has been shoddy, old and inaccurate!
- 2-Planes burn aviation fuel that spreads carcinogens and other **toxins** everywhere we reside!
- 3-the proposed work isn't required by the FAA!
- 4-the CCGA is empty every day I drive by. It has periods in the summer of being busier. This project is only beneficial to a few corporations and affluent citizens!

Respectfully,
Paul Phalan
Barnstable, Ma

Patel, Purvi (EEA)

From: Susan Sulkoski <sulkoskis@gmail.com>
Sent: Saturday, January 7, 2023 12:00 PM
To: Patel, Purvi (EEA)
Subject: Hyannis Gateway Airport public comments

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Dear Ms Patel:

I Attended the hearing at the Hyannis airport on January 5, 2023 at 11 AM. I found your presentation to be very helpful, but perhaps better presented not as an expansion, but more as a twenty year improvement plan to upgrade and meet FAA codes.

I certainly understand that it is the necessity of bringing the airport up to FAA current code. I also understand my neighbors reticence to the issue, however I live at the very closest point of the Hyannis Park neighborhood to the end of runway 15-33. Our small corner of the neighborhood is compromised of full time hardworking multiethnic people living in a variety of housing accommodations. We are not bothered by the noise. To us it is a reminder of economic prosperity.

I'm a retired school teacher and my husband is a retired blue-collar worker we have a modest home down here to which we retired to 10 years ago. We would be extremely happy if there was a JetBlue flight to Fort Lauderdale. That way we wouldn't have to drive all the way to Worcester to avoid Boston or TF Green. My neighbors travel frequently to visit family abroad, and I'm sure they would appreciate more convenient travel. We are not the wealthy "nabobs" alluded to at the meeting that would use the airport. We are hardworking people who enjoy travel and convenience.

In conclusion, I find the proposed plan a more than fair compromise to the neighbors of 15-33 and a necessity for safety and a thriving community. The airport has worked very hard to address current and future environmental issues. I believe they will continue to do so.

Sincerely,
Susan Sulkoski
15 Cleveland Way, West Yarmouth, MA 02673
Smsulk@ [yahoo.com](mailto:Smsulk@yahoo.com)

--

C

Patel, Purvi (EEA)

From: Tom <tjsully46@comcast.net>
Sent: Tuesday, January 10, 2023 11:19 AM
To: Patel, Purvi (EEA)
Subject: Hyannis/ Gateway Airport ID #16640
Attachments: MEPS HyA Airport 1.docx

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Please accept my response to the Planned Runway Expansion at the Hyannis Gateway Airport
Please see Attached. Document.

Tom Sullivan

Thomas J Sullivan
14 Bunting Lane
West Yarmouth Ma 02673
tjsully46@comcast.net
508 237 8928

TO: MEPA Office

10 January 2023

100 Cambridge St. Suite 900

Boston Mass 02114

REF: Project No./ID 16640

Hyannis /Gateway Airport

Attn: Mrs. Purvi Patel

Dear Mrs. Patel:

First I want to thank for holding the meeting on January 5th. I mentioned at the meeting I have been involved with the Airport as the former Chair of the Town Of Yarmouth Airport Advisory Committee during the hearings on the Airport Terminal Project, and I have kept up on the projects at the Airport.

The Barnstable / Gateway Airport has a long history of pollution on the ground. A plume was discovered in front of the old terminal and was moving in an easterly direction. Today that same plume which starts at the Cape Air Hangar, has immigrated off the Airport to the Mahar Water Wells. The Town of Barnstable had to spend 500,000 dollars to put in a Water filtration system to clean out the contaminants, contrary to what the airport is saying that the plume didn't go to the Marhar water wells; the same wells are now showing PFAS contamination. Why is this important to Yarmouth? Yarmouth has water wells that are stones through from this area. The Town had to put in test wells to monitor to see if the pollution would get into the Town's water. Any extension of 15/33 should require all groundwater pollution to be removed adjutant to Runway 15/33 to include Lead contamination from the Cesena 402s owned by Cape Air. It has been found in the Storm Water runoff system, before any project is approved.

Thomas J Sullivan
14 Bunting Lane
West Yarmouth Ma 02673
tjsully46@comcast.net
508 237 8928

Upper Gates Pond/ Delta Taxiway

Upper Gates Pond sits in between both runways. The Stormwater system discharges into this pond. It was discovered that the pond had high levels of lead in the pond sediment, and the decision was made not to remove the sediment because it's sitting on top of the aquifer. With Delta Taxiway modifications being planned, Upper Gates Pond sediment should be eradicated before it seeps into the Aquifer. This is the same Aquifer, the Sagamore Lens, the Mass Military Reservation sits on. We shouldn't have a Double Standard for cleaning up groundwater pollution. The Air Force had to clean up its mess, and the same standards and strict compliance with State and Federal Laws must be held to the same level, complied with.

With Modifications to Delta Taxiway and a New Engine run up area, the present plan is not acceptable. The Run-up pad should be in-closed to suppress the sound to support turbine and piston aircraft. The Airport is located in a densely populated area.

Buried Materials.

I mentioned at the public hearing that it was brought to my attention that the Army/ Navy buried lots of materials before they gave the airfield back to the Town. The Army/Navy used the field from 1940 to 1946 for flight training. The mentioned items are vehicles, the fuselage of aircraft, and 55 gallons drums. It was mentioned at the public meeting that the Airport, through Ground Wave Sonar, detected an anomaly in the ground near runway 06. This has to be further investigated, and if any buried items are found, they must be removed along with any ground contamination. It was also mentioned at the hearing that there are several areas at the airport where items are buried; this also has to be investigated, and remedial action must be taken before the airport can expand the runways and taxiways.

Thomas J Sullivan
14 Bunting Lane
West Yarmouth Ma 02673
tjsully46@comcast.net
508 237 8928

Noise Study:

The Airport showed a slide of the present noise contours. The contours need to be updated since they were made in a study in 1998 with Cape Air piston aircraft, using Cape Air Pilots. The owner of Cape Air was a member of the Barnstable Airport Airport Commission sub-committee at the time and had a financial interest in the study since his HQ is located at the Airport. Cape Air should never have been used.

A new Noise Study (Part 150) should be conducted with a mix of Piston aircraft and Turbines, including Commercial and Corporate Jets. The study would have to include different Turbine Stages, especially Stage 1 aircraft since the airport now allows them into the airport. A new Part 150 would also show an increase in the 65 noise area around the airport and an expansion of the Flight Paths into the Town of Dennis and Harwich, possibly putting an air restriction over the Towns as the Airport has over the Town of Yarmouth with no Easements granted. The Town was denied by the Airport and FAA to allow a wind Turbine to be put up at the Landfill.

In Closing there should no Runway expansion allowed at the Airport and the statements by the Barnstable Residents must be taken seriously in their statements to Close the Airport. There is an Alternate site for this Airport and that site is at Otis where it should be moved.

Respectfully Submitted

Thomas J Sullivan

Patel, Purvi (EEA)

From: Chris Greeley <greeleyc@comcast.net>
Sent: Wednesday, January 11, 2023 11:06 PM
To: Patel, Purvi (EEA)
Subject: My comments on Project 16640
Attachments: airport opposition 1-11-12.docx

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Attached are my comments following the zoom meeting I attended on January 5, 2023. In searching the website, I found it difficult to determine exactly how I was to send this, so I am emailing it directly to conform with the timelines and will also mail a formal copy to 100 Cambridge Street. Please let me know if I have failed to do this correctly., as I am very concerned about significant unaddressed environmental issues about the project. Thank you,
Chris

Christine K. Greeley
48 Glenwood Street, West Yarmouth, MA 02673

MEPA
Purvi Patel
100 Cambridge Street
Suite 900
Boston, MA 02114
January 11, 2023

Re: Cape Cod Gateway Airport Project #16640

Dear Ms. Patel,

I am writing to express my concerns and strong opposition to the Runway 15/33 expansion currently proposed in this project.

I have been a resident of Hyannis Park since 1981. Hyannis Park is a Yarmouth residential neighborhood created in the mid-1890's- established decades before any form of the airport existed. Since the mid-1980's I have worked to improve cooperation/operations at the airport and reduce the environmental impact of its operations on the neighborhood and the Town of Yarmouth.

I served as the 1st Yarmouth Representative to the Airport Commission decades ago, and since then have been an active observer at Commission meetings and participant in various project reviews. As a consequence, I believe that I am very aware of the decades of concerns that have not been effectively addressed and resolved by the airport.

In the mid-1980's the airport sought an expansion and alleged that the neighbors had encroached on the airport knowing it was there (not factual for Hyannis Park residents). The FAA, in response to the significant issues raised, required a Part 150 Noise Study to be completed in 1987. Our neighborhood had serious concerns about how it was conducted as the equipment was placed in areas not as impacted and at times of the year with traditionally less air traffic. The outcome led to what were "voluntary rules" for flight paths and flight times that have never been complied with by significant numbers of pilots, especially as they chose to use VFR, not IFR flight paths.

I believe that the expansion of Runway 15/33 should not take place in such a congested and environmentally fragile area. In fact, at a meeting with FAA executives in their Burlington, Massachusetts office in the 1980's they stated to me that if Barnstable was to come to them with an application to build an airport in this location at that time, they would deny the project!

I have attempted over these decades to “accept” that many of the actions the airport has undertaken have not resulted in any significant cooperation from pilots and the operation of their aircraft; significant environmental/pollution issues from the airport and its tenants have been ineffectively addressed; and nothing has truly addressed the over-flights, noise issues and environmental air pollution in abutting neighborhoods. It is time to face the fact that the location of this airport can not support any additional expansion!

I add the following observations and concerns to those probably expressed by others:

1. This truly is a “If you build it, they will come” proposal. I state this as you look at the decline, by their own admission, from prior annual enplanements of 200,000 to the current 30,000. This, as the Airport Manager has been describing at current Commission meetings her meetings at national Airport Roundtables where she is attempting to attract additional airlines to come and use this airport!

The airport is funded under an Enterprise Account of the Town of Barnstable. This necessitates the airport to not cost the town money. Their CARES Act grant funds, and sale of jet fuel over the past several years has enabled them to meet this obligation. However, the ending of those funds will mean significant issues if they can't find other revenue sources. Therefore, attract more aircraft, sell more hanger space and generate fuel sales revenue- all at the expense of their abutting neighbors! Yarmouth derives no benefit from their operations, but incurs environmental issues and impingement on the quality of life in our town.

They have recently expanded the Mary Dunn Road Extension and are entering into potential hanger agreements for helicopter operations, air flight training and aerial tours- all of which were never undertaken by prior Commissions because of their significant impact on neighborhoods!

2. The environmental issues emanating from airport and tenant operations are overwhelming and in an evolving period of discovery. From PFAS contamination and incomplete containment; significant degradation of watersheds; untreated, buried undisclosed materials; the need for a waiver or accommodation to expand over wetlands; and now increased paving over this environmentally sensitive area- the list grows! You have the various technical studies and questions that I do not need to elaborate on that document the major evolving, unresolved issues.
3. Runway 6/24 will be closed for the majority of 2023 as an extension and runway improvements are undertaken. Why then, with that new FAA standards runway, is an additional runway truly needed to meet the hoped-for arrival of jets they are trying to attract? Why would it not be more appropriate to open the new runway, clean up and further assess the significant environmental issues of the entire site and see what demand will truly be. Then take a look at what and where there is need? The alternative

site repeatedly mentioned would be at Otis where so many of the issues are either already addressed or not a concern.

4. The safety issues and potential for a significant life-threatening disaster exist at this site. The fact that they will need "easements" on others property is a major concern! So much for the 1980's statements about others encroaching on the airport- they are now encroaching! In addition, the Town of Barnstable over the past several years has permitted extensive residential development of multi-story apartment complexes at their end of Runway 15/33. A major electrical substation is currently being constructed in that same area to address the needs of the new Vineyard Wind ocean-based turbines. The Hyannis Park neighborhood at the other end has no significant new residential construction, however Lewis Bay has been the site of the 2 recorded fatal aircraft crashes. Increased air traffic on either end of an extended Runway 15/33 increases the potential for such an event. Runway 6/24 is already a deeply concerning hazard given the major roadway and busy shopping plaza at its end. There does not need to be increased air traffic in such vulnerable areas that abut both runways at this airport.

5. During the past several years, as fuel costs escalated, there has been increased "short cutting" flights over our neighborhood with no resolution. The airport prides themselves on their Noise Complaint Office that merely serves as an exercise in futility. Hence, most have given up on making formal complaints. When you do complain, there is always an excuse for the inappropriate flight track- from pilots using VFR and needing to choose their best route; to the Tower is closed at that hour therefore flights are unregulated; to just the issue that all of the purported flight tracks are "voluntary and they will speak to the pilot".

I believe that the Noise Contours diagrams presented with this project are significantly flawed as they are based on averaging events at this airport in such a way as to make the contours look smaller and insignificant. A Noise Study based more realistically on actual air traffic hourly patterns and the actual seasonal nature of air traffic would show that the true contours and range of noise pollution is occurring in seriously larger areas to higher numbers of abutters.

I am not a regular complainer, but for the first time in a number of years I filed two complaints this year. The response I received was absolutely incredible. I was sent flight track photos that showed the planes coming in on a direct northerly path from over Lewis Bay. The actual path I observed was nowhere near that, but rather an easterly path from Hyannis Harbor with a direct left turn north over my house. Had the planes been on the path sent me by the airport Noise Complaint Office, I would not have complained!

On further questioning I was told, and you heard during the zoom meeting, they are unable to track a significant majority of the planes using the airport and hence abusing the “voluntary” approach/departure flight tracks! Please stop claiming you are working with abutters on the environmental nightmare of noise in their homes and lives. The idea of expanding this runway for more uncontrolled air traffic so closely over our homes is a major environmental issue- for noise and any fuel residue/emissions pollution generated during take-offs and departures! This is something that needs much more study and documentation before any runway expansion.

I believe that this proposed project is significantly flawed. There needs to be additional serious studies undertaken to truly assess the environmental impact on our water, land and the health and quality of life of too many residents. This project needs a major “time out” before decisions are made.

Thank you for your outreach for public comment- we are the ones whose lives will forever be impacted 24/7 and are gravely concerned for so many reasons beyond even the ones I have mentioned.

Sincerely,

Christine K. Greeley

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Comment Details

EEA #/MEPA ID 16640	First Name Betty	Address Line 1 Box 484	Organization --
Comments Submit Date 1-12-2023	Last Name Ludtke	Address Line 2 --	Affiliation Description Individual
Certificate Action Date 1-12-2023	Phone --	State MASSACHUSETTS	Status Opened
Reviewer Purvi Patel (617)874-0668, purvi.patel@mass.gov	Email bettyludtke@verizon.net	Zip Code 02647	

Comment Title or Subject

Topic: Additional Alternative Required for DEIR

Comments

↶ ↷ **B I U** Segoe UI 10 pt **A** X₂ X² **t** **T** Paragraph

While I find the ENF to be well written and comprehensive, I believe a viable alternative has not been appropriately studied. My request, as we move forward to the Draft Environmental Impact Report (DEIR) stage is to include this alternative. That alternative is the joint use of the airfield at Joint Base Cape Cod.

There is a vastly underutilized airfield with substantially larger runways and miles of clear zones located about 12 miles as the crow flies from this airport. It is the airport complex associated with Joint Base Cape Cod. We should all be the best stewards possible of our federal, state and local resources, whether those be existing infrastructure or future funding. Not studying this as a potential joint use airfield seems like a dereliction of duty.

On our current path, we are committing a substantial amount of resources to expand operations at the already congested Cape Cod Gateway airport. Before we do this, we should study a joint use solution at the airfield at Joint Base Cape Cod. I appreciate the fact that Joint Base Cape Cod has never been a joint use airfield and civilian facilities are lacking, but the basic airport infrastructure and clear zones at Joint Base Cape Cod merit its review as an alternative. They are vastly superior to those at the Cape Cod Gateway airport.

The Cape Cod Gateway airport deserves commendation for how they operate their airport given the constraints of their location. Their environmental stewardship is impressive. However, this does seem the opportune time to include the alternative of a joint use airport and Joint Base Cape Cod. The Cape Cod Gateway airport could serve beautifully as a general aviation facility and ideally include a robust flight school serving all of Barnstable County. Smaller aircraft could also continue to operate as they do today, safely and effectively. Larger aircraft and private jet type aircraft could operate into Joint Base Cape Cod. Connections to the islands, Hyannis, Harwich and Provincetown could link the entire system.

It is time to seriously review a joint use airfield at Joint Base Cape Cod and my hope is that this alternative is included in the DEIR. Thank you for your consideration of this request.

Attachments

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BARNSTABLE, MASSACHUSETTS 02630



CAPE COD
COMMISSION

(508) 362-3828 • Fax (508) 362-3136 • www.capecodcommission.org

Via Email

January 12, 2023

Rebecca Tepper, Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office, Purvi Patel, Environmental Analyst
100 Cambridge Street, Suite 900, Boston, MA 02114

Re: Environmental Notification Form
EEA No. 16640 (Cape Cod Commission File No. 22033)
Cape Cod Gateway Airport Master Plan Projects, Barnstable

Dear Secretary Tepper:

Thank you for the opportunity to provide comments on the above-referenced ENF. Because this Project requires an Environmental Impact Report ("EIR") in some form, it is deemed a Development of Regional Impact ("DRI") under § 12(i) of the Cape Cod Commission Act, c. 716 of the Acts of 1989. Cape Cod Commission staff reviewed the ENF and offer the following suggestions for the Applicant to consider as it prepares a DEIR.

The Cape Cod Gateway Airport Master Plan proposes multiple improvements—including runway extensions, taxiway modifications, and terminal expansion—to be completed in three phases. The ENF indicates the improvements are necessary to meet Federal Aviation Administration ("FAA") standards for airfield geometry and support current forecasted demand for airport use and hangar space. Commission staff recognize the need to comply with FAA standards but are concerned the proposal may impact sensitive natural resources protected by the Regional Policy Plan ("RPP"), including water, wetlands, and wildlife & plant habitat. To the extent feasible, the Applicant should avoid adverse impacts to these resources or provide appropriate mitigation where impacts cannot be avoided.

The Taxiway D relocation will impact NHESP BioMap Core Habitat and Critical Natural Landscape and wetlands, particularly in and around Upper Gate Pond where fill and/or a retaining wall are proposed. Wetland and wetland buffer alteration are generally not allowed under the current RPP. As noted in the ENF, prior DRI decisions required the Airport to maintain a natural undisturbed buffer of 200 feet in width from the high-water mark of the following ponds: Upper Gate Pond, Lewis Pond, Mary Dunn Pond, Lamson's Pond, and the two unnamed small ponds located near Lamson's and Mary Dunn Ponds, respectively. Vegetation removal is permitted in the buffer only to the minimum extent

necessary to comply with FAA line of sight and visibility requirements. The DEIR should assess whether the taxiway relocation could be designed to avoid work within the wetland buffer, and if not, provide additional detail about potential mitigation. The Applicant should provide further detail on any proposed tree clearing, invasive species management and potential vernal pools across the Project site.

The ENF notes that Upper Gate and Lewis Pond have contaminants (polycyclic aromatic hydrocarbons and lead) present in their pond sediments, due to airport stormwater runoff. The Applicant should use available water quality monitoring data to demonstrate whether installed stormwater management systems are performing as designed in these areas.

The proposed Project would increase impervious surfaces by approximately 21 acres over current conditions. While the ENF includes goals to create no net increase in stormwater runoff, provide treatment where needed, and follow post-construction best management practices (“BMPs”), additional detail should be provided in the DEIR. Commission staff recommend the Applicant specify which stormwater treatment systems will be used, installation location, capacity, and treatment performance. The DEIR should also include any available stormwater management plans and assess whether additional units could be added to treat runoff and capture pollutants. The ENF indicates that analysis of wastewater generation and treatment changes will be developed in the EIR process. The Applicant should include this analysis for review, and coordinate with the Town of Barnstable to ensure there is adequate sewer capacity to accommodate any additional flow.

Thank you for the opportunity to provide comments on the Project. Commission staff are available to answer any questions you might have about these comments.

Sincerely,



Kristy Senatori
Executive Director

Cc: Project File
Alyssa Jacobs, Epsilon Associates
Katie Servis, Airport Manager, Cape Cod Gateway Airport
Elizabeth Jenkins, Director, Barnstable Planning & Development
Barnstable Cape Cod Commission Representative, via email
Cape Cod Commission Chair, via email
Cape Cod Commission Committee on Planning and Regulation Chair, via email

Patel, Purvi (EEA)

From: Don Englert <donald.w.englert@gmail.com>
Sent: Thursday, January 12, 2023 1:23 PM
To: Patel, Purvi (EEA)
Subject: Airport

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Dear Sir/Madam,

This email is in regard to the expansion plans and plane activity at the Barnstable Airport.

My family has owned a home in Lewis Bay since 1984. We have enjoyed swimming in Lewis Bay Harbor during the summer months. In the last few years the planes going directly over our neighborhood have increased dramatically. The planes are flying much lower, more frequent, and are much noisier. The smaller planes going to the Islands are the loudest. In addition to constant noise pollution from the planes a big concern is potential pollution of Mills Creek and Lewis Bay resulting from plane exhaust.

The airport corp does not seem to care about the surrounding neighborhoods and its only concern is expanding the airport to allow for more and larger planes. I am completely against expansion of the Barnstable Airport as recent years plane activity shows no consideration for the surrounding neighborhoods around it.

Donald Englert - homeowner

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Comment Details

EEA #/MEPA ID 16640	First Name Elissa	Address Line 1 --	Organization --
Comments Submit Date 1-12-2023	Last Name Buja	Address Line 2 61 Harbor Rd	Affiliation Description --
Certificate Action Date 1-12-2023	Phone --	State --	Status Opened
Reviewer Purvi Patel (617)874-0668, purvi.patel@mass.gov	Email LISBUJA@GMAIL.COM	Zip Code --	

Comment Title or Subject

Topic: Runway expansion....

Comments

↶ ↷ **B I U** Segoe UI 10 pt **A** X₂ X² **t** **T** Paragraph ↶ ↷

It's a beautiful summer day on Harbor Rd in the quiet neighborhoods of Hyannis Park. Home owners sit idly by in comfortable chairs overlooking Lewis Bay, chatting happily....suddenly a low rumble is heard in the distance, growing louder and louder...making it impossible to continue a conversation until the Jet Blue flight passes over head...for the second time that afternoon. The whine of smaller jets buzzing as they make their way to and from the Gateway airport an almost constant annoyance ringing in our ears as Summer rolls thru in all its splendor. Conversations stop...again and again. Those occasional, yet still daily low fliers you swear will crash land into the former cranberry bogs one of these times. Inside the home, despite having just spent thousands on new windows, glass cabinets rattle in their frames, chotskies slide across windowsills, ceilings crack. In winter, without benefit of leaf cover, engine drones reverberate on windows. This is our truth, year round. A "gentleman's agreement" rarely honored, as more and more smaller plans haphazardly drift across Lewis Bay any way they choose to line up for runway 1533.

This "Gateway" needs to worry about fixing current problems before creating newer, larger ones. Thank you.

Attachments

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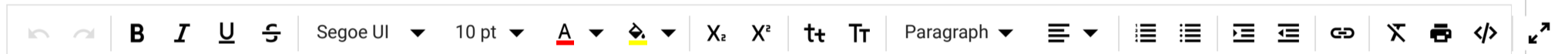
Comment Details

EEA #/MEPA ID 16640	First Name Linda	Address Line 1 138 Baxter Avenue	Organization Hyannis Park Civic Association
Comments Submit Date 1-12-2023	Last Name Bolliger	Address Line 2 --	Affiliation Description Individual
Certificate Action Date 1-12-2023	Phone --	State MASSACHUSETTS	Status Opened
Reviewer Purvi Patel (617)874-0668, purvi.patel@mass.gov	Email linda.bolliger0@gmail.com	Zip Code 02673-8313	

Comment Title or Subject

Topic: Hyannis Park Civic Association MEPA Submission_EEA# 16640

Comments



See attachment.

Attachments

[Hyannis Park Civic Association MEPA Submission_EEA #16640.docx](#)(null)

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Status

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HYANNIS PARK CIVIC ASSOCIATION, WEST YARMOUTH, MASSACHUSETTS

MEPA PUBLIC COMMENTARY – EEA # 16640

CAPE COD GATEWAY AIRPORT, MASTER PLAN, ENVIRONMENTAL ASSESSMENT

January 10, 2023

Hyannis Park Civic Association does not support the Cape Cod Gateway Airport's expansion of Runway 15-33. In the following statement we will outline the reasons why.

INTRODUCTION. Hyannis Park Civic Association is a community advocacy group representing the residents of over 500 homes in Hyannis Park in West Yarmouth, Massachusetts immediately south of the Cape Cod Gateway Airport extending to Lewis Bay. If you follow the vertex of the angle made by the intersection of the two runways across Rt.28 in a southerly direction, you would reach the community of Hyannis Park. Hyannis Park Civic Association has existed for over 60 years and is the oldest, continually active neighborhood association on beautiful Cape Cod. Our members are dedicated to the stewardship of our fragile ecosystem and the quality of life in this special place.

Hyannis Park is a coastal community of retirees, semi-retirees, and a growing number of remote knowledge workers and their families. Our community is one the most diverse in Yarmouth—both ethnically and economically. From Town of Yarmouth archives, Hyannis Park was the site of essential ramparts during the War of 1812. Hyannis Park as a residential community was first developed in the 1890s from existing farmland. Some of our residents have lived here for many generations. During the pandemic we have enjoyed an influx of younger, remote-working homeowners.

For over a hundred years Hyannis Park has been a haven for outdoor enthusiasts. Most of Hyannis Park's beaches are open to the public and are utilized by guests of the motels and hotels along Rt.28, representing an important contribution to the local economy. Fishing and shell-fishing in our Mill Creek has been a staple for our recreational life in the Park. That has been curtailed due to PFAS contamination researched by Harvard's T.H. Chan School of Public Health.

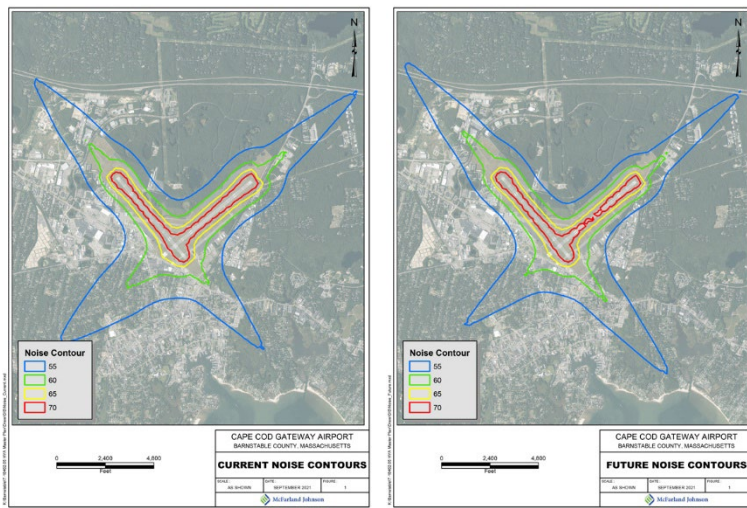
HYANNIS PARK AND THE AIRPORT. Due to the proximity of the Cape Cod Gateway Airport, Hyannis Park has always had a relationship built on a commitment of coexistence. We received numerous assurances through the decades that no expansion would be planned, since our buffer zone was at its maximum level. FAA officials agreed that the location of the Airport was unfortunate and would not meet today's standards. From these declarations of a recognition of our issues, Hyannis Park was lulled into believing that we were safe from the threat of

expansion in perpetuity. Through the years Hyannis Park met regularly with Airport staff in Community Work Group (CWG) sessions reporting on excessive noise and deviations of individual flights. We were always afforded some consideration by former Airport staff. Pilots were briefed on being respectful of our neighborhood. We coexisted.

HYANNIS PARK TODAY. Since the inception of the Master Plan process, all dissemination of information has strictly been formalized in legal notification formats. Community Work Groups were halted. In lieu of our CWGs, we were invited to Airport Commission meetings. These meetings were no longer friendly, Hyannis Park-centric discussions. We became interlopers, devoid of any “standing” in these meetings. We sent representation to keep some semblance of a dialogue. But no one was listening. We were told that pilots could not be briefed about flights over our Park. They were now autonomous. Our complaints were viewed as petty. We were deemed “noise sensitive.” We are being sacrificed.

THE ISSUES. Noise is an issue over our community. Noise testing conducted by the Airport in our community has always been problematic for our residents. Twenty-four hour average noise tests have never told our story. We are a coastal community. We spend our lives with windows and doors open. We live by the sea to enjoy this beautiful seaside environment. Air traffic noise is a problem. Single event noise testing would be more appropriate to evaluate noise levels. Many residents cannot sit on their porches or patios because of single-event noise. Conversation interruptions are commonplace. Those of us who work remotely are interrupted in our remote conferencing. This is a real problem. Residents have stopped complaining to the Airport, because no solutions are being offered. This had not been the case with previous administrations. Pilots were talked to and advised before taking off to respect the relative quiet of our neighborhood.

The noise contours that were initially presented in the Master Plan presentation (not the ones presented at the MEPA presentation) were shocking to our community. See below.



The noise area outlined in the map titled Future Noise Contours is completely unacceptable to us. The Airport management knew what our reaction would be. The solution was to marginalize us and our concerns by the termination of the Community Work Group meetings. Suddenly we were dubbed “noise sensitive.” The truth is we cannot tolerate any increase in noise from the Airport. Therefore, we cannot support the Airport’s efforts in expanding Runway 15-33.

The second issue and the most devastating is the contamination of our Mill Creek. Cape Cod Gateway Airport shares the Lewis Bay Watershed with Hyannis Park. Whatever toxic spills occur on the Airport flow to our homes. The fragility of our shared watershed is well documented in Cape Cod Commission documents. With Yarmouth’s Hyannis Park directly downstream of the Airport, this has proven to be disastrous. In the case of Mill Creek, we were never notified by any entity of our exposure to PFAS. We learned of the contamination from a Silent Spring Institute webcast that cited the research by Harvard’s T.H. Chan School of Public Health entitled “Isolating the AFFF Signature in Coastal Watersheds Using Oxidizable PFAS Precursors and Unexplained Organofluorine”, by Bridger J. Ruyle,* Heidi M. Pickard, Denis R. LeBlanc, Andrea K. Tokranov, Colin P. Thackray, Xindi C. Hu, Chad D. Vecitis, and Elsie M. Sunderland, *Environ. Sci. Technol.* 2021, 55, 3686–3695.

In the case of the movement of the Airport’s plume of PFAS cited by Mass DEP in its 2021 audit, it is headed south, southeast—to Hyannis Park. The Airport’s consultants state this fact in their submission to Mass DEP. The Airport’s asphaltting over the plume is not remediation but mitigation. These mitigation efforts that the Airport employed would be acceptable, if they only involved the Airport property. But the contamination extends to our community. We need a real remediation solution in order for Mill Creek to eventually clear out. Capping the Airport plume is inadequate when considering the downstream contamination.

In the Harvard study, Mill Creek was shown to be contaminated by PFAS from AFFFs (aqueous film-forming foam). Massachusetts Department of Environmental Protection has ordered both the Airport and Barnstable’s former Fire Training Academy to clean up their foam areas. As a result of these disposal sites, residents of Hyannis Park cannot enjoy any of the Cape’s finest shellfish or fish in this beautiful river due to the contamination. Mill Creek is and has always been the center of recreation for the area of Hyannis Park called Grist Mill Village. Children have been swimming and wading in these waters for centuries. That is now all curtailed, due to the elevated PFAS levels detected by Harvard researchers. How many years or decades do Hyannis Park residents need to wait until this contamination clears out? We have no answers from the Airport, only a chorus of “we were not the source of the problem.” There is no scientific evidence that PFAS in the ground can be “fingerprinted,” as the Airport contends. Like these forever chemicals, our residents are not going anywhere. We will continue to probe for answers. We do not care who was responsible. What we want is a real solution. And PFAS researchers have stated there is no solution without upstream remediation. We hope that this submission will bring attention to Hyannis Park problems. And you will choose to help us moving forward.

In summary Hyannis Park is in “survival mode” with regard to our dealings with the Airport. Any expansion of operations into our already inadequate buffer zone is deemed unacceptable.

Signed,

Hyannis Park Civic Association, Executive Committee

Linda Bolliger, President

Nancy Smith, Vice President

Christine Greeley, Treasurer

Helen Shah, Secretary

Patel, Purvi (EEA)

From: Lucinda Abrecht <grassflowerknits@gmail.com>
Sent: Thursday, January 12, 2023 1:03 PM
To: Patel, Purvi (EEA)
Subject: Cape Cod Gateway Airport project #16640 - Environmental concerns

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Dear Ms.Patel, I am very concerned with the #16640 proposal. Trying to extend runways and involving Jet Blue, seems like they are attempting to put a "Big City" airport in a very small, congested town, which makes no sense except for the Big Corporations trying to make profits with no concerns for the surrounding population. Many of us have had family homes here for generations, before any airport existed and this is not what we signed up for and paid taxes for. My family has had a home in Hyannis Park on the shores of Lewis Bay since 1910. I have seen the changes throughout my lifetime and from photos and stories from before. Between all the frequent and abundant Ferry traffic on Lewis Bay and now Airport pollution, our area is becoming environmentally devastated, Lewis Bay is polluted and deteriorating and now we have to add all the pollutants from overhead jet,plane and helicopter emissions. I attended the January 5th meeting at the airport and although noise pollution was addressed, many other very concerning environmental issues were not mentioned. I am very concerned about all the gas, oil and other plane and jet emissions that are being released and filtering down on our homes, residents and vegetable gardens. WHAT exactly are we being exposed to daily and has anyone thoroughly researched these ill effects? The Airport project officials aren't concerned because they don't live on Cape Cod or in the immediate location surrounding the airport. No one seems to take our concerns seriously - it's all about money and greed. but we the residents are the ones who will suffer and pay the price. This has got to STOP and that is why we turn to you, MS. Patel to stand up for what's right and environmentally sound. I was especially appalled to hear the nightly news the very evening of January 5th after the meeting, citing that research has shown that the Lead levels [Pb] in children's blood are significantly higher in children living closer [1 1/2 mile radius of airport] than children who live farther away. This was shocking and I had to do my own research on this, which I suggest you do as well. The study revealed aviation gasoline is currently the largest source of air pollution by Lead in the U.S.. Lead's toxicity is known for adversely affecting the nervous system, immune system and kidney function, as well as interfering with the reproductive and developmental systems and the cardiovascular system. This Lead, although banned from automobile gasoline, is still present in aviation gasoline. This alone should be of utmost concern.

Of course I also would like to address the enforcement of flight paths and who would be accountable for enforcing that. Secondly, how will toxic chemicals be tested for on a yearly basis in surrounding water sources and grounds, and who would be held accountable for that. There are too many questions with no answers to continue on with this Cape Cod Gateway Airport project. Let's slow this project down and really study the facts so that the well-being of our local residents are put as the number one priority. Thank you for hearing and helping the people in this area.. we so desire to live in a clean and healthy environment. With sincere thanks for your continuing help,
Abrecht 4 Malfa Road 508-280-8881 Lucinda Van Doren-
West Yarmouth, Ma.



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

Maura T. Healey
Governor

Kimberley Driscoll
Lieutenant Governor

Rebecca L. Tepper
Secretary

Gary Moran
Acting Commissioner

January 12, 2023

Rebecca L. Tepper
Secretary of Environment and Energy
Executive Office of Energy and
Environmental Affairs
Boston, MA 02114
ATTN: MEPA Office
100 Cambridge Street, Suite 900

RE: ENF Review. EOEEA 16640
BARNSTABLE Cape Cod Gateway Airport
at 480 Barnstable Rd

Dear Secretary Tepper,

The Southeast Regional Office of the Department of Environmental Protection (MassDEP) has reviewed the Expanded Environmental Notification Form (EENF) for the Cape Cod Gateway Airport at 480 Barnstable Rd, Barnstable, Massachusetts (EOEEA #16640). The Project Proponent provides the following information for the Project:

The Master Plan recommends improvements needed to meet the goals of the Airport and its users. These important safety and infrastructure projects will serve to bring the Airport's geometry into compliance with Federal Aviation Administration ("FAA") standards (FAA AC 150/5300-13A, Airport Design) and meet current forecasted demand for airport use and hangar space. The ENF is being filed to commence MEPA review for the Project.

Projects to be implemented over the next 20-year period include: Runway 15-33 extension, runway safety area enhancements, taxiway modifications including constructing a partial parallel taxiway to Runway 15- 33, removing Taxiway D between Taxiway A and the new parallel taxiway, constructing a run-up area along the north side of the proposed partial parallel taxiway, removing Taxiway E, terminal improvements, general aviation (GA) improvements, and non-aeronautical land use development areas

Bureau of Water Resources (BWR) Comments

Wetlands. The MassDEP SERO has reviewed the Environmental Notification Form (ENF) for the proposed Project. Portions of the work involve permanent impacts to Upper Gate Pond wetland resource areas including Bank (310 CMR 10.54), Bordering Vegetated Wetlands (BVW) (310 CMR 10.55), and Land under Water Bodies and Waterways (LUWW) (310 CMR 10.56). Specifically, the construction activities associated with Taxiway D realignment will result in estimated permanent alterations of 396 linear feet of Bank; 3,427 square feet of BVW; and 23,654 square feet of LUWW. The EENF states that permanent wetland impacts are currently being investigated and will be further quantified in the Environmental Impact Report phase based on

analysis of field data and advanced project designs for the Preferred Alternative and other alternatives.

DEP-SERO Wetlands program notes that the Proponent intends to submit a Notice of Intent (NOI) to the Town of Barnstable and MassDEP for the Project. The Notice of Intent shall include the information necessary to determine the project's compliance with the performance standards to each of the resource areas affected. The Department will address the Project's compliance with the applicable performance standards during NOI review. The Project will require a Superseding Order of Conditions from the Department or a Final Order of Conditions from the local Conservation Commission before any activity commences.

The Project proposes dredging and fill within Upper Gate Pond (quantities to be determined). The EENF indicates the Proponent intends to submit a 401 Water Quality Certification (314 CMR 9.00) as one of the required permits. An alternatives analysis that demonstrates measures taken to avoid, minimize and mitigate for the dredging and fill must be submitted with the 401 Water Quality Certificate application.

The Project will result in approximately 21 acres of new impervious area, and as such, the Project is subject to the Stormwater Regulations at [310 CMR 10.05(6)(k)-(q)] and [314 CMR 9.06 (6)(a)-(f)]. According to the ENF, stormwater management for the proposed individual projects will comply these regulations. The Stormwater Report will be reviewed by the Department as part of the NOI filing.

Waterways. Based on the information contained in the ENF, there does not appear to be any work proposed within Waterways jurisdiction.

Stormwater Management.

National Pollutants Discharge Elimination System (NPDES) permit

The Project Proponent acknowledges its permitting coverage under National Pollutant Discharge Elimination System (NPDES) Construction Activities Permit under the Clean Water Act. The Project Proponent is advised it is illegal to discharge any pollutants to navigable waters of the United States from a point source unless the discharge is authorized by a National Pollutants Discharge Elimination System (NPDES) permit.

The Proponent can access information regarding the NPDES Stormwater requirements and an application for the Construction General Permit by completing and submitting a Notice of Intent (NOI) to EPA via the [Stormwater Discharges from Construction Activities | National Pollutant Discharge Elimination System \(NPDES\) | US EPA.](#)

The Proponent is advised to consult with Sania Kamran (Kamran.Sania@epa.gov, 617- 918-1522) for questions regarding EPA's NPDES Construction General Permit requirements.

Industrial Stormwater Permit

The stormwater section of the ENF does not know acknowledge states that the Project Proponent may require an EPA NPDES Multi Sector General Permit (Industrial Stormwater) Program (https://www.epa.gov/sites/production/files/2016-04/documents/sector_s_airtransmaint.pdf). Based on the Department's investigation, the Project Proponent is operating without the required permit that falls under the requirements of Sector S Vehicle Maintenance Areas, Equipment Cleaning Areas, or Deicing Areas located at Air Transportation Facilities.

Under the 2015 Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP), EPA has updated the requirements for Sector S to incorporate the Airport deicing effluent

limitation guidelines and new source performance standards. Airlines and airports conduct deicing operations on aircraft and airfield pavement to ensure the safety of passenger and cargo flights. In the absence of controls, deicing chemicals are widely dispersed causing pollutants to enter nearby rivers, lakes, streams, and bays. On May 16, 2012, EPA published the Airport Deicing ELG in the Federal Register to control the discharge of pollutants from airport deicing operations to surface waters. See 40 CFR Parts 9 and 449. The requirements largely apply to wastewater associated with the deicing of airfield pavement at primary airports. The rule also established NSPSs for wastewater discharges associated with aircraft deicing for a subset of new airports. These guidelines are implemented in discharge permits issued by states and EPA Regional Offices under the NPDES program. Therefore, the 2015 MSGP is incorporating the requirements from the Airport ELG that are appropriate to the kinds of discharges the permit authorizes. Additional information regarding this EPA permit may be found at:

https://www3.epa.gov/npdes/pubs/sector_s_airtransmaint.pdf.

Underground Injection Control

The Proponent is advised in the event that the conveyances of stormwater through underground infiltration structures are planned that they are subject to the jurisdiction of the MassDEP *Underground Injection Control (UIC)* program. These structures must be registered with MassDEP UIC program through the submittal of a BRP WS-06 UIC Registration application through MassDEP's electronic filing system, eDEP. The statewide UIC program contact is Joe Cerutti, who can be reached at (617) 292-5859 or at joseph.cerutti@state.ma.us. All information regarding on-line (eDEP) UIC registration applications may be obtained at the following web page under the category "Applications & Forms": <https://www.mass.gov/underground-injection-control-uic>.

Waste Water Management. Cape Cod Gateway Airport is required to demonstrate the ability to apply extinguishing agent as part of its FAA Part 139 safety certification. The capital improvements to the airport should include provisions to collect the wastewater containing the extinguishing agents generated during these demonstrations and/or training events so that proper treatment and/or disposal can occur in conformance with Massachusetts requirements.

Bureau of Waste Site Cleanup (BWSC) Comment

1. The Cape Cod Gateway Airport is listed as a MassDEP disposal site due to the release of 1,4-dioxane and PFAS in the soil and groundwater. The source of the 1,4-dioxane is likely the past usage of airport deicing liquids and potentially from the release of chlorinated volatile organic compounds (CVOCs) at the Airport. The PFAS is believed to have originated from the usage and storage of Aqueous Film-Forming Foam (AFFF). Release Tracking Number (RTN) 4-0026347 has been assigned to the PFAS and 1,4-dioxane releases at the Airport.
2. The Cape Cod Gateway Airport is also listed as a MassDEP disposal site due to the release of CVOCs to the subsurface. RTN 4-00000823 was assigned to the release of CVOCs and was closed out with a Permanent Solution without Conditions on September 20, 2020.
3. MassDEP Bureau of Waste Site Cleanup has reviewed the Environmental Notification Form for the Cape Cod Gateway Airport runway upgrades and has the following comments:
 - a. Prior to the anticipated construction activities, a MassDEP Release Abatement Measure (RAM) Plan should be submitted for the following areas:
 - i. Taxiway B "Potential Aviation Development Area"
 1. Based on a review of the Phase II for the Cape Cod Gateway Airport, some areas were not previously sampled for PFAS including the area under Taxiway B. The RAM should include a plan to sample and analyze soil beneath Taxiway B during airport upgrades for the presence of PFAS. The RAM shall also describe how the PFAS-

containing soil, if detected, will be properly managed and discuss whether this finding affects the remediation options under RTN 4-0026347.

2. The “Potential Aviation Development Area” along Taxiway B coincides with the asphalt caps located at the ARFF area and the Deployment area. These caps were installed to mitigate the leaching of PFAS from the soil to the groundwater. Any asphalt removed from the taxiway, including the capped area, should be sampled/analyzed for PFAS and managed appropriately if PFAS is found to be present. Furthermore, the RAM Plan should also include provisions to manage any PFAS-contaminated soils encountered under the cap.
 3. The RAM Plan shall describe how the caps’ integrity will be maintained during and after construction. The RAM Plan shall include a plan to replace the caps if the integrity of the caps cannot be maintained.
 4. The RAM should also include a plan to sample the asphalt from both the taxiway and the asphalt caps for PFAS and, if detected, the RAM Plan shall describe how the asphalt will be managed.
- ii. Taxiway A “Potential Aviation Development Area”
1. Available records in MassDEP’s files indicate that the 1991 drill location, located near the north end of Taxiway A, had documented use of AFFF. The area abutting the 1991 drill location is slated as “Potential Aviation Development Area”. When development begins here, the RAM shall include a plan to sample disturbed soil in areas not previously sampled/analyzed. Further, the RAM Plan shall include the requirements for proper soil management if PFAS is detected.
- iii. “Proposed Building” near the Terminal Ramp and North Ramp
1. Some development is proposed within the disposal site boundary for RTN 4-0000823. The LSP should review the anticipated development to determine if a RAM Plan is required under 310 CMR 40.0000.
- b. Existing monitoring wells should be maintained for future assessment of groundwater for PFAS, 1,4-dioxane, and potentially other contaminants. If the wells cannot be maintained, then replacement wells should be installed.

Spills Prevention Control. A spills contingency plan addressing prevention and management of potential releases of oil and/or hazardous materials from pre- and post-construction activities should be presented to workers at the site and enforced. The plan should include but not be limited to, refueling of machinery, storage of fuels, and potential on-site activity releases.

Bureau of Air and Waste (BAW) Comments:

Air Quality. Construction and operation activities shall not cause or contribute to a condition of air pollution due to dust, odor or noise. To determine the appropriate requirements please refer to:
310 CMR 7.09 Dust, Odor, Construction, and Demolition
310 CMR 7.10 Noise

Cape Cod Gateway Airport Construction-Related Measures

The Project Proponent reports: “The construction contract will require contractors to use several measures to reduce potential emissions and minimize impacts from construction vehicles including:

- Encouraging contractors to use construction equipment EPA Tier 4 equipment or equipment retrofitted with diesel emission control devices to the greatest extent practicable.
- Using Ultra-Low Sulphur Diesel for all trucks and construction machinery.
- Maintaining an “idle free” work area.
- Minimizing exposed storage of debris on-site through measures such as wetting soils prior to disturbing and covering stockpiles

MassDEP requests that all non-road diesel equipment rated 50 horsepower or greater meet EPA’s Tier 4 emission limits, which are the most stringent emission standards currently available for off-road engines. If a piece of equipment is not available in the Tier 4 configuration, then the Proponent should use construction equipment that has been retrofitted with appropriate emissions reduction equipment. Emission reduction equipment includes EPA-verified, CARB-verified, or MassDEP-approved diesel oxidation catalysts (DOCs) or Diesel Particulate Filters (DPFs). The Proponent should maintain a list of the engines, their emission tiers, and, if applicable, the best available control technology installed on each piece of equipment on file for Departmental review.

Massachusetts Idling Regulation

The EENF reports that the Project Proponent proposes to maintain an idle free work area.

MassDEP reminds the Proponent that unnecessary idling (i.e., in excess of five minutes), with limited exception, is not permitted during the construction and operations phase of the Project (Section 7.11 of 310 CMR 7.00). Regarding construction period activity, typical methods of reducing idling include driver training, periodic inspections by site supervisors, and posting signage. In addition, to ensure compliance with this regulation once the Project is occupied, MassDEP requests that the Proponent install permanent signs limiting idling to five minutes or less on-site.

Hazardous Waste Management. If any occupant of the Project generates hazardous waste and/or waste oil, that entity must register with the MassDEP or EPA to obtain a permanent identification number, as applicable, in accordance with 310 CMR 30.000 for legally generating and managing regulated waste. The Proponent is advised to consult at this MassDEP website <https://www.mass.gov/guides/hazardous-waste-generation-generators> to determine if the Proponent qualifies as a generator of hazardous waste and/or waste oil.

Source reduction, recovery, and reuse are recommended to significantly decrease or eliminate airport waste as well as an airport’s operation costs for treatment and/or disposal. To determine the potential saving of these operational costs, a study should be made of all the airport’s industrial and hazardous waste management. When completed this study would monitor inventory, pollutant streams, and ultimately how to maximize the potential to reduce pollutant loading/toxicity and how to reuse/recycle to the maximum extent feasible while complying with all requirements on a regular cycle for evaluation and permit re authorization.

Solid Waste Management. The Project Proponent reports that Existing trees are being removed as part of the proposed project. In addition, “The contractor will apply relevant and practicable procedures to allow for the reuse and recycling of construction materials. A Construction Waste Management Plan will be developed to ensure that a minimal amount of waste debris is disposed of in landfills. For materials that cannot be recycled, solid waste will be transported in covered trucks to an approved solid waste facility per the DEP Regulation for Solid Waste Facilities, 310 CMR 16.00.”

MassDEP requests that the Proponent state specifically how the Proponent plans to address the Department's solid waste regulations concerning the disposal of materials resulting from proposed roadway work resulting from the proposed CWMP roadway-related construction.

1. *Compliance with Waste Ban Regulations:* Waste materials discovered during construction (e.g., metal, asphalt, brick, and concrete) shall be disposed, recycled, and/or otherwise handled in accordance with the Solid Waste Regulations including 310 CMR 19.017: Waste Bans. Waste Ban regulations prohibit the disposal, transfer for disposal, or contracting for disposal of certain hazardous, recyclable, or compostable items at solid waste facilities in Massachusetts, including, but not limited to, metal, wood, asphalt pavement, brick, concrete, and clean gypsum wallboard. The goals of the waste bans are to: promote reuse, waste reduction, or recycling; reduce the adverse impacts of solid waste management on the environment; conserve capacity at existing solid waste disposal facilities; minimize the need for construction of new solid waste disposal facilities; and support the recycling industry by ensuring that large volumes of material are available on a consistent basis. Further guidance can be found at: <https://www.mass.gov/guides/massdep-waste-disposal-bans>.

MassDEP recommends the Proponent consider source separation or separating different recyclable materials at the job site. Source separation may lead to higher recycling rates and lower recycling costs. Further guidance can be found at: <https://recyclingworksma.com/construction-demolition-materials-guidance/>

For more information on how to prevent banned materials from entering the waste stream the Proponent should contact the RecyclingWorks in Massachusetts program at (888) 254-5525 or via email at info@recyclingworksma.com. RecyclingWorks in Massachusetts also provides a website that includes a searchable database of recycling service providers, available at <http://www.recyclingworksma.com>.

2. *Asphalt, brick, and concrete (ABC) rubble,* such as the rubble generated during construction must be handled in accordance with the Solid Waste regulations. These regulations allow, and MassDEP encourages, the recycling/reuse of ABC rubble. The Proponent should refer to MassDEP's Information Sheet, entitled "Using or Processing Asphalt Pavement, Brick and Concrete Rubble, Updated February 27, 2017", that answers commonly asked questions about ABC rubble and identifies the provisions of the solid waste regulations that pertain to recycling/reusing ABC rubble. This policy can be found on-line at the MassDEP website: <https://www.mass.gov/files/documents/2018/03/19/abc-rubble.pdf>.
3. *Tree removal/land clearing:* As defined in 310 CMR 16.02, clean wood means "discarded material consisting of trees, stumps and brush, including but limited to sawdust, chips, shavings, bark, and new or used lumber" ...etc. Clean wood does not include wood from commingled construction and demolition waste, engineered wood products, and wood containing or likely to contain asbestos, chemical preservatives, or paints, stains or other coatings, or adhesives. The Proponent should be aware that wood is not allowed to be buried or disposed of at the Site pursuant to 310 CMR 16.00 & 310 CMR 19.000 unless otherwise approved by MassDEP. Clean wood may be handled in accordance with 310 CMR 16.03(2)(c)7 which allows for the on-site processing (i.e., chipping) of wood for use at the Site (i.e., use as landscaping material) and/or the wood to be transported to a permitted facility (i.e., wood waste reclamation facility) or other facility that is permitted to accept and process wood

If the Project Proponent has any questions regarding the Solid Waste Management Program comments above, please contact Elza Bystrom at Elza.Bystrom@mass.gov or Mark Dakers at Mark.Dakers@mass.gov.

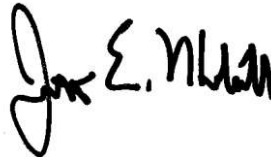
Proposed s.61 Findings

The “Certificate of the Secretary of Energy and Environmental Affairs on the Environmental Notification Form” may indicate that this Project requires further MEPA review and the preparation of an Environmental Impact Report. Pursuant to MEPA Regulations 301 CMR 11.12(5)(d), the Proponent will prepare Proposed Section 61 Findings to be included in the EIR in a separate chapter updating and summarizing proposed mitigation measures. In accordance with 301 CMR 11.07(6)(k), this chapter should also include separate updated draft Section 61 Findings for each State agency that will issue permits for the Project. The draft Section 61 Findings should contain clear commitments to implement mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and contain a schedule for implementation.

Other Comments/Guidance

The MassDEP Southeast Regional Office appreciates the opportunity to comment on this EENF. If you have any questions regarding these comments, please contact George Zoto at George.Zoto@mass.gov or Jonathan Hobill at Jonathan.Hobill@mass.gov.

Very truly yours,



Jonathan E. Hobill,
Regional Engineer,
Bureau of Water Resources

JH/GZ

Cc: DEP/SERO

ATTN: Millie Garcia-Serrano, Regional Director
Gerard Martin, Deputy Regional Director, BWR
John Handrahan, Acting Deputy Regional Director, BWSC
Seth Pickering, Deputy Regional Director, BAW
Jennifer Viveiros, Deputy Regional Director, ADMIN
Daniel Gilmore, Chief, Wetlands and Waterways, BWR
Maissoun Reda, Wetlands, BWR
Brendan Mullaney, Waterways, BWR
Daniel DiSalvio, Chief, Compliance and Enforcement, BAW
Joseph Cerutti, Underground Injection Control, BWR/Boston
Mark Dakers, Solid Waste, BAW
Elza Bystrom, Solid Waste Management, BAW
Angela Gallagher, Audits, BWSC
Allen Hemberger, Site Management, BWSC

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Reviewer Purvi Patel (617)874-0668, purvi.patel@mass.gov	Email Maureen@ProducerToProducer.com	Zip Code 02673	

Comment Title or Subject

Topic: NO to the Expansion of the Cape Cod Gateway/Hyannis Airport

Comments



I live in West Yarmouth about 1.5 miles from the Cape Cod Gateway/Hyannis Airport. Me, my family and neighbors will be negatively impacted by the proposed expansion of the airport per the Master Plan EEA#16640. The noise will greatly increase and have a horrible impact on quality of life, environment and NOISE in our small, middle class neighborhood. At a time when climate crisis is having big impacts on the Mid-Cape and the environment being degraded with algae and bacteria blooms, it is no time to increase noise and pollution in this area of the Cape. Additionally the plans to rejuvenate the bog/vegetation near Cape Cod Hospital to improve the environment, the Airport would take away and delete any improvements by that expensive and much needed project.

Additionally, this airport has LOST airline usage over the last 10 years and there is LESS of a need for air travel moving forward. With the electrification of personal vehicles and the tremendous cost to the climate of air travel, this plan goes against what the area will need over the next 10-30 years. It's important for the planners to stop this work and move towards spending time and money on things that will grow the economy which is affordable housing and environmental improvements. This is going in the exact OPPOSITE direction. PLEASE stop the time/money/work on this Master Plan that will be a white elephant if completed and work on projects that will IMPROVE quality of life and the environment for all of the citizens and the many visitors for the future. Please be forward thinking and NOT backward thinking and plans. This is truly an anachronistic view of what the Cape needs at this momentous time in the history of this beautiful peninsula. Thanks for this public facing process.

Attachments

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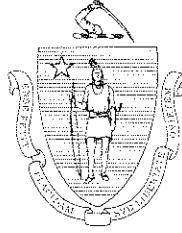
Status

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January 12, 2023

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

Secretary Bethany Card
Executive Office of Energy
and Environmental Affairs (EEA)
100 Cambridge Street, Suite 900
Boston MA 02114

ATTN: Purvi Patel, MEPA Unit

RE: Cape Cod Gateway Airport Master Plan Projects, Barnstable (Hyannis), MA; EEA# 16640
MHC# RC.9847

Dear Secretary Card:

Staff of the Massachusetts Historical Commission (MHC) have reviewed the Environmental Notification Form (ENF) for the above referenced project. MHC staff have the following comments.

The proposed project consists of an update to the 2020 Master Plan for the Barnstable Airport (now called Cape Cod Gateway Airport), which must be approved by the FAA. Review of the MHC's Inventory of Historic and Archaeological Assets of the Commonwealth indicates that there are two significant ancient Native American sites (19-BN-827 and 19-BN-828) that are located on the airport grounds. It appears that these sites are not located within the direct project impact areas and could be protected and preserved from inadvertent construction-related damage or future land use damage through the development of an archaeological site avoidance and protection plan (ASAPP). MHC requests that an ASAPP be prepared and implemented. The draft plan should be submitted to the MHC for review and comment. The MHC looks forward to consultation with the FAA in compliance with Section 106 of the National Historic Preservation Act (36 CFR 800).

These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800), Mass. General Laws, Chapter 9 ss. 26-27C (950 CMR 71), and MEPA. If you have any questions concerning this review, please feel free to contact me.

Sincerely,

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

Brona Simon
State Historic Preservation Officer
Executive Director
State Archaeologist
Massachusetts Historical Commission

xc: Richard Doucette, FAA
David Weeden, THPO, Mashpee Wampanoag Tribe
Katie Servis, Cape Cod Gateway Airport
Alyssa Jacobs, Epsilon

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Comment Details

EEA #/MEPA ID 16640	First Name Richard	Address Line 1 169 Katherine Rd	Organization --
Comments Submit Date 1-12-2023	Last Name Mikolajczak	Address Line 2 --	Affiliation Description --
Certificate Action Date 1-12-2023	Phone --	State MASSACHUSETTS	Status Opened
Reviewer Purvi Patel (617)874-0668, purvi.patel@mass.gov	Email richard.mikolajczak@gmail.com	Zip Code 02632	

Comment Title or Subject

Topic: Cape Cod Airport Extension

Comments

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Hello. I recently moved to Centerville MA from East Falmouth MA and enjoy my quiet time here. By increasing the airport in Hyannis is absolutely NOT necessary. Bringing in the noise, the pollution and the rich tourist that don't care about our Cape is not the best option we have available. Since the pandemic, traffic has been horrendous. Adding more planes into the area is not the option. Why not bring the train in on a full time schedule instead of only the summer? More people that actually live here and can afford transportation would be happy to use another option to go to Boston other than a bus, car or plane. NO EXPANSION!

Attachments

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Patel, Purvi (EEA)

From: Kathleen L Benson <be97@stanford.edu>
Sent: Thursday, January 12, 2023 10:31 PM
To: Patel, Purvi (EEA)
Subject: FW: Request
Attachments: Barnstable Airport Expansion.docx

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

At the request of Betty Ludtke.

From: Kathleen L Benson
Sent: Thursday, January 12, 2023 3:26 PM
To: Lovell, Cynthia <Cynthia.Lovell@town.barnstable.ma.us>
Cc: Council@town.barnstable.ma.us; Nathan Rawding <nrawding@epsilonassociates.com>
Subject: RE: Request

Dear Ms. Lovell,

Please see the attached comment.

As you likely recall, previously we tried to send these comments to the designated address, but it was not recognized

Thank you.

Robert Berry

(This account is shared with Kathleen Benson)

From: Lovell, Cynthia <Cynthia.Lovell@town.barnstable.ma.us>
Sent: Wednesday, January 4, 2023 3:57 PM
To: Kathleen L Benson <be97@stanford.edu>
Subject: RE: Request

Good afternoon

You can email directly to the Council by sending your comments to Council@town.barnstable.ma.us

I will send an email to the Airport Director for the correct link and send that to you.

Cynthia Lovell
Administrator
Town Council
Cynthia.lovell@town.barnstable.ma.us
774-320-5954

From: Kathleen L Benson [<mailto:be97@stanford.edu>]
Sent: Wednesday, January 4, 2023 3:39 PM
To: Lovell, Cynthia
Subject: Request

We would like to submit a comment on the proposed airport expansion but the e-mail address to which comments should be sent is not functional:

Delivery has failed to these recipients or groups:

evirohya@epsilonassociates.com

The address you sent your message to wasn't found at the destination domain. It might be mis-spelled or it might not exist.

Moreover, we would like the e-mail address of the Town Council because we want to submit our comments there it because our comments address an underlying issue which it should consider.

Thank you.

Kathleen Benson

Robert Berry.

CAUTION: This email originated from outside of the Town of Barnstable! Do not click links, open attachments or reply, unless you recognize the sender's email address and know the content is safe!

January 12, 2023

Barnstable Town Council
Airport Commission of the Town of Barnstable

This comment does not directly address the environmental impact of the recently proposed expansion of the Barnstable Municipal Airport. Instead, this comment addresses the underlying justification and financial responsibility for the expansion itself. This comment assumes that the Town's financial control over the Airport Commission allows the Town to consider the broader issues raised in this note.

Assuming the airport is wholly owned by the Town of Barnstable, it appears that the Town will ultimately be responsible for bearing the entire cost of the expansion of the airport including financing costs (which could entail a bond issue unless the Town receives funds from the FAA's AIP program). The issue facing the Airport and the Town is the proportion of the cost of expansion borne by those using the airport and that borne by the Town itself. Airports usually finance airport maintenance through fees levied on airlines using the facility (e.g., Boston's Logan Airport finances maintenance and construction projects through MassPort and subsidizes related operations like the Conley Terminal and two nearby regional airports). It is unclear why the Town and its residents, not airport users, should cross-subsidize the proposed expansion. Moreover, the reason for expansion implies use by larger aircraft.

To justify the expansion, the Airport Commission should have completed a cost-benefit analysis similar to that required under the FCC AIP. There appear to be three potential reasons: first, to accommodate larger planes, given current demand; second, to accommodate increased expected demand due to local air traffic (i.e., with a destination of Barnstable or Nantucket); or third, to accommodate larger planes in order for the Airport to assume a larger role in serving neighboring areas as a 'micro-hub'.

The CAB deregulated interstate rates in 1978 under assuming that reasonable free entry and exit for carriers would create competition and market-based prices on most routes. (An economist, William Baumol, developed a debatable concept which he called "hit and run" which claimed that these conditions of free entry and exit would enable carriers to contest above market rents.) Several major airlines faced increasing economic distress after deregulation, causing some to enter bankruptcy and most to lower costs often by weakening unions. (Rates declined by about 2% annually from 1980 through 2000).¹ Following this rate deregulation, there have been two major innovations, yield management to price discriminate among passengers and expansion of regional hubs. On the demand side, yield management has become a complex strategy which has engaged in largely time-based price discrimination (e.g., early buyers, particularly economy passengers, receive discounts) and created greater demand response.² On the supply side, the expansion of regional hubs has achieved greater airline operational efficiency and lowered prices when there is competition at the hub.³ These hubs have supported innovation in aircraft design initially emphasizing smaller planes to serve these regional markets.⁴ Federal rate deregulation did not initially extend to gate allocation which allows airlines to exercise local market power, but there is some recent movement toward opening allocation at some major airports.⁵ An older study shows cost convergence between legacy and newer entrants.^{6 7}

With respect to the first issue, the reported current annual traffic is reported at about 30,000 passengers (apparently round trips). The estimate of the expansion apparently exceeds \$40 million dollars which if financed over 20 years implies an annual cost well above \$2 million per year (with financing) which given current usage of about 30,000 (round-trip) passengers implies a round-trip charge of in excess of \$60, which is a large share of current (economy) ticket price of about \$400 from Boston. (In apparently the

only study, unit costs (from 1995-2005) of a 100 mile flight are less than \$100; most underlying costs have risen but probably not by 100%.) In general, near term (one week out) short-haul economy reservations between Boston and near regional airports range from about \$200 (Augusta and Buffalo), \$300 (Burlington), \$400 (Portland) and \$500 (Albany) and surprisingly \$500 (Providence), showing that seat-mile costs are not a clear guide to the difference in ticket prices. If usage remained constant, a 75 to 90 seat plane implies between two to three landings daily depending on load factor; a larger plane allows expansion (or more likely introduction) of first-class seating at a higher price reflecting greater comfort. Such first-class seating should attract wealthier summer visitors who likely already have on-Cape transport at their houses. If such first-class service is the main factor behind the expansion, then its cost can be more efficiently borne by usage charges imposed primarily on such wealthy passengers.

With respect to the second issue of increased traffic to local destinations (i.e., the Cape and Nantucket) independent of the relative price effect, the source of the increased demand is unclear. There seem to be two potential sources: first, the offer of first class seating in a larger plane; and second, the expansion of existing on-Cape resorts or building of new resorts. Are Cape planners working with local business to develop a plan for new, large high-end beach front facilities whose amenities attract more first-class airline passengers? Certainly, expansion of more modest facilities will not necessarily increase air traffic given inter-modal competition with cars, particularly when most tourists need a car after arriving on Cape. The apparent absence of the expansion of the Sagamore Bridge from Federal infra-structure legislation does imply that car traffic and bridge wait times will increase which will favor air traffic. However, if the Airport Commission supports the runway expansion to accommodate such increased demand, how does the Commission serve interests of year-round residents, particularly those under flight paths? Instead, if possible, the Commission should consider serving such interests by directly limiting landings or indirectly limiting by, for example, imposing an annual charge to recover expansion costs from all potential carriers, which while inefficiently discouraging entry serves the (equity) interests of year-round residents.

With respect to the third issue, changing the size and scope of the airport from one primarily serving the local market (i.e., the Cape and Nantucket) to one becoming a 'micro hub' which serves communities of the neighboring southern New England coast, this expansion could be driven primarily by the objectives of the current major air traffic provider on the Cape (i.e., Cape Air) to build a bigger business, but is this business objective one which necessarily serves the interest of a majority of year-round Town residents?.

To summarize, the Town should have completed a cost-benefit analysis of the proposed expansion. If actual airport usage falls below expected and actual revenue then falls below expected, it is unclear how the Town will finance such under-collection: can the Town effectively raise fees for subsequent years or will the Town finance such under-collection from the Town's general funds? Moreover, potential bond buyers will understand this demand uncertainty which will raise the interest rate on a bond issue.

Sincerely,
Robert Berry
Kathleen Benson
PO Box 335; Barnstable, MA. 02630
508 362 3419

¹ “Airline regulators attempted to assure a stable, growing industry that benefited consumers and the economy. The result was relatively high fares, inefficient operations, and airline earnings volatility.” They conclude “The average returns that the airlines have earned since deregulation would be insufficient to sustain the industry prospectively, although this conclusion might have been different in the late 1990s. That does not imply that competition in the industry is inherently unsustainable. The natural volatility in the demand for air travel probably will always cause earnings to be less stable than in other industries, but other factors that have depressed earnings are potentially controllable. Slow adjustment of labor costs is an institutional feature of the industry that may change either through new labor agreements at legacy carriers or through shift in market share to airlines that can adjust more nimbly. Much of the instability since deregulation has resulted from experimentation with flight scheduling, pricing, loyalty programs, distribution systems, and organization forms.” P. 129 Severin Borenstein and Nancy L. Rose, “How Airline Markets Work...or Do They? Regulatory Reform in the Airline Industry” : *Economic Regulation and Its Reform: What Have We Learned?* 2014.

² “Computerized reservation systems were developed in the 1950s to keep track of airline seat booking and fare information. Initially these were internal systems but were soon made available to travel agents. Deregulation of airline pricing in 1978 permitted much more extensive use of the systems for economic activity, especially pricing.” p. 2 R. Preston McAfee and Vera de Velde, “Dynamic Pricing in the Airline Industry” “This paper analyzes the effects of market structure on price dispersion in the airline industry, using panel data from 1993 through 2006. The results found in this paper contrast with those of Borenstein and Rose (1994), who found that price dispersion increases with competition. We find that competition has a negative effect on price dispersion, in line with the traditional textbook treatment of price discrimination. Specifically, the effects of competition on price dispersion are most significant on routes that we identify as having consumers characterized by relatively heterogeneous elasticities of demand. On routes with a more homogeneous customer base, the effects of competition on price discrimination are largely insignificant. We conclude from these results that competition acts to erode the ability of a carrier to price discriminate, resulting in reduced overall price dispersion.” Gerardi and Shapiro, “Does Competition Reduce Price Discrimination? New Evidence from the Airline Industry?” Working Paper Boston Federal Reserve 2007.

³ “This research develops a city-pair air demand model...” “The empirical analysis also suggests that (1) air fare is endogenous and correcting the endogeneity problem by the IV (instrumental variable) method significantly improves the fare coefficient and its implications; (2) the minimum frequency is more critical to the connecting service; (3) the inferred values of scheduled flight time are \$16.6/h for direct routes and \$24.1/h for connecting routes, both in 2004 dollars; (4) when choosing among connecting routes, travelers avoid connecting at airports with high expected delay; (5) under steady state a 1-min hub delay increase has a larger impact on demand than an equivalent change in scheduled flight time of a connecting route; (6) there is a concave relationship between market distance and air route demand; (7) in a longer-haul market route attribute changes are more likely to shift traffic between routes as opposed to affecting total air market traffic”. Hsiao and Hansen “A passenger demand model for air transportation in a hub-and-spoke network,” *Transportation Research Part E*. p. 1123

“The U.S. airline industry went through tremendous turmoil in the early 2000's. There were four major bankruptcies and two major mergers, with all legacy carriers reporting a large profit reduction. This paper presents a structural model of the airline industry and estimates the impact of demand and supply changes on profitability. We find that, compared with the late 1990s, in 2006, a) air-travel demand was 8% more price sensitive; b) passengers displayed a strong preference for direct flights, and the connection semi-elasticity was 17% higher; c) the changes of marginal cost significantly favored direct flights. These findings are present in all the specifications we estimated. Together with the expansion of low cost carriers, they explained more than 80% of the decrease in legacy carriers' variable profits.” Steven Berry and Panle Jia, “Tracing the Woes: An empirical analysis of the airline industry,” NBER 2008,

⁴ A somewhat older study using more comprehensive econometric model concludes: “While there are clearly opportunities to reduce operating cost by upsizing the fleet, aircraft operating cost scale economies are not particularly strong nor do they extend, for most US domestic stages, very far. Moreover, there are effectively diseconomies of scale in purchase price. Part of the explanation for these results is technical and related to diseconomies of scale associated with terminal costs. But institutional factors. In particular the incorporation of aircraft size in flight crew pay scales, and the bundling of aircraft size and range weaken the cost advantages of fleet

upsizing still further. In effect, airlines are forced to share the inherent productivity advantages of large planes with labor, while retaining exclusive authority on what models to buy. Such an arrangement results in decisions to buy smaller planes than would be suggested by technical efficiency criteria alone” *Cost Economics of Aircraft Size* Wei and Hansen *Journal of Transport Economics and Policy*, Vol. 37, No. 2 (May, 2003), pp. 279-296.

⁵ “We find that the hub premium is increasing in the ticket fare. We find that control of gates is a crucial determinant of this premium. Limits on the fees that airlines can charge for subleasing their gates lower the prices charged by airlines. Finally, control of gates and restrictions on sublease fees explain high fares only when there is a scarcity of gates relative to the number of departures from an airport.” p.467 “In this paper, we show that airlines can still charge a large premium in markets into and out of their hubs. In particular, we find that the hub premium is influenced by gate ownership, particularly when gate utilization is high at an airport, and that the hub premium is larger at the high end of the fare distribution. Future research should focus on the role that barriers to entry have on the entry decisions, because that is also an important determinant of long-run competition in airline markets.” Finally, we want to highlight that our research can explain approximately 50 percent of the hub premium. The other 50 percent is still to be explained. It could be a function of what Borenstein (1989) calls marketing barriers to entry: frequent-flyer programs and volume incentives to travel agents that might allow airlines to raise their prices above their marginal cost. Unfortunately, data on frequent-flyer programs are not available. The remainder of the premium may also be explained as a function of the strategic behavior of airlines.” P. 490 Federico Ciliberto and Jonathan W. Williams, “ Limited Access to Airport Facilities and Market Power in the Airline Industry,” *Journal of Law and Economics* 2010,

⁶ Gerassimos Tsoukalas, “Cost Convergence in the US Airline Industry: An Analysis of Unit Costs 1995–2006” *Journal of Air Transport Management* 2006 shows comparable unit costs of about \$.10 per mile.

⁷ Regional airlines have recently moved from smaller planes with 50 or fewer seats and toward larger planes like the Bombardier CRJ900 with 90 seats (takeoff of about 6000 feet) and the Embraer E175 with 76 seats (takeoff of about 7300 feet); while posted prices are poor guides, the CRJ900 lists above \$40 million and the Embraer lists above \$30 million with comparable fuel efficiency of about 600 gallons per hour. Some of these regional aircraft are modified for first class with off-center aisles.

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Comment Details

EEA #/MEPA ID 16652	First Name Robert	Address Line 1 1146 Route 28, Town Hall	Organization Town of Yarmouth
Comments Submit Date 1-12-2023	Last Name Whritenour	Address Line 2 --	Affiliation Description Municipality
Certificate Action Date 1-31-2023	Phone --	State MASSACHUSETTS	Status Opened
Reviewer Purvi Patel (617)874-0668, purvi.patel@mass.gov	Email rwhritenour@yarmouthma.us	Zip Code 02664	

Comment Title or Subject

Topic: EIR Scoping Comments Cape Cod Gateway Airport

Comments

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Comments Attached

Attachments

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TOWN OF YARMOUTH

1146 ROUTE 28, SOUTH YARMOUTH, MASSACHUSETTS 02664-24451
Telephone (508) 398-2231, ext. 1271, Fax (508) 398-2365

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TOWN ADMINISTRATOR
Robert L. Whritenour, Jr.

**ASSISTANT
TOWN ADMINISTRATOR**
William J. Scott

January 10, 2023

Ms. Purvi Patel
Environmental Analyst
100 Cambridge Street, Suite 900
Boston, Massachusetts 02114

Via Electronic Mail
purvi.patel@mass.gov

Re: Environmental Impact Report (EIR) Scoping for Capital Projects at the Cape Cod Gateway Airport

Dear Ms. Patel:

The Town of Yarmouth has been actively monitoring and commenting on the findings and recommendations presented in the Cape Cod Gateway Airport Master Plan Update (AMPU). The capital projects recommended in the AMPU are now the subject of environmental reports and assessments to be presented to federal, state and local entities, as well as the general public, for review and approval prior to the potential issuance of permits for their implementation in accordance with applicable environmental regulations.

We have offered written, constructive comments on the AMPU reports, which have been well received by the Airport and have relevancy to the environmental documents that are to be prepared during the ensuing several months. Our comments below present the basis for the specific italicized text to be incorporated in the scope of work associated with the environmental documents.

Purpose and Need

This is an especially critical component of the environmental reports. A significant amount of time has passed since the AMPU was initiated and completed and the aviation industry is particularly dynamic. Consequently, there is merit in re-evaluating the basis for the currently proposed capital projects, in particular, the required runway length. We recognize that the topic of runway length is associated with Runway 15-33 and applies primarily to JetBlue Airlines and known and specific operators of business jet operators that are either based or frequently use the Airport.

We earlier noted in our comments to the Airport that the AMPU analysis considered a range of aircraft types (models, seating capacity and equipment -- engine model) and flight missions (nonstop stage length) for existing users and those anticipated. We also noted that not all models of the same aircraft are equivalent as operated in accordance with the users' flight performance operating procedures and manuals. These factors have a direct impact on the determination of the required runway length for takeoff and landing at the Airport. Our independent runway

length analysis determined that Runway 15-33 may justify an extension, but not to the extent presented in the AMPU.

We take this opportunity to note that in our earlier comments, we took exception to the use of a 15 percent margin in the runway length analysis for wet and contaminated runway surface conditions for turbojet-powered aircraft under takeoff conditions. This is contradictory to the FAA guidance, which allows for this margin only for landing runway length requirements.

Because the Airport is currently served by JetBlue Airlines and specific business jet operators, we strongly recommend that the scope of work incorporate the following text for the Purpose and Need section:

JetBlue Airlines and known and specific operators of business jet aircraft based at or that frequently use the Airport be queried with respect to (1) frequency of flight/weight restrictions and cancellations experienced due to the current Runway 15-33 length, and (2) the required runway lengths (takeoff and landing) to serve their current and anticipated specific aircraft models and equipage, and flight mission when operated in accordance with their Federal Aviation Administration (FAA) approved flight operations manual.

In the event these operators are unable to provide this data, it is available from commercial sources as opposed to interpretation of the generalized aircraft performance charts offered by the FAA and/or aircraft manufacturers. These commercial sources often serve as flight dispatchers for airlines and high-performance aircraft users and, consequently, have the ability to provide an equivalent level of data to support the analysis of the required runway length for specific aircraft and equipage, and flight missions when these aircraft operate at the Airport.

Runway Extension Alternatives

Should any extension to the length Runway 15-33 be justified as described above, the scope of work for the environmental reports should re-examine those options presented in the AMPU to provide that length for takeoff and landing. In this regard, we note that the AMPU presents a "balanced" approach to lengthening the runway at each end so as to equalize the distribution of aircraft noise impacts on communities northwest (Barnstable) and southeast (Yarmouth) of the Airport in terms of its size (area of impact). However, in our opinion, this "balanced" approach failed to consider the extent and density of residential land use in these impacted areas.

Observation of aerial views and the source of continuous noise complaints from residents clearly demonstrate that areas to the southeast of the Airport are more impacted by aircraft noise. Our earlier comments on the AMPU suggested that the then proposed extension of Runway 15-33 and that which we determined in our independent analysis take this and other factors into consideration. Accordingly, we offered a more preferred solution that would result in lesser aircraft noise impact on land uses to the southeast of the Airport.

Consequently, we recommend that the scope of work for the environmental reports that address alternative means to provide a runway extension, if any is justified, be incorporated as indicated in the text below.

Alternative means to provide the required runway length should consider balancing community aircraft noise impacts that take into consideration the location and density of

residential development in areas surrounding the Airport. To the extent feasible and consistent with FAA airport planning guidance, runway extension alternatives that maximize the extension of Runway 15-33 to the northwest (Runway 15 end) be particularly evaluated. The continued application of displaced runway landing thresholds should be included in these analyses, especially at the Runway 33 end.

Aircraft Noise Analysis

Although not included in our earlier comments, we recognize the concern of our citizens that the use of average annual day-night aircraft noise contours is insufficient to address their concerns. This has been and continues to be a topic of considerable research by the FAA and others, and additional means to depict aircraft noise impacts are of value in assessing this component of the environmental reports. Consequently, we recommend that the following text be incorporated in the scope of work for applicable sections of the environmental documents.

Aircraft noise impacts should include the average annual day-night contours shown as the 55 Ldn through 80 Ldn in five-level increments, as well as single-event contours for the same Ldn increments as applicable to a range of aircraft types. These include the Embraer 190AR and Airbus A320 Classic as operated and configured by JetBlue Airlines; Cessna 402C and Tecnam P2012 Traveler as operated by Cape Air; Gulfstream IV, Bombardier Global 5000, King Air 200, and Cessna 172. These contours should be presented for the existing flight routes commonly flown at the Airport on each of the four runway ends, and for any future flight path recommended for aircraft noise mitigation measures. In the event that the FAA noise model database does not include these aircraft types, comparable aircraft models should be utilized. The intent of these single-event aircraft noise is to better reflect the aircraft noise impact that residents experience on a daily basis.

Aircraft Noise Mitigation

Airports are a source of aircraft noise and whenever feasible, actions to mitigate their impact should be examined in the preparation of the environmental documents. In our earlier comments on the AMPU, we recognized that the Airport has a voluntary aircraft noise abatement program in effect consistent within its purview as an airport operator and FAA guidelines that is presented in textual format. However, in addition to this voluntary initiative, there is a means to require aircraft operators to follow a prescribed departure flight path when operating under instrument flight rule regulations. Nearly all commercial flights and those conducted in high performance (business jet) aircraft operate under these regulations during all weather conditions. To this end, we earlier encouraged and gained the support of the Airport and the chief of the air traffic control tower to evaluate a standard instrument departure procedure for Runway 15. Accordingly, we request that the scope of work for the environmental reports include the following text:

Aircraft noise impact mitigation measures should include a feasibility study of the implementation of a standard instrument departure procedure for Runway 15 that serves to provide a definitive flight path and altitudes that minimize aircraft noise impacts on residential land uses southeast of the Airport. The feasibility study should utilize applicable FAA Orders and take into consideration the use of the airspace by aircraft operating to and from other airports in the region and radar coverage limitations as a means to define waypoints and/or ground-based navigational aids for the recommended

procedure. Up to three alternative standard instrument departure procedures may be evaluated. Aircraft noise contours may be incorporated in the analysis to qualitatively and quantitatively demonstrate the mitigation results. The alternative procedures will be reviewed with the Airport and air traffic control tower staff in the early and interim phases of the study, and then as part of identifying the preferred instrument departure procedure.

When determined to be beneficial in reducing aircraft noise impacts, the recommended standard instrument departure procedure should be referred to the FAA for its final design and implementation. The schedule for such procedure implementation is subject to FAA internal coordination, however, its need should be included as a condition of the approval of the recommended capital projects evaluated in the environmental documents.

Additionally, a graphic of the Airport-suggested voluntary aircraft noise abatement flight routes be prepared to accompany the current text as a means to better inform pilots and enhance aircraft noise mitigation measures. The analysis of aircraft noise impacts may signal a need to modify the existing voluntary noise abatement program.

Water Quality Impacts

Higher aircraft activity levels and the increased area of impervious surfaces associated with the proposed capital projects at the Airport introduces larger volumes of water runoff that need to be accommodated and treated before release. Additionally, Airport firefighting operations generate volumes of PFAS (per- and polyfluoroalkyl substances) contaminant, as does normal aircraft deicing activity. These impacts should be addressed in their respective portions of the scope of work for the environmental documents. At this time, we have not identified specific text for this component of the environmental documents. Our intent is to highlight this concern so that it may be addressed.

We trust that our comments will be assessed as valuable and appropriate for inclusion in the scope of work for the environmental documents and appreciate this opportunity to formally introduce them into the record. We will maintain our active participation in the environmental document review and comment period on behalf of the citizens of the Town of Yarmouth.

Sincerely,



Robert L. Whritenour
Town Administrator

cc: Ronald F. Price
QED Airport & Aviation Consultants
Board of Selectmen

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Comment Details

EEA #/MEPA ID 16640	First Name Susan	Address Line 1 --	Organization --
Comments Submit Date 1-12-2023	Last Name Ascher	Address Line 2 --	Affiliation Description --
Certificate Action Date 1-12-2023	Phone --	State MASSACHUSETTS	Status Opened
Reviewer Purvi Patel (617)874-0668, purvi.patel@mass.gov	Email suza100@hotmail.com	Zip Code 02632	

Comment Title or Subject

Topic: Cape Cod Gateway Airport

Comments

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I am opposed to the expansion of Cape Cod Gateway Airport for the following reason:

Cape Cod has a fragile ecosystem which has been stretched beyond the limit due to the influx of both visitors and new residents. An expanded airport would cause further damage by:

- Pollution, both air and noise.** The beaches are visibly dirtier and more polluted since Jet Blue began flying into Cape Cod. More aircraft, both large and small, would **greatly** compound the problem. Who wants dirty beaches and polluted air, not only on the beaches but throughout the Cape? The **constant** noise of aircraft over our houses and beaches is extremely annoying, starting at 6 am and continuing until late at night (I have heard planes after 10 pm - and do not live particularly close to the airport). This has a large impact on the **quality of life** for Cape residents.
- Too many people.** The Cape has a fragile ecosystem which had already been stretched to the limit even before the COVID related influx of visitors and new inhabitants. The water system, for example, simply cannot handle any more. Clearcutting the trees to allow for a larger airport will substantially **add to the pollution** and destruction of this beautiful, fragile ecosystem. We need trees, not asphalt! As for the usual 'business' reasons, there are already long waiting lines at most restaurants all summer long and plenty of 'no vacancy' signs.
- Infrastructure/Traffic issues:** These have become much worse the past 3 years, Cape roads cannot handle more cars. And the land cannot handle more/bigger roads. We are sitting on a water table and sand.

Clearly the airport needs repairs (NOT longer runways for larger aircraft or airport expansion). It is **irresponsible and short-sighted** to cater to business interests, especially those of large airlines, and disregard the damage to environment, reducing the quality of life for Cape residents with worsening air pollution, noise pollution, dirtier land (including beaches), straining infrastructure issues, causing traffic problems and other overpopulation issues. **We do not need a larger airport!**

Susan Ascher

Attachments

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Comment Details

EEA #/MEPA ID 16640	First Name susan	Address Line 1 --	Organization --
Comments Submit Date 1-12-2023	Last Name brita	Address Line 2 --	Affiliation Description --
Certificate Action Date 1-12-2023	Phone --	State --	Status Opened
Reviewer Purvi Patel (617)874-0668, purvi.patel@mass.gov	Email sfbrita@gmail.com	Zip Code --	

Comment Title or Subject

Topic: noise and visual pollution

Comments

↶ ↷ **B I U** | Segoe UI 10 pt | **A** | X₂ X² | **t** **T** | Paragraph

Similar to so many Cape Cod residents, I retired to the Cape to enjoy not only its unmatched scenic beauty but also the inherent tranquility that comes with quiet skies, and bucolic scenery. All of that is under assault with the Hyannis airport expansion project - EEA#16640. Larger jets and more frequent jet service, flying hourly over Lewis Bay, transforms Lewis Bay into Jamaica Bay, home of LaGuardia Airport. Noise and visual pollution are products of this project.

The FAA did not adequately study the use of Otis Airforce Base as an alternative to expanding Hyannis. A transportation hub at Otis could have combined air, rail, water and other public transport modes at a point on the Cape where it made the most sense - before traffic gets deeply into the cape. Although the military does not like to "share" airports with civilian aircraft, Otis is large enough that separation could have been achieved. This project is great example of COVID stimulus money chasing a project.

Time to take a step back and really examine if this project is really needed.

Susan Brita
West Yarmouth

Attachments

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Patel, Purvi (EEA)

From: karen ingemie <kareningemie@comcast.net>
Sent: Friday, January 13, 2023 12:11 AM
To: Patel, Purvi (EEA)
Subject: MEPA PUBLIC COMMENTS - CAPE COD GATEWAY AIRPORT
Attachments: IMG_0600.MOV; FullSizeRender.MOV

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Att: MEPA Representative Purvi Patel

I am writing this in regards to the Cape Cod Gateway Environmental Assessment meeting held on Thursday, January 5, 2023 reviewing the expansion of the airport which I am strongly opposed to.

After attending multiple meetings on the Cape Cod Gateway Airports Master Plan expansion they all end up representing what the airport wants "growth" with little to no regard to residents. Others including myself have contacted the airport complaining about the increase of aircraft, noise, pilots not using the designated flight paths on the website and the flight tracking systems showing incorrect data. Many of us have given up because we are considered complainers and simply ignored.

No home owner living in a residential area should have to tolerate or have to live with the constant flow of noise and pollution from aircraft flying every 2 to 5 minutes, some flying as low as 225' – 325' over our homes with decibel readings between 70.6 and 99.3. The frequency and noise level are beyond words and the FAA's current metric for quantifying noise exposure does not adequately capture the effects of aircraft noise on the lives of affected residents, their families or the current health issues associated with jet emissions and noise pollution. A 2014 study showed that chronic exposure to noise for 8 hours can cause permanent hearing changes in children.

I handed Purvi Patel after the Environmental Assessment Meeting at the Airport, January 6th a USB drive showing multiple videos of planes flying over this area. On August 20, 2020 I recorded 28 planes flying between 1:28pm – 6:03pm. These videos show the actual path of aircraft and the flight track data I collected shows the airport flight tracking system is incorrect showing the wrong flight path.

Noise, Air and water pollution is an invisible threat. We have been exposed to unhealthy levels of air pollution and aircraft noise from aircraft flying over this area and not flying the flight paths designated on the airport website. PFAS has also become a concern since Cape Cod Gateway Airport shares the Lewis Bay Watershed and a study conducted shows Mill Creek is contaminated by PFAS. Not only does this concentration of aircraft threaten the health and wellbeing of American citizens but I believe our fundamental right to a quality of life has been violated.

What impact is aircraft traffic having on our health, our environment, who will be held accountable for the health and the wellbeing of families and wildlife affected by Air emissions pollution, water and noise pollution?

Exposure to loud noise over 70 decibels can cause hearing loss, high blood pressure, sleep disturbance and stress to all age groups. I now have high blood pressure and my husband is on anxiety medication and cannot sit outside without covering his ears because of the high pitch sound of jets and ringing in his ears.

Children are particularly vulnerable to noise-induced hearing loss. A study found that chronic exposure to noise for 8 hours a day could cause permanent hearing changes in children, including the inability to hear certain frequency. Also living near noisy airports have been found to suffer from stress, memory impairment, attention level and poor reading skills.

Exposure to Air pollution contributes to a variety of health issues. The effects of air pollution on a person's health can range from mild breathing difficulties to severe cardiovascular issues, including heart disease and stroke.

Data collected from articles below:

([National Geographic.org/encyclopedia/noise-pollution/](https://www.nationalgeographic.org/encyclopedia/noise-pollution/))

(Medical News Today: Noise Pollution health effects: Impact on mental and physical health. Medically reviewed by Meredith Goodwin, MD, FAAFP) (Medical News Today: Air Pollutants: How they effect our health. Medically reviewed by Alane Biggers, MD, MPH)

Were any health impact assessments done or environmental studies conducted in our area regarding flight patterns, frequency of traffic, effects of jet emissions, the risk factor of low altitudes aircraft flying over our homes and the decibel levels? Studies should be conducted to measure the health consequences of exposure to aviation noise, aircraft exhaust gases and exposure of PFAS and flight paths so families can have their quality of life back?

I oppose any expansion of runway 15-33 at the airport that would increase air traffic and the health of myself and family. The Master Plan has been wrong from the get-go, the airport was never intended for commercial or corporate jets arriving and departing in the middle of a residential, hospital and retail area sometimes starting at 5 AM continuing through the day until after midnight.

The impact of increase aircraft air and noise pollution on affected residential areas should be given strong consideration when MEPA assesses the proposed airport expansion and flight paths pilots use flying over residential areas. Consideration should also be given to moving the airport to Otis AFB where the impact on the environment and residential quality of life would be less. Here are 2 more videos of what we deal with between 6AM continuing throughout the day until 10PM. Occasionally planes fly over at 5AM, 10PM and after midnight.

Regards
Karen Ingemie
West Yarmouth

AIR TRAFFIC VIDEOS 52 MB

DATE	Time	
6-Aug	2:59	3:43
8-Aug	2:26	2:29
14-Aug	3:16	
	4:06	
	4:15	
	6:08	
20-Aug	1:28	
	1:57	
	2:03	
	2:05	
	2:09	
	2:15	
	2:16	
	2:20	
	2:24	
	2:25	
	2:27	
	2:35	
	2:40	
	2:54	
	3:02	
	3:06	
	3:09	
	3:17	
	3:25	
	3:51	
	4:00	
	4:05	
	4:28	
	4:31	
	4:36	
	4:43	
	6:03	
30-Aug	3:37	3:59
31-Aug	5:21	
3-Oct	4:49	

Photos are labeled by date/time/year
 Aug625920 = Aug 6 / 2:59 / 20

To the Yarmouth BOS:
 August 20th, an afternoon on my deck.
 With the information provided, I hope you all have a better understanding and clearer picture of what residents in Yarmouth are dealing with.
 Thank you all for taking the time to review these videos.

Regards
 Karen Ingemie
 82 Cleveland Way
 West Yarmouth, Ma
 Hyannis Park Area



Patel, Purvi (EEA)

From: gdoblebh@gmail.com
Sent: Saturday, January 14, 2023 9:00 AM
To: karen ingemie; Patel, Purvi (EEA)
Cc: Darlene; badrigian@msn.com; linda Bolliger
Subject: Re: MEPA COMMENTS - Due today

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Purvi,
Please see the following messages. This should be forwarded to Bill Keating(I tried to find his email but was unsuccessful).
Thank you for your efforts with this most important issue.
George Doble
West Yarmouth

Sent from my iPhone

On Jan 12, 2023, at 5:31 PM, karen ingemie <kareningemie@comcast.net> wrote:

Hello Brian and George,

Thank you for your comments and interest in helping to support opposition to runway 15-33 expansion at the Cape Cod Gateway Airport. I have copied the President of Hyannis Park Civic Association, Linda Bolinger, she has done an amazing job representing the residents of Hyannis Park working environmental concerns and other issues. If you have any questions, or would like more detailed information regarding the airport please contact her.

Her email is linda.bolliger0@gmail.com

Sorry for the delay in sending the MEPA Slide Presentation to Darlene but as usual the airport did not post the presentation till yesterday. Public meetings aren't communicated very well and they always seem to schedule them when summer residents aren't here.

After the meeting last Thursday it was evident that the the airport plans on increasing aircraft traffic with larger commercial and corporate jets flying over a larger area in Yarmouth. The (MEPA) Representative, Purvi Patel, had asked us to send our concerns/comments regarding the environmental and pollution issues (Air, Noise and PFAS contamination) impacting us from the airport.

If you could sent your comments directly to purvi.patel@state.ma.us with concerns you have with the airport and why you are opposed to expansion it would be greatly appreciated since the more concerned residents we have other than Hyannis Park who are deemed as complainers might get their attention. Comments are due today, I apologize for such short notice.

Residents living near the airport and surrounding areas have been exposed to unhealthy levels of noise, air emissions and PFAS contamination and our complaints have been simply ignored by the airport. I think getting the Associations to work together would be beneficial to all of the residents living in this area. Maybe a zoom meeting to introduce ourselves and have a discussion around how all the associations can make a stand against Cape Cod Gateway Airport.

Thanks
Karen

From: Darlene Richard <d19richard@gmail.com>
Subject: Fwd: MEPA Slide Presentation - comments input needed by January 12th
Date: January 12, 2023 at 12:01:16 PM EST
To: karen ingemie <kareningemie@comcast.net>

Begin forwarded message:

From: Brian Badrigian <badrigian@msn.com>
Date: January 11, 2023 at 8:40:55 PM EST
To: Darlene Richard <d19richard@gmail.com>
Cc: george doble <gdoublebh@gmail.com>
Subject: Re: MEPA Slide Presentation - comments input needed by January 12th

Darlene,
Thank you for sending this information.
Not sure I understand this correctly and please correct me if I'm wrong but it seems that there was a hearing about expanding the airport for landing larger planes and that the hearing was not widely publicized and the hearing did not discuss issues and concerns that would be important to area property owners. Since this is an issue that effects many locations it might be more vocal if the various associations in the effected area come together on this matter; I suggest that GIOC, Great Island, Hyannis Park and as many other associations as possible get together and talk about this (there is usually strength in numbers). There is no need to limit the associations to just the West Yarmouth area but instead open up the discussion to as many participants

as possible. Then involve the state reps and senators, who work for the residents and property owners. This might, after some discussion, be best handled by an attorney to put the objections on the record with the MEPA and prevent anymore hearings from taking place without sufficient prior notice. It would make sense that the various associations contribute to the cost of the attorney. It seems landing larger jets would only benefit a very small number of people and would create a serious detriment to the residents and tax paying property owners. Personally I believe the residents and property owners own the towns and therefore should write the rules for what is allowed.

Let me know if I my understanding is incorrect.

Thanks and stay well.

Brian

Begin forwarded message:

From: gdoblebh@gmail.com
Date: January 12, 2023 at 9:49:56 AM EST
To: Brian Badrigian <badrigian@msn.com>
Cc: Darlene Richard <d19richard@gmail.com>
Subject: Re: MEPA Slide Presentation - comments input needed by January 12th

Good morning,

Not much more I can add to Brian's reply, except that:

1. I would not have been aware of this had I not received these emails-thank you. I would have attended this meeting IN PERSON to voice my objections.
2. Expanding the airport for the benefit of a few to the detriment of most homeowners/taxpayers is unconscionable. I can't imagine those taxpayers who live closer to the airport to have to deal with this potential increase noise & risk. Yes, they purchased their homes knowing the closeness to the airport but to expand it to accommodate even larger aircraft should not be allowed. As one exits route 6 at exit 7, driving to gioc, when current aircraft are making their approach, it almost seems one can reach out and touch the aircraft-I would not like to see any larger aircraft using this airport.
3. The email is asking for comments to be sent to purvi.Patel, shouldn't these comments be sent to Bill Keating, our state rep. I can forward this to him if you are ok with that. Just let me know. I'm not sure who Purvi Patel is in this notice.

Thanks
George



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF
ENERGY AND ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENERGY RESOURCES

100 CAMBRIDGE ST., SUITE 1020
BOSTON, MA 02114
Telephone: 617-626-7300
Facsimile: 617-727-0030

Maura Healey
Governor

Kim Driscoll
Lt. Governor

Rebecca Tepper
Secretary

Patrick Woodcock
Commissioner

23 January 2023

Rebecca Tepper, Secretary
Executive Office of Energy & Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02114
Attn: MEPA Unit

RE: Cape Cod Gateway Airport, Hyannis, EEA #16640

Cc: Maggie McCarey, Director of Energy Efficiency, Department of Energy Resource
Patrick Woodcock, Commissioner, Department of Energy Resources

Dear Secretary Tepper:

We've reviewed the Environmental Notification Form (ENF) for the proposed project. The project includes construction of a 30,000-sf terminal expansion. For this project we expect key mitigation measures to include:

- Building design and construction practices that result in low heating and cooling thermal energy demand intensity (heating and cooling "TEDI") by:
 - Maintaining envelope integrity with framed, insulated walls with continuous insulation;
 - Thermal-bridge free envelope;
 - Minimizing glazed wall systems (e.g. curtain walls);
 - Low air-infiltration, confirmed with in-building air-infiltration testing;
 - Ventilation energy recovery;

- Management of solar heat gains;
- Efficient electrification of space heating with either full electrification of space heating with air source heat pumps, or, for highly ventilated buildings, a hybrid of air source space heating for primary heating and gas space heating for secondary heating.
- Efficient electrification of water heating with air source heat pump water heating
- Extensive rooftop solar-readiness;
- Electric vehicle charging equipment and electric vehicle ready parking spaces.

Codes, Baseline, and Mitigation

Hyannis, which is located with Barnstable, is not a stretch code community. Baseline for this project, therefore, would be Massachusetts base code.

Note, however, that an updated version of the Massachusetts commercial stretch code goes into effect on 1 July (herein called the “July 2023 commercial stretch code”.) Because this updated code contains numerous provisions which deliver emissions reduction, we recommend that the project, as a mitigation measure, follow the provisions July 2023 commercial stretch code for the proposed expansion. (In addition, we recommend that the project adopt, as a mitigation measure, efficient electric space and water heating, more below.)

The details of this code are available here:

<https://www.mass.gov/info-details/stretch-energy-code-development-2022#final-code-language-for-stretch-code-update-and-new-specialized-stretch-code->

The July 2023 commercial stretch code makes significant changes and improvements which help deliver emissions reduction, including:

- envelope performance
- thermal bridge accounting
- ventilation energy recovery
- EV readiness
- PV readiness

The following sections describe key emissions reduction strategies.

Envelope, Heat Recovery, and Solar Gains

The combination of quality envelope, heat recovery, and management of solar gains can result in significant reduction in heating (and cooling) thermal energy demand intensity (TEDI, units of

kBtu/sf-yr)¹. In addition to reduced utility costs and emissions, the value of a targeted focus on heating and cooling TEDI results in:

- Simplified space heating electrification;
- Reduction, and possible elimination, of perimeter heating systems;
- Improved resiliency;
- Reduced peak demands;
- Improved occupant comfort;
- Reduced maintenance.

Specific TEDI reduction strategies are:

- High-performance window and walls;
- Thermally-broken windows and other components to eliminate thermal bridges;
- Low air-infiltration;
- Ventilation energy recovery;
- Solar gain management via external shading and/or low solar heat gain coefficient (SHGC)

Buildings with glazed wall systems (curtain wall and storefront windows) require high performing windows and high performing opaque spandrels to achieve heating TEDI reductions. High performing windows and high performing opaque spandrels should be carefully evaluated if glazed wall systems are being considered.

Note that the July 2023 commercial stretch code contains significant updates to envelope performance, ventilation energy recovery, air infiltration, and other key TEDI-reduction strategies. If the project uses the July 2023 commercial stretch code for its proposed project, the project would be incorporating these significant updates, as well. Key updates include:

Vertical Envelope Performance

The July 2023 commercial stretch code enhances mandatory vertical envelope performance and no longer allows improvements to roof (or other areas) to compensate for reduced above-grade vertical performance. When using glazed wall systems (e.g. curtain walls, storefront windows), fenestration within the glazed wall system must have performance of U-0.25 or better.

Also note that, excepting highly ventilated buildings, buildings having more than 50% glazed wall system must have full space heating electrification per Section C401.4.1. (Highly ventilated building must have partial space heating electrification per Section C401.4.2, regardless of amount of glazed wall system.)

¹ Although they have the same units, heating and cooling TEDI is not the same as heating and cooling EUI. TEDI represents energy requirement, or demand, not energy consumption. For guidance on how to extract TEDI information from building models see “Energy Modeling Guidelines”, City of Vancouver, Planning, Urban Design and Sustainability Department, Land Use Development and Policy Guidelines, Version 2.0, amended 18 July 2018 and “Designing to TEDI, TEUI, and GHGI Performance Metrics”, International Building Performance Simulation Association (IBPSA), by Chan *et al*

Thermal bridges

Thermal bridges are elements that interrupt areas of uniform thermal resistance in the building envelope. Thermal bridges occur at commonly used girt systems used to attach wall coverings, curtain wall connections, door to wall intersections, parapets, penetrations, window to wall intersections, wall to wall intersections, and in many other locations.

Thermal breaks should be thoroughly incorporated into the design to ensure that the intended wall, window, and roof performance is being delivered. The project can use the thermal bridge accounting method described in the Building Envelope Thermal Bridging Guide². This design guide now has a web-based database³.

All window and wall thermal values should reflect the thermal values after accounting for thermal bridges. Unfortunately, many projects do not typically account for thermal bridges other than framing wall studs and, as a result, delivered envelope performance is likely lower, often significantly lower, than intended by design.

Note that the July 2023 commercial stretch code mandates thermal bridge accounting. All U-value performance values must explicitly reflect performance after accounting for thermal bridges per Section C402.7 of the July commercial stretch code.

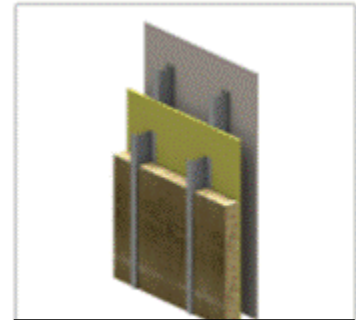
Air Infiltration

Low air infiltration, confirmed with whole-building testing in the field, is essential to ensure high levels of energy efficiency, low heating and cooling TEDI, and greenhouse gas mitigation. Even small amounts of air leakage can reverse all other envelope progress.

Note the July 2023 commercial stretch code makes significant updates to air infiltration, including:

- Maximum allowable air infiltration is now lowered to 0.3 cfm/sf at 75 Pa
- Air infiltration testing in the field, to confirm allowable limits are being met, will be mandatory

We recommend adopting C406.8 of the July 2023 commercial stretch code as a mitigation measure for all buildings. This section requires air infiltration of 0.2 cfm/sf or less at 75 Pa, confirmed with testing in the field.



Thermal bridges occur at commonly used “z-girts” used to connect wall covers. Thermal bridges also occur at balconies, parapets, window to wall intersections, and many other locations

² Building Envelope Thermal Bridging Guide, Version 1.2, 2018, BC Hydro available here <https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/power-smart/business/programs/building-envelope-thermal-bridging-guide-version-1.2.pdf>

³ <https://thermalenvelope.ca/>

Energy Recovery – Ventilation

Ventilation energy recovery includes systems that recover energy in a building’s ventilation system. Note that the July 2023 commercial stretch code increases the minimum ventilation energy recovery effectiveness to 75% for dwelling spaces, 70% for Class 1 and Class 2 exhaust, and 50% for Class 3 and 4 exhaust. A recommended above-code mitigation measure is to improve Class 3 and 4 exhaust effectiveness to at least 70%.

Solar Gain Management

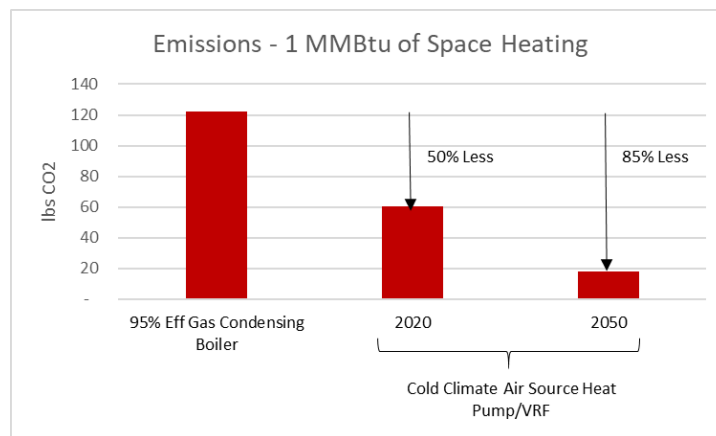
Solar gains can be managed with a combination of external shading, set-back windows, reduced window aperture (e.g. “window to wall ratio”), and/or improved solar heat gain coefficient (SHGC) vision glass. We recommend using cooling TEDI to evaluate these strategies. Note that cooling TEDI limits are now mandatory for some building types in the July 2023 commercial stretch code.

Efficient Electrification – Space Heating

Efficient electrification of space heating entails the swapping of fossil fuels (natural gas, oil, and propane), or electric resistance systems, with cold-climate rated air source heat pumps or ground source heat pumps.

Electrification of space heating is a key mitigation strategy with significant short- and long-term implications on GHG emissions. Massachusetts grid emissions rates continue to decline with the implementation of clean energy policies that increase renewable electricity sources. The implication is that efficient electric space heating with cold climate air source heat pump (or ground source heat pump) has lower emissions than other fossil-fuel based heating options, including best-in-class (95% efficient) condensing natural gas equipment.

Currently, efficient electric heating has approximately **50% lower emissions** in Massachusetts than condensing natural gas heating. By 2050, and possibly sooner, efficient electric heating is expected to have approximately **85% lower emissions** in Massachusetts than condensing natural gas heating. See illustration below.



Cape Cod Gateway Airport, 16640
Hyannis, MA

The proposed terminal expansion can be readily fully electrified for space heating using air source heat pumps systems, which is recommended.

Efficient Electrification – Service Water Heating

Similar to above, due to Massachusetts low electric grid emissions, swapping from even “best in class” condensing gas equipment to electric air source heat pump service water heating results in significant emissions reduction.

Service water can be readily fully electrified with air source heat pump water heating for the proposed terminal, which is recommended.

Solar PV

Rooftop PV can provide significant GHG benefits as well as significant financial benefits. Even if PV is not installed during building construction, it is important to plan the project to ensure that roof space is set aside for PV and that roof space doesn’t become unnecessarily encroached with HVAC appurtenances, diminishing the opportunities for future PV.

Electric Vehicle (EV) Parking Spaces

EV charging stations are critical for the continual transition towards electric mobility. Both EV charging stations and spaces that are EV ready are recommended.

As a mitigation measure, we recommend providing EV equipment to at least 10-15% of the spaces and having at least 20-25% of spaces be EV ready.

Incentives

Buildings which incorporate the above strategies can qualify for significant incentives:

- MassSave® performance-based incentives⁴ offer incentives for every kWh or therm saved compared to a program-provided energy model. The above energy efficiency strategies offer opportunities for large kWh and therm savings.
- Alternative Energy Credits (AECs)⁵ offer incentives to electrify building space heating using heat pumps and/or VRF. This program also includes multipliers which increase value if the building meets Passivehouse standards or buildings built to HERs 50 or less. These credits may be distributed on a quarterly basis over time; or, may be distributed in a lump sum to the developer if certain conditions are met.
- Massachusetts SMART program⁶ provides significant incentives for solar development on top of federal and state tax incentives. SMART includes pathways which allow solar

⁴ <https://www.masssave.com/en/saving/business-rebates/new-buildings-and-major-renovations/>

⁵ <https://www.mass.gov/guides/aps-renewable-thermal-statement-of-qualification-application>

⁶ <https://www.mass.gov/solar-massachusetts-renewable-target-smart>

production to be sold without off-takers. This may be of potential interest to building developers as this allows them to develop rooftop solar without necessarily engaging with building tenants. For this reason, setting aside rooftop solar PV areas helps ensure that building owners' ability to monetize the roof is not impacted.

Recommendations for the Next Submission

Recommendations are as follows:

1. A combination of high-performing, thermally broken envelope, heat recovery, and solar gain management should be used throughout with an aim toward reducing heating and cooling TEDI. Strategies to achieve this include:
 - a. Above code-threshold envelope (vertical walls, windows, roofs and exposed lower-level floors). Priority should be given to increasing continuous insulation and framed insulated wall sections.
 - b. Account for thermal bridges in assemblies. Use thermal bridge free assemblies and components to thermally break:
 - i. Hangers, girts, ties, and brick shelves
 - ii. Intersections between balconies and vertical walls
 - iii. Intersections between the floor and vertical walls
 - iv. Transitions from wall to window
 - v. Parapets
 - vi. Vertical wall to vertical wall transitions (where the wall "turns")

Consult <https://thermalenvelope.ca/catalogue/> for pre-solved clear wall thermal bridge and linear thermal bridge values.

- c. Minimize glazed wall systems as much as possible. Avoid these systems where possible, as these are the lowest performing wall systems.
- d. If glazed wall systems are used, evaluate systems having opaque the "spandrel" portion between R-4 through R-10. Opaque spandrel systems with performance higher than R-10 are not recommended as there are significant difficulties to achieving performance higher than this in practice. Consult <https://thermalenvelope.ca/catalogue/> for pre-solved opaque curtain wall performance values. Note that the 2023 commercial stretch code now mandates that the vision portion of the glazed wall system has at least R-4 vision glass.
- e. For all wall sections adjacent to office and similar spaces, use the thermal comfort tool to help evaluate reduction/elimination of perimeter heating systems. <https://www.payette.com/glazing-and-winter-comfort-tool/>
- f. Reduce air infiltration to at least 0.2 cfm at 75 Pa per C406.9. Note that air infiltration testing is now mandatory.

- g. Incorporate ventilation energy recovery with an effectiveness of at least 70% for class 3 and 4 exhaust.
 - h. Manage solar gains with external shading and/or low solar heat gain coefficient (SHGC).
- 2. Incorporate efficient electrification as follows:
 - a. Utilize full electrification of space heating with air source or ground source heat pumps.
 - b. Utilize air source heat pump water heating.
- 3. Develop the following proposed scenario:
 - a. Building meeting July 2023 commercial stretch code
 - b. Air source heat pump space and hot water heating
- 4. Evaluate incentives, including:
 - a. Estimate of Alternative Energy Credits;
 - b. Estimates of MassSave® incentives, based on meeting with utility.
- 5. Evaluate 80% rooftop solar PV readiness for all buildings. Evaluation should include creating building roof plans showing location of PV readiness areas and location of roof HVAC equipment and other appurtenances. Provide table showing areas needed for code required PV readiness and proposed, above-code PV readiness.
- 6. Provide EV equipment to at least 10-15% of the spaces and having at least 20-25% of spaces be EV ready.

7. Include the following table for each proposed building (add rows as necessary):

	% of above grade vertical envelope	U-value
Framed wall		
Glazed wall system – vision		
Glazed wall system - opaque		
Operable fenestration (which is not part of glazed wall system)		
Inoperable fenestration (which is not part of glazed wall system)		
Doors		

Sincerely,



Paul F. Ormond, P.E.
Energy Efficiency Engineer
Massachusetts Department of Energy
Resources